Alphabetical Test Listing
VECST  Ecstasy MDMA Screen, Urine

Aspentti Health Laboratory

Important Note
Routine drug screen for inpatients and ambulatory clinics.
Ecstasy MDMA Screen, Urine, test information.

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 24 Hours / Not Available STAT

BTYP  ABO & Rh BLOOD TYPE

University of Vermont Medical Center

Important Note
Labeling Instructions: Please provide patients full name (NO abbreviations or cut-off letters), University of Vermont Medical Center medical record number and/or date of birth, date and time sample collected and the signature of the person collecting the Blood Bank sample is required on specimens used to prepare blood products.
Specimen Transport: Specimens must be received in the laboratory within 24-hours of collection accompanied by a completed order form.
ABO Typing Requirements: Patients receiving blood transfusions for the first time at UVM Medical Center Blood Bank will require two ABO typings from separately drawn specimens. The second determination of ABO may come from a historic record on file in the Blood Bank or may come from a second, current specimen. Until the ABO group has been determined twice, only group O uncrossmatched RBC units will be issued. This policy does not apply to neonates (under the age of 4 months).

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Agglutination by tube test or Gel Methodology

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABO</td>
<td>86900</td>
</tr>
<tr>
<td>Rh Factor</td>
<td>86901</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method or Grifois Erytra

Reference Range
Blood type

Section
Blood Bank

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
No

Specimen Information — ABO & Rh BLOOD TYPE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pink Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>6 mL</td>
<td>6 mL</td>
<td>6 mL</td>
</tr>
</tbody>
</table>

A red top tube is acceptable (NO gel tubes) and a lavender top tube also acceptable. Three capillary tubes (red or lavender) are acceptable for neonates only. Submit capillary tubes unseparated.
Important Note
Add Important Note: Hemogram and differential (CBCDF) is required for total CD3 count (absolute). Outside clients may submit a hemogram with differential from their own instrumentation with the sample or place and order for a CBCDF and also submit a lavender top tube (EDTA) for testing. If the CBCDF will not be tested within 12 hours, also submit a properly labelled smear. A CBCDF must be performed within 24 hours of the total CD3, however a CBCDF drawn at the same time is optimal.

Test Schedule / Analytical Time / Test Priority
Monday – Saturday / 3 days / Not available STAT

Method
Flow Cytometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>T cells; total count</td>
<td>86359</td>
</tr>
</tbody>
</table>

Instrumentation
Beckman Coulter FC500 and Beckman Coulter Navios

Reference Range
In newly transplanted patients, therapeutic depletion of CD3+ cells is considered to correspond to 25 - 50 CD3+ cells/μL. Pediatric patients are known to have higher CD3 lymphocyte levels and may require progressively higher dosages of muromonab-CD3 to achieve therapeutic depletion.

Section
Immunology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — ABSOLUTE CD3

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purple Top (EDTA)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>30 hours</td>
</tr>
<tr>
<td>Sodium Heparin Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>48 hours</td>
</tr>
</tbody>
</table>
Important Note
Half – Life 1-4 hours.
Toxicity is best measured 4 hours post dose/ingestion.

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen Quant</td>
<td>80329</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
Therapeutic: 10 – 30 ug/mL
Possible Toxicity: 150 – 200 ug/mL
Probable Toxic: >200 ug/mL

Toxicity is best measured 4 hours post dose/ingestion.
### Specimen Information — ACETAMINOPHEN, QUANTITATIVE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.25 mL</td>
<td>14 days</td>
</tr>
<tr>
<td>Lithium Heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.25 mL</td>
<td>14 days</td>
</tr>
<tr>
<td>&quot;Green Microtainer&quot;</td>
<td></td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td>14 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
Important Note
Sample must be received within 48 hours of collection.
Cultures with organisms growing are maintained in the laboratory for 90 days after finalization.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Reported when positive. Negative final at 56 days / AFB Smear NOT available STAT

Method
Culture & Smear

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFB Culture</td>
<td>87116</td>
</tr>
<tr>
<td>AFB Smear</td>
<td>87206</td>
</tr>
</tbody>
</table>

Testing includes culture, identification, (additional charges/CPT codes may apply) and if culture results warrant, susceptibility testing (at additional charge) of all indicated organisms.

Instrumentation
Biomerieux Bact/Alert

Reference Range
Negative: No acid-fast bacilli isolated, final at 8 weeks

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — AFB CULTURE & OTHER & SMEAR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Fluid</td>
<td>Refrigerate</td>
<td>15 mL</td>
<td>15 mL</td>
<td>10 mL</td>
</tr>
<tr>
<td>CSF Tube</td>
<td>CSF*</td>
<td>Ambient</td>
<td>10 mL</td>
<td>10 mL</td>
<td>3 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Abscess</td>
<td>Refrigerate</td>
<td>3 mL</td>
<td>3 mL</td>
<td>1 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Tissue</td>
<td>Refrigerate</td>
<td>2 mm</td>
<td>2 mm</td>
<td>1 mm</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>*Feces</td>
<td>Refrigerate</td>
<td>1 gram</td>
<td>1 gram</td>
<td>1 gram</td>
</tr>
</tbody>
</table>

* Pathology approval required. 10 mL of CSF is recommended if Mycobacteria is strongly suspected.
Sample must be received within 48 hours of collection.
Sample must be sealed in a leakproof container.
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Reported when positive. Negative final at 8 weeks / AFB Smear NOT available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFB Culture</td>
<td>87116</td>
</tr>
<tr>
<td>AFB Smear</td>
<td>87206</td>
</tr>
<tr>
<td>Concentration for Infectious Agents</td>
<td>87015</td>
</tr>
</tbody>
</table>

Testing includes culture, identification, (additional charges/CPT codes may apply) and if culture results warrant, susceptibility testing (at an additional charge) of all indicated organisms.

Instrumentation
Manual Method

Reference Range
No Mycobacterium isolated

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — AFB CULTURE & SMEAR, CF PATIENTS ONLY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Respiratory Biopsy</td>
<td>Refrigerate</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Lung Tissue</td>
<td>Refrigerate</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Sputum</td>
<td>Refrigerate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sterile Container</td>
<td>BAL</td>
<td>Refrigerate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Bronchial Washings</td>
<td>Refrigerate</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Submit as much tissue as possible in 2-3 mL of sterile saline.
Sample must be received within 48 hours of collection.
Sample must be sealed in a leakproof container.
University of Vermont Medical Center

Important Note

Use for isolation of M. Avium/M. Intracellulare/MAI complex, and other Mycobacteria. Testing includes culture, identification, (additional charges/CPT codes may apply) and if culture results warrant, susceptibility testing (at additional charge) of all indicated organisms.

Test Schedule / Analytical Time / Test Priority

Daily / Reported when positive. Negative final at 56 days / Not available STAT

Method

Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFB Culture</td>
<td>87116</td>
</tr>
</tbody>
</table>

Instrumentation

Manual Method

Reference Range

Negative: No acid-fast bacilli isolated, final at 8 weeks
Positive: When organisms are detected, a preliminary result is available via computer and the clinician is called with a verbal report. Cultures with organisms growing are maintained in the laboratory for 90 days after finalization.

Section

Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No

Yes

Specimen Information — AFB CULTURE, BLOOD

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Isolator Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>10 mL</td>
<td>10 mL</td>
<td>8 mL</td>
</tr>
<tr>
<td>Pediatric Isolator</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>1.5 mL</td>
<td>1.5 mL</td>
<td>1.0 mL</td>
</tr>
</tbody>
</table>

Adult patient samples drawn in pediatric isolator tubes will be rejected as quantity NOT sufficient for testing.

Collection of Blood Cultures

1. Do not collect from a site that shows signs of possible infection such as swelling, redness, hardness, or heat because organisms may already be established in the subcutaneous tissue, which could contaminate the blood cultures.
2. Clean the venipuncture site using a Blood Culture ChloroPrep Kit supply #59183. Squeeze the handle of the scrubber once to release the isopropyl alcohol. Use the scrubber to vigorously cleanse the site for 30 seconds and then allow it to air dry; do not use gauze to wipe off the site. Squeeze the center of the iodine ampule and use the swab end to apply it to the site, starting in the center and working out in concentric circles, to cover an area about 5cm. in diameter. A double application of alcohol may be used if the patient is sensitive to iodine. Wait several minutes for the site to air dry.
3. Once the puncture area is prepared, do not palpate the site again. If the puncture area is touched, it must be thoroughly prepped again.
4. If an Isolator™ tube is used, a vacutainer set up may be used, but care must be taken to keep the tube below the level of the vein so that the lysing solution does not flow back into the arm of the patient. The sample must be sealed in a leakproof container.

Blood Culture, Fungal (Pediatric) (Pedi Isolator® supply # 59186): Inject 1.5 mL of blood into an alcohol-swabbed tube.

1. Label bottles or tube with patient’s full name, date of birth and UVM Medical Center Medical Record number if available. The label must contain two unique identifiers, UVMMC medical record number (MRN) or patient’s date of birth along with the patient’s full name.
2. Deliver immediately (samples must be received within 24 hours of collection) to the laboratory. Do not place blood cultures samples in the refrigerator. The sample must be sealed in a leakproof container.
Important Note
Cultures with organisms growing are maintained in the laboratory for 90 days after finalization. Pathology approval is required.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Reported when positive. Negative final at 56 days / AFB Smear NOT available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFB Culture, Other</td>
<td>87116</td>
</tr>
</tbody>
</table>

Testing includes culture, identification, (additional charges/CPT codes may apply) and if culture results warrant, susceptibility testing (at an additional charge) of all indicated organisms.

Instrumentation
Biomerieux Bact/Alert

Reference Range
Negative: No acid-fast bacilli isolated, final at 8 weeks

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — AFB CULTURE, OTHER

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Fluid</td>
<td>Refrigerate</td>
<td>15 mL</td>
<td>15 mL</td>
<td>10 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>CSF*</td>
<td>Ambient</td>
<td>10 mL</td>
<td>10 mL</td>
<td>3.0 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Aspirated Pus</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>5 mL</td>
<td>1.0 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Tissue</td>
<td>Refrigerate</td>
<td>2 mm</td>
<td>2 mm</td>
<td>1 mm</td>
</tr>
</tbody>
</table>

10 mL of CSF is recommended if Mycobacteria is strongly suspected.
The sample must be received within 48 hours of collection.
The sample must be sealed in a leakproof container.
*Pathology Approval is required
Important Note
Cultures with organisms growing are maintained in the laboratory for 90 days after finalization. When organisms are detected on culture, a preliminary result is available via the computer and the clinician is called with a verbal report.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Reported when positive. Negative final at 56 days / AFB Smear NOT available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFB Culture</td>
<td>87116</td>
</tr>
<tr>
<td>Concentration for Infectious Agents</td>
<td>87015</td>
</tr>
</tbody>
</table>

Testing includes culture, identification, (additional charges/CPT codes may apply) and if culture results warrant, susceptibility testing (at an additional charge) of all indicated organisms.

Instrumentation
Biomerieux BactAlert

Reference Range
Negative: No acid-fast bacilli isolated, final at 8 weeks

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — AFB CULTURE, RESPIRATORY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Sputum</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>5 mL</td>
<td>3 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Aspirate</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Respiratory Biopsy</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Lung Tissue</td>
<td>Refrigerate</td>
<td>2 mm</td>
<td>2 mm</td>
<td>1 mm</td>
</tr>
</tbody>
</table>

Samples must be received within 48 hours of collection. Samples must be sealed in a leakproof container.

*Sputum (3 first morning specimens on different days is recommended, however 3 specimens collected 8 hours apart is acceptable as long as one specimen was collected as a first morning specimen.)

AFB smear is recommended with culture.
Important Note
Cultures with organisms growing are maintained in the laboratory for 90 days after finalization. When organisms are detected on culture, a preliminary result is available via the computer and the clinician is called with a verbal report. This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. For first time positive AFB smear a *M. tuberculosis* PCR will be performed (culture will be performed regardless of AFB smear result).

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Reported when positive. Negative final at 56 days / AFB Smear available STAT

Method
Culture & Smear

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFB Culture</td>
<td>87116</td>
</tr>
<tr>
<td>AFB Smear</td>
<td>87206</td>
</tr>
<tr>
<td>Concentration for Infectious Agents</td>
<td>87015</td>
</tr>
</tbody>
</table>

Testing includes culture, identification, (additional charges/CPT codes may apply) and if culture results warrant, susceptibility testing (at an additional charge) of all indicated organisms.

Instrumentation
Biomerieux Bact/Alert

Reference Range
Negative: No acid-fast bacilli isolated, final at 8 weeks

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — AFB CULTURE, RESPIRATORY & SMEAR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td><em>Sputum</em></td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>5 mL</td>
<td>3 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Aspirate</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>3 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Respiratory Biopsy</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>3 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Lung Tissue</td>
<td>Refrigerate</td>
<td>2 mm</td>
<td>2 mm</td>
<td>1 mm</td>
</tr>
</tbody>
</table>

Samples must be received within 48 hours of collection. Samples must be sealed in a leakproof container.

* *Sputum* (3 first morning specimens on different days is recommended, however 3 specimens collected 8 hours part is acceptable as long as one specimen was collected as a first morning specimen, aspirates, biopsies from respiratory tract, lung tissues.
Important Note
AFB Culture, Urine is indicated for patients on BCG Therapy for bladder cancer. This test requires pathology approval. Cultures with organisms growing are maintained in the laboratory for 90 days after finalization.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Reported when positive. Negative final at 56 days / Not available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFB Culture</td>
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<td>87015</td>
</tr>
</tbody>
</table>

Testing includes culture, identification, (additional charges/CPT codes may apply) and if culture results warrant, susceptibility testing (at an additional charge) of all indicated organisms.

Instrumentation
Biomerieux Bact/Alert

Reference Range
Negative: No acid-fast bacilli isolated, final at 8 weeks
Positive: When organisms are detected, a preliminary result is available via the computer and the clinician is also called with a verbal report. Cultures with organisms growing are maintained in the laboratory for 90 days after finalization.

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — AFB CULTURE, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>40 mL</td>
<td>40 mL</td>
<td>10 mL</td>
</tr>
</tbody>
</table>

First morning specimen preferred. 24 hour collection not accepted.
Sample must be received within 48 hours of collection.
Samples must be sealed in a leakproof container.
AFSM  AFB SMEAR ONLY, OTHER

University of Vermont Medical Center

Important Note
AFB Smear must be ordered in conjunction with AFB Culture.
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. For a first time positive AFB smear a *M. tuberculosis* PCR will be performed.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / NOT available STAT

Method
Smear

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFB Smear</td>
<td>87206</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
Negative: No Acid Fast Bacilli seen/identified
Positive: Clinicians will be notified of all positive acid-fast bacilli seen.

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — AFB SMEAR ONLY, OTHER

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Sputum</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>5 mL</td>
<td>1 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Aspirate</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Respiratory Biopsy</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Tissue</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The sample must be received within 48 hours of collection.
Samples must be sealed in a leakproof container.
*Sputum: 3 first morning specimens on different days is recommended, however, 3 specimens collected 8 hours apart is acceptable as long as one specimen was collected as a first morning specimen. Due to the low sensitivity of the AFB smear, smear-only requests are not accepted.
Important Note
Test subject to Medicare National Coverage Determination (NCD) policy 190.25 Alpha-fetoprotein.

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, and Friday run starts at 8 am / 3 days / Not available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha Fetoprotein, Tumor Repeat</td>
<td>82105</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens ADVIA Centaur XP

Reference Range
> 2 Years: <8.1 ng/mL
< 2 years: Contact Laboratory Customer Service for assistance (847-5121/800-991-2799)

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — AFP TUMOR MARKER

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>6 days</td>
</tr>
<tr>
<td>&quot;2 Yellow Microtainers</td>
<td>Refrigerate</td>
<td>1.2 mL</td>
<td></td>
<td></td>
<td></td>
<td>6 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
Important Note
While a microtainer is an optional tube type in rare circumstances, it is not recommended.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin</td>
<td>82040</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — ALBUMIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td>5 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.*
## Reference Range — ALBUMIN

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 8 days</td>
<td>Male</td>
<td></td>
<td>2.3</td>
<td>3.8</td>
<td>g/dL</td>
</tr>
<tr>
<td>8 days - 1 month</td>
<td>Male</td>
<td></td>
<td>2.0</td>
<td>4.5</td>
<td>g/dL</td>
</tr>
<tr>
<td>1 - 3 months</td>
<td>Male</td>
<td></td>
<td>2.0</td>
<td>4.8</td>
<td>g/dL</td>
</tr>
<tr>
<td>3 - 6 months</td>
<td>Male</td>
<td></td>
<td>2.1</td>
<td>4.9</td>
<td>g/dL</td>
</tr>
<tr>
<td>6 months - 1 year</td>
<td>Male</td>
<td></td>
<td>2.1</td>
<td>4.7</td>
<td>g/dL</td>
</tr>
<tr>
<td>1 - 4 years</td>
<td>Male</td>
<td></td>
<td>3.4</td>
<td>4.2</td>
<td>g/dL</td>
</tr>
<tr>
<td>4 - 7 years</td>
<td>Male</td>
<td></td>
<td>3.5</td>
<td>5.2</td>
<td>g/dL</td>
</tr>
<tr>
<td>7 - 10 years</td>
<td>Male</td>
<td></td>
<td>3.7</td>
<td>5.6</td>
<td>g/dL</td>
</tr>
<tr>
<td>10 - 18 years</td>
<td>Male</td>
<td></td>
<td>3.7</td>
<td>5.6</td>
<td>g/dL</td>
</tr>
<tr>
<td>≥18 years</td>
<td>Male</td>
<td></td>
<td>3.4</td>
<td>4.9</td>
<td>g/dL</td>
</tr>
<tr>
<td>1 - 8 days</td>
<td>Female</td>
<td></td>
<td>1.8</td>
<td>3.9</td>
<td>g/dL</td>
</tr>
<tr>
<td>8 days - 1 month</td>
<td>Female</td>
<td></td>
<td>1.8</td>
<td>4.4</td>
<td>g/dL</td>
</tr>
<tr>
<td>1 - 3 months</td>
<td>Female</td>
<td></td>
<td>1.9</td>
<td>4.2</td>
<td>g/dL</td>
</tr>
<tr>
<td>3 - 6 months</td>
<td>Female</td>
<td></td>
<td>2.2</td>
<td>4.4</td>
<td>g/dL</td>
</tr>
<tr>
<td>6 months - 1 year</td>
<td>Female</td>
<td></td>
<td>2.2</td>
<td>4.7</td>
<td>g/dL</td>
</tr>
<tr>
<td>1 - 4 years</td>
<td>Female</td>
<td></td>
<td>3.4</td>
<td>4.2</td>
<td>g/dL</td>
</tr>
<tr>
<td>4 - 7 years</td>
<td>Female</td>
<td></td>
<td>3.5</td>
<td>5.2</td>
<td>g/dL</td>
</tr>
<tr>
<td>7 - 10 years</td>
<td>Female</td>
<td></td>
<td>3.7</td>
<td>5.6</td>
<td>g/dL</td>
</tr>
<tr>
<td>10 - 18 years</td>
<td>Female</td>
<td></td>
<td>3.7</td>
<td>5.6</td>
<td>g/dL</td>
</tr>
<tr>
<td>≥18 years</td>
<td>Female</td>
<td></td>
<td>3.4</td>
<td>4.9</td>
<td>g/dL</td>
</tr>
</tbody>
</table>
CSALB ALBUMIN, CSF

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, and Friday / 3 days / Not available STAT

Method
Nephelometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin, CSF</td>
<td>82042</td>
</tr>
</tbody>
</table>

Instrumentation
Binding Site Optilite

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — ALBUMIN, CSF

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF Tube</td>
<td>CSF</td>
<td>Refrigerate</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
### Reference Range — ALBUMIN, CSF

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥18</td>
<td>All</td>
<td></td>
<td></td>
<td>≤25.1</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
Important Note
Only pleural or peritoneal fluid is acceptable. Best interpreted in the context of a paired serum albumin value.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin</td>
<td>82042</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
None

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
## Specimen Information — ALBUMIN, FLUID

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Pleural Fluid</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Peritoneal Fluid</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>5 days</td>
</tr>
</tbody>
</table>
UMALBU  ALBUMIN, URINE

University of Vermont Medical Center

Important Note
This test includes Urine Albumin, Urine Creatinine, and Albumin/Creatinine Ratio.

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Not available STAT

Method
Immunoturbidometric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine, Random Urine</td>
<td>82570</td>
</tr>
<tr>
<td>Microalbumin</td>
<td>82043</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
Normal: < 30 ug/mg Creatinine
Moderately Increased Albuminuria: 30-300 ug/mg Creatinine
Severly Increased Albuminuria: >300 ug/mg Creatinine

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
Specimen Information — ALBUMIN, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>10 mL</td>
<td>3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
VALC  Alcohol Metabolite (EtG) Screen, Urine

Aspenti Health Laboratory

Important Note
Routine drug screen available for inpatients and ambulatory clinics.
Alcohol Metabolite (EtG) Screen, Urine, test information.

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 24 Hours / Not Available STAT

ALKP  ALKALINE PHOSPHATASE

University of Vermont Medical Center

Important Note
While a microtainer is an optional tube type in rare circumstances, it is not recommended.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkaline Phosphatase</td>
<td>84075</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — ALKALINE PHOSPHATASE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.
## Reference Range — ALKALINE PHOSPHATASE

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 8 days</td>
<td>Male</td>
<td>77</td>
<td>265</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>8 days - 1 month</td>
<td>Male</td>
<td>91</td>
<td>375</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>1 - 4 months</td>
<td>Male</td>
<td>60</td>
<td>360</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>4 - 7 months</td>
<td>Male</td>
<td>55</td>
<td>325</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>7 months - 1 year</td>
<td>Male</td>
<td>60</td>
<td>300</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>1 - 4 years</td>
<td>Male</td>
<td>129</td>
<td>291</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>4 - 7 years</td>
<td>Male</td>
<td>134</td>
<td>346</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>7 - 10 years</td>
<td>Male</td>
<td>156</td>
<td>386</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>10 - 12 years</td>
<td>Male</td>
<td>120</td>
<td>488</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>12 - 14 years</td>
<td>Male</td>
<td>178</td>
<td>455</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>14 - 16 years</td>
<td>Male</td>
<td>116</td>
<td>483</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>16 - 18 years</td>
<td>Male</td>
<td>58</td>
<td>237</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>≥ 18 years</td>
<td>Male</td>
<td>38</td>
<td>126</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>0 - 8 days</td>
<td>Female</td>
<td>65</td>
<td>270</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>8 days - 1 month</td>
<td>Female</td>
<td>65</td>
<td>365</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>1 - 4 months</td>
<td>Female</td>
<td>80</td>
<td>425</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>4 - 7 months</td>
<td>Female</td>
<td>80</td>
<td>345</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>7 months - 1 year</td>
<td>Female</td>
<td>60</td>
<td>330</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>1 - 4 years</td>
<td>Female</td>
<td>129</td>
<td>291</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>4 - 7 months</td>
<td>Female</td>
<td>134</td>
<td>346</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>7 months - 1 year</td>
<td>Female</td>
<td>60</td>
<td>330</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>1 - 4 years</td>
<td>Female</td>
<td>129</td>
<td>291</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>4 - 7 years</td>
<td>Female</td>
<td>134</td>
<td>346</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>7 - 10 years</td>
<td>Female</td>
<td>156</td>
<td>386</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>10 - 12 years</td>
<td>Female</td>
<td>116</td>
<td>515</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>12 - 14 years</td>
<td>Female</td>
<td>93</td>
<td>386</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>14 - 16 years</td>
<td>Female</td>
<td>62</td>
<td>209</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>16 - 18 years</td>
<td>Female</td>
<td>45</td>
<td>116</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>≥ 18 years</td>
<td>Female</td>
<td>38</td>
<td>126</td>
<td>U/L</td>
<td></td>
</tr>
</tbody>
</table>
AATS  ALPHA 1 ANTITRYP SIN

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 3 days / Not available STAT

Method
Immunoturbidometric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha 1 Antitrypsin</td>
<td>82103</td>
</tr>
</tbody>
</table>

Instrumentation
Binding Site Optilite

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — ALPHA 1 ANTITRYPSIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect vol</th>
<th>Submit vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*Yellow Microtainer</td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
<td>7 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
**Reference Range — ALPHA 1 ANTITRYPSIN**

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 18 Year</td>
<td>All</td>
<td>N/A</td>
<td>90</td>
<td>200</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
Important Note
While a microtainer is an optional tube type in rare circumstances, it is not recommended.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Rate Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALT (AGPT)</td>
<td>84460</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — ALT (SGPT)

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hemolysis affects results. Please submit a non-hemolyzed sample.

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
### Reference Range — ALT (SGPT)

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 7 Days</td>
<td>All</td>
<td></td>
<td>6</td>
<td>&lt;41</td>
<td>U/L</td>
</tr>
<tr>
<td>8 - 30 Days</td>
<td>Male</td>
<td></td>
<td>&lt;41</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>8 - 30 Days</td>
<td>Female</td>
<td></td>
<td>&lt;33</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>1 - 3 Months</td>
<td>Male</td>
<td></td>
<td>13</td>
<td>39</td>
<td>U/L</td>
</tr>
<tr>
<td>1 - 3 Months</td>
<td>Female</td>
<td></td>
<td>12</td>
<td>47</td>
<td>U/L</td>
</tr>
<tr>
<td>4 - 6 Months</td>
<td>Male</td>
<td></td>
<td>12</td>
<td>42</td>
<td>U/L</td>
</tr>
<tr>
<td>4 - 6 Months</td>
<td>Female</td>
<td></td>
<td>12</td>
<td>37</td>
<td>U/L</td>
</tr>
<tr>
<td>7 - 12 Months</td>
<td>Male</td>
<td></td>
<td>13</td>
<td>45</td>
<td>U/L</td>
</tr>
<tr>
<td>7 - 12 Months</td>
<td>Female</td>
<td></td>
<td>12</td>
<td>41</td>
<td>U/L</td>
</tr>
<tr>
<td>1 - 3 Year</td>
<td>All</td>
<td></td>
<td>&lt;46</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>4 - 6 Year</td>
<td>All</td>
<td></td>
<td>&lt;26</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>7 - 9 Year</td>
<td>All</td>
<td></td>
<td>&lt;36</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>10 - 11 Year</td>
<td>Male</td>
<td></td>
<td>&lt;36</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>10 - 11 Year</td>
<td>Female</td>
<td></td>
<td>&lt;31</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>12 - 13 Year</td>
<td>Male</td>
<td></td>
<td>&lt;56</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>12 - 13 Year</td>
<td>Female</td>
<td></td>
<td>&lt;31</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>14 - 15 Year</td>
<td>Male</td>
<td></td>
<td>&lt;46</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>14 - 15 Year</td>
<td>Female</td>
<td></td>
<td>&lt;31</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>16 - 17 Year</td>
<td>Male</td>
<td></td>
<td>&lt;41</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>16 - 17 Year</td>
<td>Female</td>
<td></td>
<td>&lt;36</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>&gt;18 years</td>
<td>Female</td>
<td></td>
<td>&lt;35</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>&gt;18 years</td>
<td>Male</td>
<td></td>
<td>&lt;50</td>
<td>U/L</td>
<td></td>
</tr>
</tbody>
</table>
Important Note
TESTING CANNOT BE ADDED ONTO PREVIOUSLY COLLECTED SPECIMENS
While a microtainer is an optional tube type in rare circumstances, it is not recommended.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia</td>
<td>82140</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Section
Chemistry-1

Is the UVMCC lab NY State Certified to perform this testing?  Yes/No
Yes
Specimen Information — AMMONIA

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Top Tube (Lithium Heparin)</td>
<td>Plasma</td>
<td>On Ice</td>
<td>3 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>3 hours</td>
</tr>
<tr>
<td>Green Top Tube (Lithium Heparin)</td>
<td>Plasma</td>
<td>Frozen</td>
<td>3 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>24 hours</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td>Plasma</td>
<td>On ice</td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td>3 Hours</td>
</tr>
</tbody>
</table>

Green Top tube (Lithium heparin) must be spun and separated from the cells within 15 minutes. Transport plasma to lab on ice. Test must be performed within 3 hours of collection. Any degree of hemolysis will cause rejection of specimen.

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
## Reference Range — AMMONIA

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 8 days</td>
<td>All</td>
<td></td>
<td>54</td>
<td>94</td>
<td>U/L</td>
</tr>
<tr>
<td>8 days - 1 month</td>
<td>All</td>
<td></td>
<td>47</td>
<td>80</td>
<td>U/L</td>
</tr>
<tr>
<td>1 month - 1 year</td>
<td>All</td>
<td></td>
<td>15</td>
<td>47</td>
<td>U/L</td>
</tr>
<tr>
<td>1 - 16 years</td>
<td>All</td>
<td></td>
<td>22</td>
<td>48</td>
<td>U/L</td>
</tr>
<tr>
<td>≥16 years</td>
<td>All</td>
<td></td>
<td>&lt;34</td>
<td></td>
<td>U/L</td>
</tr>
</tbody>
</table>
## Specimen Information — AMPHETAMINE CONFIRMATION, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
</tr>
</tbody>
</table>
Important Note
Restricted to Emergency Department and Labor and Delivery use only. This screen is intended for use in clinical monitoring or management of patients. This test is subject to Medicare National Coverage Determination (LCD) L36037-Urine Drug Testing.

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Available STAT

Method
Immunochromatography

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphetamine Screen</td>
<td>80306</td>
</tr>
</tbody>
</table>

Instrumentation
MedTox Scan

Reference Range
This screen is intended for use in clinical monitoring or management of patients.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — AMPHETAMINE SCREEN, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
<td>2 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Frozen</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
<td>30 days</td>
</tr>
</tbody>
</table>
VAMP  Amphetamines Screen, Urine

Aspenti Health Laboratory

Important Note
Routine drug screen available for inpatients and ambulatory clinics.
Amphetamines Screen, Urine, test information.

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 24 Hours / Not Available STAT

AMY  AMYLASE

University of Vermont Medical Center

Important Note
While a microtainer is an optional tube type in rare circumstances, it is not recommended.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amylase</td>
<td>82150</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Section
Chemistry-1

Is the UVMCC lab NY State Certified to perform this testing?  Yes/No
Yes
### Specimen Information — AMYLASE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>30 days</td>
</tr>
<tr>
<td><em>Green Microtainer</em></td>
<td></td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
# Reference Range — AMYLASE

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;18 years</td>
<td>All</td>
<td>N/A</td>
<td>30</td>
<td>110</td>
<td>U/L</td>
</tr>
</tbody>
</table>

Plasma Concentrations are 20 U/L higher than serum concentrations.
University of Vermont Medical Center

Important Note
Best interpreted in the context of a paired serum amylase value

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>In process</td>
<td></td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
No Reference Range available.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — AMYLASE, FLUID

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Pleural Fluid</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Peritoneal Fluid</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>JP Drain Fluid</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
</tr>
</tbody>
</table>
**Important Note**
Deliver to lab immediately.
Collection tubes are available from the laboratory (847-5121). Swabs are NOT acceptable.

**Test Schedule / Analytical Time / Test Priority**
Daily / Reported when positive. Negative final at 5 days / Gram smear is available STAT

**Method**
Culture & Smear

<table>
<thead>
<tr>
<th>CPT(s)</th>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aerobic Isolation &amp; ID</td>
<td>87070</td>
</tr>
<tr>
<td></td>
<td>Anaerobic Isolation &amp; ID</td>
<td>87075</td>
</tr>
<tr>
<td></td>
<td>Smear &amp; Interpretation</td>
<td>87205</td>
</tr>
</tbody>
</table>

Testing includes culture, identification (additional charges/CPT codes may apply) and if culture results warrant, susceptibility testing (at an additional charge) of all indicated organisms.

**Instrumentation**
Manual Method

**Reference Range**
No Growth

**Section**
Microbiology-1

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes
Specimen Information — ANAEROBIC CULTURE (INCLUDES AEROBES), BONE & SMEAR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaerobic Transport Vial</td>
<td>Bone</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>*</td>
</tr>
</tbody>
</table>

*Deliver to lab immediately. Do not refrigerate.
University of Vermont Medical Center

Important Note
Deliver to lab immediately.
Collection tubes are available from the laboratory (847-5121). Swabs are NOT acceptable.

Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive. Negative final at 5 days / Gram smear available STAT

Method
Culture & Smear

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaerobic Culture</td>
<td>87075</td>
</tr>
<tr>
<td>Gram Stain</td>
<td>87205</td>
</tr>
<tr>
<td>Routine Culture</td>
<td>87070</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No Growth

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — ANAEROBIC CULTURE (INCLUDES AEROBES), FLUID & SMEAR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaerobic Transport Vial</td>
<td>Fluid</td>
<td>Ambient</td>
<td>10 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>*</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Ventricular Shunt, CSF</td>
<td>Ambient</td>
<td>3 mL</td>
<td>3 mL</td>
<td>1 mL</td>
<td>*</td>
</tr>
</tbody>
</table>

*Deliver to the lab immediately*
University of Vermont Medical Center

Important Note
Deliver to lab immediately.
Collection tube are available from the laboratory (847-5121).
Testing includes culture, identification, (additional charges/CPT codes may apply) and if culture results warrant, susceptibility testing (at additional charge) of all indicated organisms.

Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive. Negative final at 5 days / Gram smear available STAT

Method
Culture & Smear

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaerobic Culture</td>
<td>87075</td>
</tr>
<tr>
<td>Gram Stain</td>
<td>87205</td>
</tr>
<tr>
<td>Routine Culture</td>
<td>87070</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No Growth

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — ANAEROBIC CULTURE (INCLUDES AEROBES), RESP & SMEAR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaerobic Transport Vial</td>
<td>Bronchial Brush</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Anaerobic Transport Vial</td>
<td>Bronchoalveolar Lavage (BAL)</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Anaerobic Transport Vial</td>
<td>Lung Aspirate</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Anaerobic Transport Vial</td>
<td>Lung Tissue</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Deliver to the lab immediately
Important Note
Deliver to lab immediately.
Swabs are NOT acceptable.
Collection tubes are available from the laboratory (847-5121).

Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive. Negative final at 5 days / Gram smear available STAT

Method
Culture and Smear

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaerobic Culture</td>
<td>87075</td>
</tr>
<tr>
<td>Gram Stain</td>
<td>87205</td>
</tr>
<tr>
<td>Routine Culture</td>
<td>87070</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No Growth

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — ANAEROBIC CULTURE (INCLUDES AEROBES), TISSUE & SMEAR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Min Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaerobic Transport Vial</td>
<td>Tissue</td>
<td>Ambient</td>
<td>2 mm</td>
<td>2 mm</td>
<td>1 mm</td>
<td>*</td>
</tr>
</tbody>
</table>

*Deliver to the lab immediately. Swabs are NOT acceptable.*
University of Vermont Medical Center

**Important Note**
Deliver to laboratory immediately.
Collection tubes are available from the laboratory. Swabs are NOT acceptable for anaerobic culture.

**Test Schedule / Analytical Time / Test Priority**
Daily / Reported when positive. Negative final at 5 days / Gram smear is available STAT

**Method**
Culture & Smear

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaerobic Culture</td>
<td>87075</td>
</tr>
<tr>
<td>Gram Stain</td>
<td>87205</td>
</tr>
<tr>
<td>Routine Culture</td>
<td>87070</td>
</tr>
</tbody>
</table>

**Instrumentation**
Manual Method

**Reference Range**
No growth

**Section**
Microbiology-1

*Is the UVMMC lab NY State Certified to perform this testing? Yes/No*
Yes
### Specimen Information — ANAEROBIC CULTURE, (INCLUDES AEROBES), OTHER & SMEAR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaerobic Transport Vial</td>
<td>Tissue, Fluid, Aspirates</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>*</td>
</tr>
</tbody>
</table>

*Deliver to laboratory immediately. Collection tubes are available from the laboratory. Swabs are NOT acceptable for culture.
Important Note
This test is subject to Medicare frequency limitations. See Lab Service Directory, Special Instructions, Pap Test Guidelines for Medicare.

HPV Testing: Anal Pap tests have not been approved by the FDA for HPV testing therefore, our laboratory will not perform HPV testing on this type of sample. There is no FDA-approved HPV test for anal or oral samples, therefore we do not perform this testing and will not forward to a reference lab. Outside clients submit a manual order.

Specimen Information

ThinPrep Anal Pap Test

There is no preparation necessary before obtaining anal cytology.

Lubricates should not be used prior to the anal pap test.

1. Moisten the swab with sterile or non-sterile water.
2. The anus is spread with the index and thumb of the non-dominant hand so that the anoderm pouts out.
3. Gently insert the swab into the anal canal about 5 to 6 cm in order to past the anal verge with the goal of sampling the squamocolumnar transition zone. Samples are often collected unvisualized, although the use of an anoscope may assist in visualization.
4. Move the swab slowly in and out without completely withdrawing it, while rotating it in a spiral motion. This should be done with mild pressure on the anal wall.
5. After several rotations, withdraw the swab and place immediately into a PreservCyt Solution Vial. For cell transfer, vigorously agitate the swab several times in the solution. Discard the swab. Note: Traces of feces or blood should not affect the outcome.
6. Tighten the cap of the PreservCyt vial so that the torque line on the cap passes the torque line on the vial.
7. Record the patient’s full name and a second unique identifier on the vial. Place the vial and requisition in a specimen bag for transport to the laboratory.

ThinPrep Anal Pap Test

The Bethesda System for Reporting Cervical Cytology is used when reporting results of Anal Paps. The presence of anal transformation cells is included (rectal columnar cells and/or squamous metaplastic cells.) Adequate specimen cellularity consists of a minimum of 1-2 nucleated squamous cells per high power field. A sample composed predominately of anucleate squames or mostly fecal material is unsatisfactory for evaluation.

HPV Testing

Anal Pap tests have not been approved by the FDA for HPV testing therefore, our laboratory will not perform HPV testing on this type of sample.

Test Schedule / Analytical Time / Test Priority

Monday – Friday / 7 days / Not available STAT

Method

Modified Papanicoloau

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytopathology</td>
<td>88112</td>
</tr>
</tbody>
</table>

Instrumentation

Manual Method

Reference Range

Negative for intraepithelial lesion or malignancy.

Section

Cytology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No

Yes

DNA Anti DNA (DOUBLE STRANDED)

Test Schedule / Analytical Time / Test Priority

Tuesday and Thursday / Same day / Not available STAT

Method

ELISA
CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti Dna (2 Stranded)</td>
<td>86225</td>
</tr>
</tbody>
</table>

Instrumentation
Dynex DSX

Reference Range
All Ages:
Negative: <30.0 IU/mL
Borderline Positive: 30.0-75.0 IU/mL
Positive: >75.0 IU/mL

Section
Immunology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.4 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Frozen</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.4 mL</td>
<td>21 days</td>
</tr>
</tbody>
</table>

For samples being sent frozen, serum should be separated from clotted blood within 4 hours of collection and frozen at ≤ minus 20 C.
Important Note
This test includes reporting of P-ANCA (perinuclear), C-ANCA (cytoplasmic) and A-ANCA (atypical ANCA) patterns. This test is subject to reflex testing, see Laboratory Reflex Testing Policy. You have the option to decline reflex testing if you believe it is not medically necessary. If ANCAIF is positive at the screening dilution, an Anti Neutrophil Cytoplasmic Antibody Titer (CPT: 86256) will be performed. If a pattern is reported as P-ANCA or C-ANCA, a Myeloperoxidase Antibody and a Proteinase 3 Antibody will be sent to MML.

Test Schedule / Analytical Time / Test Priority
Monday – Friday run starts at 8 am / 5 days / Not available STAT

Method
Immunofluorescence

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti Neutrophil Cytoplasmic Ab-if pos add Titer</td>
<td>86255</td>
</tr>
</tbody>
</table>

Instrumentation
Inova QUANTA-Lyser and NOVA View

Reference Range
All Ages: Negative

Section
Immunology
### Specimen Information — ANTI NEUTROPHIL CYTOPLASMIC ANTIBODY, IFA

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.4 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
AT3VMX  ANTI THROMBIN 3, FUNCTIONAL

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday run in am / 1 day / Not available STAT

Method
Chromogenic Assay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antithrombin 3, Functional</td>
<td></td>
</tr>
</tbody>
</table>

Instrumentation
ACL TOP 500

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Page 59
Refer to Coagulation Specimen Handling before collecting. Submit one 1.0 mL frozen aliquot for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again, and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at ≤ -40°, if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial. Deliver to lab within 3 hours of collection.
### Reference Range — ANTI THROMBIN 3, FUNCTIONAL

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>All</td>
<td></td>
<td>85</td>
<td>125</td>
<td>%</td>
</tr>
</tbody>
</table>
Important Note
If the Antibody Screen is positive, the following tests may be performed to identify the antibody(ies): Antibody Panel(s), Red Blood Cell Antigen(s), prepare red blood cells, Pretreatment of serum/cells, DAT, differential DAT, Absorption(s) and/or an elution. For all tests performed to identify the antibody(ies), additional charges will apply.
Submit a manual order.
For infants up to 4 months old, call the Blood Bank (847-5121).

Labeling Instructions: Please provide patients full name (NO abbreviations or cut-off letters), University of Vermont Medical Center medical record number and/or date of birth, date and time sample collected and the signature of the person collecting the Blood Bank sample is required on specimens used to prepare blood products.
Specimen Transport: Specimens must be received in the laboratory within 24-hours of collection accompanied by a completed order form.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Agglutination by Tube Test or Gel Methodology

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibody Screen</td>
<td>86850</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method or Grifois Erytra

Reference Range
Negative

Section
Blood Bank

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
No

Specimen Information — ANTIBODY SCREEN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pink Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>6 mL</td>
<td>6 mL</td>
<td>6 mL</td>
</tr>
</tbody>
</table>

Submit whole blood sample. Plain red top tube is acceptable. Serum gel tube is NOT acceptable. Three capillary tubes (red or lavender) are acceptable. Two-4.0 mL lavender top tubes are acceptable – submit unseparated.
Important Note
This test is subject to reflex testing, see Laboratory Reflex Testing Policy. You have the option to decline reflex testing if you believe it is not medically necessary. If ANA is positive an Antibody Titer (CPT: 86039) will be performed.

Test Schedule / Analytical Time / Test Priority
Monday – Friday, run starts at 8 am / 5 days / Not available STAT

Method
Immunofluorescence

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti Nuclear Antibody (if pos add Titer)</td>
<td>86038</td>
</tr>
</tbody>
</table>

Instrumentation
Inova QUANTA-Lyser and NOVA View

Reference Range
All ages: Negative

Section
Immunology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — ANTINUCLEAR ANTIBODY, IFA

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerated</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.4 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
AID  ARTHROPOD IDENTIFICATION

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Not available STAT

Method
Microscopic Examination

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthropod Identification</td>
<td>87168</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
A descriptive report is provided.

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — ARTHROPOD IDENTIFICATION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile container</td>
<td>Bug, Tick, or insect</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Submit bug, tick or insect in a sterile container. Submit in 70% Ethanol if possible or for suspected scabies see the following procedure. Laboratory diagnosis of scabies is determined by demonstration of the mites, eggs or fecal pellets (scybala) in skin scrapings. The most common areas where mites can infect are the webbing of the fingers, folds of the wrist, knee or elbow, genital, buttock area, breast or abdominal region. The mite tends to burrow in warm areas of the body. To make a laboratory diagnosis of Scabies the following is the recommended procedure that the physician use to collect a skin scrapings

1. Using a sterile scalpel blade, place a drop of mineral oil on the blade. Mineral oil is preferred over potassium hydroxide or water. The mites will adhere to the oil and the oil will not dissolve the fecal pellets, whereas potassium hydroxide will dissolve the fecal pellets from the mites.

2. Allow some of the mineral oil to enter the papule or burrow while you scrape the infected area. The mites will usually be found at the ends of the burrow tracks.

3. Scrape the infected sites vigorously to remove the top of the burrow. There should be tiny flecks of blood produced.

4. Transfer the oil and skin scrapings to a clean glass microscope slide.

5. Send the glass microscope slide in a sterile container to the laboratory for examination.
Important Note
While a microtainer is an optional tube type in rare circumstances, it is not recommended.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>AST (SGOT)</td>
<td>84450</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Page 66
Specimen Information — AST (SGOT)

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td>7 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.
<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 8 days</td>
<td>Male</td>
<td>&lt;41</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>8 days - 1 month</td>
<td>Male</td>
<td>&lt;41</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>1 - 4 months</td>
<td>Male</td>
<td>13 39</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>4 - 7 months</td>
<td>Male</td>
<td>12 42</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>7 months - 1 year</td>
<td>Male</td>
<td>13 45</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>1 - 4 years</td>
<td>Male</td>
<td>&lt;46</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>4 - 7 years</td>
<td>Male</td>
<td>&lt;26</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>7 - 10 years</td>
<td>Male</td>
<td>36</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>10 - 12 years</td>
<td>Male</td>
<td>&lt;36</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>12 - 14 years</td>
<td>Male</td>
<td>&lt;56</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>14 - 16 years</td>
<td>Male</td>
<td>&lt;46</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>16 - 18 years</td>
<td>Male</td>
<td>&lt;41</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>≥18</td>
<td>Male</td>
<td>&lt;50</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>0 - 8 days</td>
<td>Female</td>
<td>&lt;41</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>8 days - 1 month</td>
<td>Female</td>
<td>&lt;33</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>1 - 4 months</td>
<td>Female</td>
<td>12 47</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>4 - 7 months</td>
<td>Female</td>
<td>12 37</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>7 months - 1 year</td>
<td>Female</td>
<td>12 41</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>1 - 4 years</td>
<td>Female</td>
<td>&lt;46</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>4 - 7 years</td>
<td>Female</td>
<td>&lt;26</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>7 - 10 years</td>
<td>Female</td>
<td>&lt;36</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>10 - 12 years</td>
<td>Female</td>
<td>&lt;31</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>12 - 14 years</td>
<td>Female</td>
<td>&lt;31</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>14 - 16 years</td>
<td>Female</td>
<td>&lt;31</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>16 - 18 years</td>
<td>Female</td>
<td>&lt;36</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>≥18</td>
<td>Female</td>
<td>&lt;35</td>
<td></td>
<td></td>
<td>U/L</td>
</tr>
</tbody>
</table>
Important Note
Deliver to the lab immediately.
A single culture should not be ordered.

Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive, negative final at 5 days / Not available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial Culture, Blood/Bone Marrow</td>
<td>87040</td>
</tr>
</tbody>
</table>

Testing includes culture, identification, (additional charges/CPT codes may apply) and if culture results warrant, susceptibility testing (at an additional charge) of all indicated organisms.

Instrumentation
Virtuo

Reference Range
No Growth

Section
Microbiology-1

Is the UVMCC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — BACTERIAL CULTURE, BLOOD/BONE MARROW

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Culture, Adult</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>20 mL</td>
<td>20 mL</td>
<td>10 mL</td>
<td>*</td>
</tr>
<tr>
<td>Blood Culture, Pedi</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>4 mL</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>*</td>
</tr>
<tr>
<td>Bone Marrow Culture Tube (SPS)</td>
<td>Bone Marrow</td>
<td>Refrigerate</td>
<td>3 mL</td>
<td>3 mL</td>
<td>1 mL</td>
<td>*</td>
</tr>
</tbody>
</table>

*Deliver to the lab immediately.

**Collection of Blood Cultures**

Order Bacterial Culture, Blood. A separate specimen is collected into a Bone Marrow Culture Tube stored at ambient temperature. The stopper should be well sterilized first with betadine and then alcohol first before injection. Approximately 1 mL of bone marrow should be injected through the rubber stopper. If the specimen is clotted, remove stopper and place the clotted specimen directly into the culture tube. Use caution to avoid contamination.

1. Draw two sets of blood cultures with two separate venipunctures. Cultures should be collected before the administration of antimicrobial therapy if possible.
2. Remove the dust caps from the blood culture bottles. Clean the rubber stoppers with 70% alcohol and allow the alcohol to dry. Choose the venipuncture site carefully.
   Avoid close proximity to previous puncture sites. Do not enter through an area that shows signs of possible infection such as swelling, redness, hardness, or heat because organisms may already be established in the subcutaneous tissue, which could contaminate the blood cultures.
3. Clean the venipuncture site using a Blood Culture ChloroPrep Kit. Squeeze the handle of the scrubber once to release the isopropyl alcohol. Use the scrubber to vigorously cleanse the site for 30 seconds and then allow it to air dry; do not use gauze to wipe off the site.
4. Once the puncture area is prepared, do not palpate the site again. If the puncture area is touched, it must be thoroughly prepped again.
5. Draw 20 mL of blood using a syringe. Studies have shown that the ability to reliably detect septicemia/bacteremia is related to volume of blood collected. It is recommended that 20 ml of blood should be collected with each venipuncture on adult patients. If an Isolator™ tube is used, a vacutainer setup may be used, but care must be taken to keep the tube below the level of the vein so that the lysing solution does not flow back into the arm of the patient.

**Blood Culture Set, Adult** (Adult BacT/Alert bottles): Inject 10 mL of blood into each bottle through the alcohol-swabbed rubber stopper. If less than 20 mL are obtained, equally distribute the volume in the two-bottle set. If less than 10 mL is collected, inject the total volume into the aerobic bottle. Do not inject more than 10 mL into each bottle.

**Blood Culture (Pedi)** (Pedi-BacT/Alert bottles): Inject up to 4 mL of blood into a prepared pedi blood culture bottle. A minimum volume of 0.5 mL can be used. Pedi BacT/Alert bottles are available for pediatric patients only. The volume collected in this bottle may not be adequate to detect bacteremia/septicemia in adults.

6. Label bottles or tube with patient’s full name, date of birth and UVMMC medical record number if available. The label must contain two unique identifiers, UVMMC medical record number (MRN) or patient’s date of birth along with the patient’s full legal name.
7. Deliver immediately to the laboratory. **Do not place blood culture samples in the refrigerator.**
Important Note
Deliver to the lab immediately.
Swabs are not acceptable.

Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive. Negative final at 5 days / Gram smear is available STAT

Method
Culture & Smear

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone Culture</td>
<td>87070</td>
</tr>
<tr>
<td>Bone Smear</td>
<td>87205</td>
</tr>
</tbody>
</table>

Testing includes culture, identification (additional charges/CPT codes may apply) and if culture results warrant, susceptibility testing (at an additional charge) of all indicated organisms.

Instrumentation
Manual Method

Reference Range
No Growth

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — BACTERIAL CULTURE, BONE & SMEAR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Bone</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>*</td>
</tr>
</tbody>
</table>

*Deliver to the lab immediately, Swabs are not acceptable.*
Central Valley Medical Center

**Important Note**
Deliver to the lab immediately.
Please specify site.

**Test Schedule / Analytical Time / Test Priority**
Daily / Reported when positive. Negative final at 5 days / Gram smear available STAT

**Method**
Culture & Smear

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gram Stain</td>
<td>87205</td>
</tr>
<tr>
<td>Routine Culture</td>
<td>87070</td>
</tr>
</tbody>
</table>

**Instrumentation**
Manual Method

**Reference Range**
No Growth

**Section**
Microbiology-1

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Fluid</td>
<td>Ambient</td>
<td>10 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>*</td>
</tr>
</tbody>
</table>

*Deliver to the lab immediately*
**IMPACS  BACTERIAL CULTURE, IMPLANT RELATED**

*University of Vermont Medical Center*

**Important Note**
Deliver to the lab immediately. Please specify site.

**Test Schedule / Analytical Time / Test Priority**
Daily / 5 days / Gram smear is available STAT

**Method**
Culture

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaerobic Culture</td>
<td>87075</td>
</tr>
<tr>
<td>Gram Stain</td>
<td>87205</td>
</tr>
<tr>
<td>Routine Culture</td>
<td>87070</td>
</tr>
</tbody>
</table>

**Instrumentation**
Manual Method

**Reference Range**
No growth

**Section**
Microbiology-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes

**Specimen Information — BACTERIAL CULTURE, IMPLANT RELATED**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaerobic Transport Vial</td>
<td>Tissue</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Explanted hardware is acceptable, but infected tissue surrounding foreign material is preferred.
**RCS**  BACTERIAL CULTURE, OTHER & SMEAR (C+S)

*University of Vermont Medical Center*

**Important Note**

The best specimens for culture are tissue, fluids, aspirates, or curettings. Sample must be received in the lab within 24 hours of collection.

**Specimen Information**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect</th>
<th>Submit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial/Yeast Collection Kit</td>
<td>Variable</td>
<td>Refrigerate</td>
<td>Swab</td>
<td>Swab in collection kit</td>
</tr>
</tbody>
</table>

Samples must be received in lab within 24 hours. Please specify site and source with the laboratory order. Biopsy, curettings, tissue, or fluid are optimal for culture/smear requests.

**Test Schedule / Analytical Time / Test Priority**

Daily / Reported when positive. Negative final at 48 hours / Gram smear available STAT

**Method**

Culture & Smear

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gram Stain</td>
<td>87205</td>
</tr>
<tr>
<td>Routine Culture</td>
<td>87070</td>
</tr>
</tbody>
</table>

**Instrumentation**

Manual Method

**Reference Range**

No growth, usual flora, or absence of specific pathogens

**Section**

Microbiology-1

**Is the UVMMC lab NY State Certified to perform this testing?**  Yes/No

Yes

---

**RRCS**  BACTERIAL CULTURE, RESPIRATORY/SPUTUM & SMEAR (C+S)

*University of Vermont Medical Center*

**Important Note**

The sample must be received in the laboratory within 24 hours. Specimen quality can be assessed by applying quantitative criteria to the number of squamous epithelial cells. Ten or more squamous epithelial cells per low power field, indicate the sample is contaminated with oral secretions and not suitable for testing.

**Test Schedule / Analytical Time / Test Priority**

Daily / Sputum cultures 48 hours, other respiratory cultures 5 days / Gram smear available STAT

**Method**

Culture & Smear

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gram Stain</td>
<td>87205</td>
</tr>
<tr>
<td>Routine Culture</td>
<td>87070</td>
</tr>
</tbody>
</table>
**Instrumentation**
Manual Method

**Reference Range**
Usual oropharyngeal flora

**Section**
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
**Specimen Information — BACTERIAL CULTURE, RESPIRATORY/SPUTUM & SMEAR (C+S)**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Sputum</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>5 mL</td>
<td>1 mL</td>
<td>*</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Protected catheter brushings</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>*</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Bronchoalveolar lavages (BAL)</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>*</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Lung Aspirate</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>*</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Lung Tissue</td>
<td>Refrigerate</td>
<td>1 gram</td>
<td>1 gram</td>
<td>0.2 gram</td>
<td>*</td>
</tr>
</tbody>
</table>

*The samples must be received in the lab within 24 hours. Specimens should originate from the lungs or bronchial tree. Saliva and postnasal drip materials are not suitable for testing. Specimens may be obtained by expectoration, bronchoscopy, tracheal aspiration, transtracheal aspiration, or biopsy. Submit the sample in a sterile screw-capped container, syringe, or leukens tube. All containers must be leak proof. Deliver the specimen to the laboratory as soon as possible.*
SORC  BACTERIAL CULTURE, SOLID OBJECT

University of Vermont Medical Center

Important Note
Samples must be received in the lab within 24 hours.

Specimen Information

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Varies</td>
<td>Refrigerate</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

Intravascular catheter tips (A-line, groshong, etc)
Distal 5 cm should be aseptically removed and submitted in a urine container. Explanted hardware is acceptable, but infected tissue surrounding foreign material is preferred. Foley catheter tips are not suitable for culture.

Test Schedule / Analytical Time / Test Priority
Daily / Catheter tips 48 hours, orthopedic hardware, etc. 5 days / Not available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial Culture, Solid Object</td>
<td>87070</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
Negative: No growth. Less than 15 colonies on the blood agar plate suggest that the bacteria are not causing catheter related sepsis. Isolates are identified by gram morphology only. Final results are available in 2 days.
Positive: More than 15 colonies on the blood agar plate correlates best with catheter-associated sepsis. Results are usually available in 2 days. (Three or more organisms may be reported as “Mixed organisms”).

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

TRCS  BACTERIAL CULTURE, TISSUE & SMEAR (C+S)

University of Vermont Medical Center

Important Note
Deliver immediately to lab.
Please specify site.

Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive. Negative final at 5 days / Gram smear available STAT

Method
Culture & Smear

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gram Stain</td>
<td>87205</td>
</tr>
<tr>
<td>Routine Culture</td>
<td>87070</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No Growth
Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
**Specimen Information — BACTERIAL CULTURE, TISSUE & SMEAR (C+S)**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Min Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Tissue</td>
<td>Refrigerate</td>
<td>2 mm</td>
<td>2 mm</td>
<td>1 mm</td>
<td>*</td>
</tr>
</tbody>
</table>

*Deliver to the lab immediately. Please specify site.*
Important Note
Deliver to lab immediately.
Test subject to Medicare National Coverage Determination (NCD) 190.12 Urine Culture, Bacterial.

Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive. Negative final at 48 hours / Not available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial Culture, Urine</td>
<td>87086</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No growth or usual urogenital flora
- Colony counts are done using a calibrated loop. Colony counts are reported based on 2 reference points: 10,000 CFU/mL and 100,000 CFU/mL.
- Organisms are identified and susceptibility testing is done (when indicated), when more than 10,000 CFU/mL of 1 or 2 pathogens are present.
- A sample with 3 or more potential pathogens is reported as: Mixed organisms, Interpretation difficult. Multiple gram positive organisms representing skin flora or vaginal contamination will be reported as usual urogenital flora.
- No growth reports are available at 24 hours. Organism identification and susceptibility testing results are completed within 48 hours.

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
**Specimen Information — BACTERIAL CULTURE, URINE**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Clean Catch Urine</td>
<td>Refrigerate</td>
<td>20 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>*</td>
</tr>
</tbody>
</table>

*Deliver to lab immediately. If the specimen cannot be processed within one hour, refrigerate the specimen at 4°C. Bacterial counts will remain stable at 4°C for 24 hours. Culture will not be performed on urine samples that are refrigerated greater than 24 hours.*
Important Note
Restricted to Emergency Department and Labor and Delivery use only.
This screen is intended for use in clinical monitoring or management of patients.
This test is subject to Medicare National Coverage Determination (LCD) L36037-Urine Drug Testing.

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Available STAT

Method
Immunochromatograph

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barbiturate Screen</td>
<td>80306</td>
</tr>
</tbody>
</table>

Instrumentation
MedTox Scan

Reference Range
Negative Screen

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
<td>3 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Random Urine</td>
<td>Frozen</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
<td>60 days</td>
</tr>
</tbody>
</table>
**VBAR  Barbiturates Screen, Urine**

*Aspenti Health Laboratory*

**Important Note**
Routine drug screen available for inpatients and ambulatory clinics.
Barbiturates Screen, Urine, test information.

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT

---

**BMP  BASIC METABOLIC PANEL**

*University of Vermont Medical Center*

**Important Note**
Tests included are: BUN, Calcium, Chloride, CO2, Creatinine, Glucose, Potassium and Sodium
While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.

**Test Schedule / Analytical Time / Test Priority**
Daily / 24 Hours / Available STAT

**Method**
See individual tests.

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Metabolic Panel</td>
<td>80048</td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros

**Reference Range**
See individual tests.

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes
### Specimen Information — BASIC METABOLIC PANEL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium Heparin (green top) Tube</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>5 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.
# Test Schedule / Analytical Time / Test Priority

Monday - Friday / 3 days / Not available STAT

## Specimen Information — BENZODIAZEPINE CONFIRMATION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
</tr>
</tbody>
</table>
Important Note
Restricted to Emergency Department and Labor and Delivery use only. This screen is intended for use in clinical monitoring or management of patients. This test is subject to Medicare National Coverage Determination (LCD) L36037-Urine Drug Testing.

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Available STAT

Method
Immunochromatograph

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzodiazepine Screen</td>
<td>80306</td>
</tr>
</tbody>
</table>

Instrumentation
MedTox Scan

Reference Range
Negative Screen

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — BENZODIAZEPINE SCREEN, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
<td>2 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Random Urine</td>
<td>Frozen</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
<td>30 days</td>
</tr>
</tbody>
</table>
VBNZ  Benzodiazepines Screen, Urine
Aspenti Health Laboratory

Important Note
Routine drug screen for inpatients and ambulatory clinics.
Benzodiazepines Screen, Urine, test information.

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 24 Hours / Not Available STAT

HCGTUM  BETA HCG QUANTITATIVE, NON PREGNANCY
University of Vermont Medical Center

Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.27 - Human Chorionic Gonadotropin.

The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
Immunoturbidometric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCG, Tumor Marker</td>
<td>84702</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
For non-pregnant females: <5 mIU/mL
This assay has not been FDA cleared for use as a tumor marker. The results of this assay cannot be interpreted as absolute evidence for the presence or absence of malignant disease. The VITROS total Beta hCG II immunoassay detects the intact hormone, nicked forms of hCG, hyperglycosylated hCG, the beta-core fragment, and the free beta-subunit. Results obtained with different assay methods or kits may be different and cannot be used interchangeably.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>5 days</td>
</tr>
</tbody>
</table>
Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.27 - Human Chorionic Gonadotropin.

The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Immunoturbidometric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCGS</td>
<td>84702</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
Pregnancy:
Negative = Less than 5 MIU/mL
Indeterminate, recommend repeat in 48 hours = 5-25 MIU/mL
Positive = Greater than >25 MIU/mL

The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — BETA HCG QUANTITATIVE, PREGNANCY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Yellow Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td>5 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.*
**Important Note**
While a microtainer is an optional tube type in rare circumstances, it is not recommended.

**Test Schedule / Analytical Time / Test Priority**
Daily / 24 Hours / Available STAT

**Method**
Colorimetric

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta Hydroxybuterate</td>
<td>82010</td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros 5600

**Reference Range**
All ages: < 0.4 mmol/L

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?**  Yes/No
Yes
### Specimen Information — BETA HYDROXYBUTYRATE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*Yellow Microtainer</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>7 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday, run in am / 1 day / Not available STAT

Method
Photo Optical Clot Detection

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bethesda Assay</td>
<td>85335</td>
</tr>
</tbody>
</table>

Instrumentation
ACL TOP500

Reference Range
0.0 Bethesda units, inhibitor to factor

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
**Specimen Information — BETHESDA ASSAY**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>*</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>2 mL plasma</td>
<td>6 months</td>
</tr>
</tbody>
</table>

*Refer to Coagulation Specimen Handling before collecting. Submit 2 × 1.0 ml frozen plasma aliquots for this test. Please specify if the patient is receiving heparin or drawn through a heparinized port. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again, and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at less than or equal to minus 40° C, if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.*
Important Note
This test should not be used for neonates < 30 days old.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilirubin, Direct/Indirect</td>
<td>82248</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
Conjugated (Direct): Greater than 1 month old: 0.0 - 0.3 mg/dL
Unconjugated (Indirect): Greater than 1 month old: 0.0 – 1.1 mg/dL

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — BILIRUBIN, DIRECT & INDIRECT

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.1 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.1 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>7 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.*
Important Note
This test code should be used for infants <30 days old.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilirubin, Neonatal</td>
<td>82248</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
Conjugated (0 day - 1 month): 0.0-0.6 mg/dL
Unconjugated (0 day - 1 month): 0.6-10.5 mg/dL

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — BILIRUBIN, NEONATAL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Top Microtainer</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>0.2 mL</td>
<td>0.1 mL</td>
<td>0.1 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Gold Top Microtainer</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>0.2 mL</td>
<td>0.1 mL</td>
<td>0.1 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
**TBIL  BILIRUBIN, TOTAL**

*University of Vermont Medical Center*

**Important Note**
This test should not be performed on neonates <30 days old.

**Test Schedule / Analytical Time / Test Priority**
Daily / 24 Hours / Available STAT

**Method**
Colorimetric

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilirubin, Total</td>
<td>82247</td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros 5600

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes
### Specimen Information — BILIRUBIN, TOTAL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.1 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.1 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>7 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
### Reference Range — BILIRUBIN, TOTAL

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 month-18 years</td>
<td>All</td>
<td>&lt;1.0</td>
<td></td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>≥18 Years</td>
<td>All</td>
<td>&lt;1.4</td>
<td></td>
<td></td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
Important Note
This test should not be performed on neonates <30 days old.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilirubin, Direct/Indirect</td>
<td>82248</td>
</tr>
<tr>
<td>Bilirubin, Total</td>
<td>82247</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
Conjugated: ≥1 month: 0.0 - 0.3 mg/dL
Unconjugated: ≥1 month: 0.0 - 1.1 mg/dL
Total: ≥1 month: 0.0 - 1.4 mg/dL

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — BILIRUBIN, TOTAL & DIRECT

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.1 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.1 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>7 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.
Important Note
Tests included are: Blood Type ABO/Rh, Antibody screen (If screen is positive, antibody ID and titer are done).
Labeling Instructions: Please provide patients full name (NO abbreviations or cut-off letters), University of Vermont Medical Center medical record number and/or date of birth, date and time sample collected and the signature of the person collecting the Blood Bank sample is required on specimens used to prepare blood products.
Specimen Transport: Specimens must be received in the laboratory within 24-hours of collection accompanied by a completed order form.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Blood Bank

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
No
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pink Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>6 mL</td>
<td>6 mL</td>
<td>6 mL</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

Blood Bank samples must be labeled with the date collected. Specimens must be received in the laboratory within 24-hours of collection. Call Blood Bank (847-5121) if patient has antibody history.
Important Note
Test subject to Medicare National Coverage Decision (NCD) 190.15 - Blood Counts.
This test is subject to laboratory reflex policy.
If, in the opinion of the ordering provider, a blood smear needs to reviewed by a technologist for a specific reason or abnormality, please call UVM Medical Center Laboratory Customer Service (847-5121) and ask for this review. If a pathologist consultation is desired a call must be placed to UVM Medical Center Laboratory Customer Service (847-5121). A reason for the request must be provided.
Test Includes: WBC, RBC, HGB, HCT, indices, PLT, and differential (may be automated or manual). If blood will be refrigerated overnight, submit 2 smears in addition to the lavender top tube.
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. A pathologist review and written interpretation (CPT: 85060) may be generated, in the presence of certain abnormal findings. You have the option to decline reflex testing if you believe it is not medically necessary.
While an automated differential will be the default method used, there are several flags related to the WBC, PLT and RBC parameters that indicate that a manual differential must be performed. A subset of these findings will be reviewed by a pathologist.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Cell Count, automated or manual with potential smear review

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemogram with Differential</td>
<td>85025</td>
</tr>
</tbody>
</table>

Instrumentation
Sysmex XN 9000

Reference Range
Age and gender specific, see report.

Section
Hematology

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
Mix tube well. **The CBC must be tested within 48 hours of collection.** If tube will be delayed to the lab more than four hours, make differential smears and forward them with the tube, the CBC must be run within 48 hours of collection. Directions for making smears can be found here. While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>2 mL</td>
<td>1.5 mL</td>
<td>**</td>
</tr>
<tr>
<td>Lavender Microtainer</td>
<td></td>
<td></td>
<td>0.5 mL</td>
<td>0.25 mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**

**The CBC must be tested within 48 hours of collection.** If tube will be delayed to the lab more than four hours, make differential smears and forward them with the tube, the CBC must be run within 48 hours of collection. Directions for making smears can be found here. While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
CBC  BLOOD COUNT, COMPLETE

University of Vermont Medical Center

Important Note
Includes: WBC, RBC, HGB, HCT, Indices, RDW-CV and PLT. Test subject to Medicare National Coverage Decision (NCD) 190.15 - Blood Counts.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Automated Cell Counter

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemagram</td>
<td>85027</td>
</tr>
</tbody>
</table>

Instrumentation
Sysmex XN 9000

Reference Range
Age and gender specific, see report

Section
Hematology

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
Specimen Information — BLOOD COUNT, COMPLETE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>4 mL</td>
<td>1.5 mL</td>
<td>48 hours</td>
</tr>
<tr>
<td>*Lavender Microtainer</td>
<td></td>
<td></td>
<td>0.5 mL</td>
<td>0.25 mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mix well. **The CBC must be tested within 48 hours of collection.** While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
Important Note
This test can only be collected at the Main Campus 111 Colchester Avenue Burlington Vermont. See Special Test considerations. Remove needle, cap the syringe, and transport sample on ice immediately to the laboratory.
Tests included are pH, pCO2, tCO2, O2 Saturation and Base Excell/Deficit.
Arterial Blood Gas specimens are collected by Respiratory Therapy, Nursing, and Physicians.
The Laboratory recommends that the Modified Allen test be performed to determine that collateral circulation is present from the ulnar artery in the event that thrombosis of the radial artery should occur. Performance of the Modified Allen test should be documented in the patients’ chart. For further information about the indications, complications, and collection of arterial blood gas collection please refer to the AARC Clinical Practice Guidelines (Respir Care 1992:37:913-917).

Test Schedule / Analytical Time / Test Priority
Daily / Immediately / Available STAT

Method
Ion Selective Electrode, Amperometry and Potentiometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Gases, Arterial</td>
<td>82803</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Rapid Point 500

Reference Range
pH: 0-1 Day: 7.26 – 7.49
pH: 1-7 Days: 7.29 – 7.45
pH: ≥ Days: 7.35 – 7.45

pCO2: 0-1 Day 27 – 40 mmHg
pCO2: 1-7 Days 27 – 41 mmHg
pCO2: ≥7 Days 35 – 45 mmHg
pO2: 0-1 day 55 - 80 mmHg
pO2: 1-7 Days 54 -95 mmHg
pO2: ≥7 Days 80 – 105 mmHg
tCO2: All ages 23 – 27 mEq/L

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — BLOOD GAS, ARTERIAL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syringe</td>
<td>Heparinized Whole Blood</td>
<td>Ice</td>
<td>1 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

Remove the needle and cap the syringe transport on ice immediately to the lab. Samples received in any other container are NOT acceptable and testing will not be performed.

Syringe must be free of air bubbles. The presence of air bubbles will be noted in the laboratory report.

Not drawn by laboratory staff. Outpatients are collected by Respiratory Therapy Beep #0582.
**Important Note**
This test can only be collected at the Main Campus 111 Colchester Avenue Burlington Vermont, see Special Test Considerations. Remove needle, cap the syringe, and transport sample on ice immediately to the laboratory. Testing includes: pH, pCO2, pO2, TCO2, and Base Excess/Deficit.

**Test Schedule / Analytical Time / Test Priority**
Daily / Immediately / Available STAT

**Method**
Ion-Selective Electrode, Amperometry and Potentiometry

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Gases, Cord Arterial</td>
<td>82803</td>
</tr>
</tbody>
</table>

**Instrumentation**
Siemens Rapid Point 500

**Reference Range**

- pH: 7.18 – 7.38
- pO2: 6 – 30 mmHg
- TCO2: 14 – 22 mEq/L

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes
Specimen Information — BLOOD GAS, CORD BLOOD ARTERIAL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syringe</td>
<td>Heparinized Whole Blood</td>
<td>*Ice</td>
<td>1 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

*Remove needle, cap the syringe, and transport sample on ice immediately to the laboratory.
Syringe must be free of air bubbles. The presence of air bubbles will be noted in the report.
Sample received in any other containers are not acceptable for testing and testing will NOT be performed.
Important Note
This test can only be collected at the Main Campus 111 Colchester Avenue Burlington Vermont, see Special Test Considerations. Remove needle, cap the syringe, and transport sample on ice immediately to the laboratory.
Tests included pH, pCO2, pO2, and TCO2.

Test Schedule / Analytical Time / Test Priority
Daily / Immediately / Available STAT

Method
Ion-Selective Electrode, aperometry and Potentiometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Gases, Cord Venous</td>
<td>82803</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Rapid Point 500

Reference Range
Cord Venous pH: 7.25 – 7.45
Cord Venous pO2: 17 – 41 mmHg
Cord Venous TCO2: 14 – 22 mEq/L

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — BLOOD GAS, CORD VENOUS

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syringe</td>
<td>Heparinized Whole Blood</td>
<td>*Ice</td>
<td>1 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

*Remove needle, cap the syringe, and transport sample on ice immediately to the laboratory.
Syringe must be free of air bubbles.
Sample received in any other containers are not acceptable for testing and testing will NOT be performed. The presence of air bubbles will be noted in the report.
Important Note
This test can only be collected at the Main Campus 111 Colchester Avenue Burlington Vermont, see Special Test Considerations. Remove needle, cap the syringe, and transport sample on ice immediately to the laboratory. Test includes: pH, PCO2, PO2, tCO2, O2 Saturation, Base Excess/Deficit.

Test Schedule / Analytical Time / Test Priority
Daily / Immediately / Available STAT

Method
Ion Specific Electrode, Amperometry and Potentiometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Gases, Venous</td>
<td>82803</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Rapid Point 500

Reference Range
pH: 7.31 – 7.41
pCO2: 41 – 51 mmHg
TCO2: 24 – 29 mEq/L

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
**Specimen Information — BLOOD GAS, VENOUS**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syringe</td>
<td>*Heparinized Whole Blood</td>
<td>Refrigerate</td>
<td>1 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

*Remove needle, cap the syringe, and transport sample on ice immediately to the laboratory.
Syringe must be free of air bubbles. Samples received in any other container are not acceptable for testing and testing will NOT be performed. The presence of air bubble will be noted on the report.
MAR  BONE MARROW EXAM

University of Vermont Medical Center

Important Note
Must be scheduled in advance.
This test can only be collected at the Main Campus 111 Colchester Avenue Burlington Vermont. See Special Test considerations.
The bone marrow exam includes evaluation of air dried preparations of peripheral blood, marrow aspirates and imprints, and sections of marrow aspirate and biopsy. Iron stains are done routinely. Additional studies, such as cytogenetic or flow cytometric analysis are done for an additional fee by request or by pathologist following preliminary evaluation.

Specimen Information
Call Hematology (847-5121) for assistance. Technologist assistance is available. Physician collects bone marrow. Pathologist consultation is available.

Bone marrow/peripheral blood: Collect in a or sodium heparin tube. A minimum of 1.0 mL of bone marrow is required. A full 5-10 mL tube of peripheral blood is preferred, with a 2.0 mL the minimum. EDTA tubes are acceptable but are not stable as long. Lithium Heparin, ACD, and clot tubes are not acceptable. All samples should be kept at ambient temperature after collection and during transport.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Varies / Not available STAT

Section
Hematology

BONEM1  BONE MARROW EXAM (CYTOGENETICS / FISH / FLOW CYTOMETRY)

University of Vermont Medical Center

Important Note
Commercial payors may require preauthorization for this test.
See Test Note below for available probes.
Outside clients submit a manual order. Please use Hem path/Flow Cytometry/Genetic Laboratory Form.
FISH Testing can be added to this specimen see note below.

Test Schedule / Analytical Time / Test Priority
Monday – Saturday / 7 – 21 days / Not available STAT

Method
Culture, Microscopy, Karyotype

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell Culture, Blood/Bone Marrow Neoplastic</td>
<td>88237</td>
</tr>
<tr>
<td>Karyotype Analysis, Bone Marrow</td>
<td>88264</td>
</tr>
<tr>
<td>Chromosome Intrp &amp; Report Part B</td>
<td>88291</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Section
Cytogenetics

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No

Yes

Specimen Information — BONE MARROW EXAM (CYTOGENETICS / FISH / FLOW CYTOMETRY)

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone Marrow Tube (*RPMI) or Sodium Heparin Tube</td>
<td>Bone marrow</td>
<td>Ambient</td>
<td>3 mL</td>
<td>3 mL</td>
<td>0.5 mL</td>
</tr>
</tbody>
</table>

It is preferable if these samples have not clotted. Collect bone marrow in a heparinized syringe and transfer to *Bone Marrow Transport Media (RPMI) (supply # 032047) or sodium heparin. Samples should be kept at ambient temperature after collection and during transport.
BPPCR    BORDETELLA PERTUSSIS PCR

University of Vermont Medical Center

Important Note
Cross-reactivity with Bordetella holmesii may occur with the Pertussis PCR assay although the prevalence of Bordetella holmesii is relatively low. Bordetella holmesii has been associated with pertussis-like symptoms. Cross-reactivity has also been demonstrated with a limited number of Bordetella bronchiseptica isolates. Additional testing should be performed if necessary to differentiate B. holmesii and B. pertussis. This assay does not detect Bordetella parapertussis.

Specimen Information

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect</th>
<th>Submit</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bordetella Collection Kit</td>
<td>Nasopharyngeal</td>
<td>Refrigerate</td>
<td>Swab</td>
<td>Swab in collection kit</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

Bordetella Collection Kit - Blue capped transport container with Amies media and nasopharyngeal swab. After collection insert swab into vial until the red breakpoint is below the lip of the vial and bend to break swab into vial and recap securely. Kit is stored at room temperature until collection.

Bordetella pertussis collection
B. pertussis binds specifically to ciliated respiratory epithelial cells which are found in the nasopharynx, making a nasopharyngeal sample (NP) the specimen of choice for Bordetella PCR testing.

COLLECTION
The Bordetella collection Kit contains Liquid Amies broth and a floqswab
1. Insert the tip of the floqswab swab into a nostril to obtain a specimen from the posterior nasopharynx.
2. Do not force the swab; resistance will be felt when the posterior nasopharynx is reached.
3. Rotate the swab and leave it in place for 10-30 seconds or until the patient coughs.
4. Repeat the process for the second nostril.

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Not available STAT

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aplified Probe</td>
<td>87798</td>
</tr>
</tbody>
</table>

Instrumentation
Illumigene

Reference Range
Negative

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

BUN  BUN

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUN</td>
<td>84520</td>
</tr>
</tbody>
</table>
Instrumentation
Ortho Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — BUN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>5 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 8 days</td>
<td>Female</td>
<td>&lt;14</td>
<td></td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>8 - 30 days</td>
<td>Female</td>
<td>&lt;16</td>
<td></td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>1 - 4 months</td>
<td>Female</td>
<td>&lt;15</td>
<td></td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>4 - 7 months</td>
<td>Female</td>
<td>&lt;14</td>
<td></td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>7 - 12 months</td>
<td>Female</td>
<td>&lt;14</td>
<td></td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>1 - 4 years</td>
<td>Female</td>
<td>5</td>
<td>17</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>4 - 7 years</td>
<td>Female</td>
<td>7</td>
<td>17</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>7 - 10 years</td>
<td>Female</td>
<td>7</td>
<td>17</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>10 - 12 years</td>
<td>Female</td>
<td>7</td>
<td>17</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>12 - 14 years</td>
<td>Female</td>
<td>7</td>
<td>12</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>14 - 16 years</td>
<td>Female</td>
<td>8</td>
<td>21</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>16 - 18 years</td>
<td>Female</td>
<td>8</td>
<td>21</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>&gt;18 year</td>
<td>Female</td>
<td>10</td>
<td>26</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>0 - 8 days</td>
<td>Male</td>
<td>&lt;14</td>
<td></td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>8 - 30 days</td>
<td>Male</td>
<td>&lt;17</td>
<td></td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>1 - 4 months</td>
<td>Male</td>
<td>&lt;13</td>
<td></td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>4 - 7 months</td>
<td>Male</td>
<td>&lt;15</td>
<td></td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>7 - 12 months</td>
<td>Male</td>
<td>&lt;15</td>
<td></td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>1 - 4 years</td>
<td>Male</td>
<td>5</td>
<td>17</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>4 - 7 years</td>
<td>Male</td>
<td>7</td>
<td>17</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>7 - 10 years</td>
<td>Male</td>
<td>7</td>
<td>17</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>10 - 12 years</td>
<td>Male</td>
<td>7</td>
<td>17</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>12 - 14 years</td>
<td>Male</td>
<td>7</td>
<td>17</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>14 - 16 years</td>
<td>Male</td>
<td>8</td>
<td>21</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>16 - 18 years</td>
<td>Male</td>
<td>8</td>
<td>21</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>&gt;18 year</td>
<td>Male</td>
<td>10</td>
<td>26</td>
<td></td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
BUPRENORPHINE AND METABOLITES SCREEN, URINE

University of Vermont Medical Center

Important Note
Restricted to Emergency Department and Labor and Delivery use only.
This screen is intended for use in clinical monitoring or management of patients.
This test is subject to Medicare National Coverage Determination (LCD) L36037-Urine Drug Testing.

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Available STAT

Method
Immunochromatography

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buprenorphine Screen</td>
<td>80306</td>
</tr>
</tbody>
</table>

Instrumentation
MedTox Scan

Reference Range
This screen is intended for use in clinical monitoring or management of patients.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
<td>2 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Random Urine</td>
<td>Frozen</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
<td>30 days</td>
</tr>
</tbody>
</table>
Specimen Information — BUPRENORPHINE CONFIRMATION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
</tr>
</tbody>
</table>
**Vbup Buprenorphine Screen, Urine**

*Aspentti Health Laboratory*

**Important Note**
Routine drug screen for inpatients and ambulatory clinics. Buprenorphine Screen, Urine, test information.

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT

---

**Crpp C-Reactive Protein**

*University of Vermont Medical Center*

**Important Note**
For assessment of acute inflammation. Not appropriate for cardiac risk assessment.

**Test Schedule / Analytical Time / Test Priority**
Daily / Same Day / Available STAT

**Method**
Enzymatic Immunoassay

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-Reactive Protein</td>
<td>86140</td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros 5600

**Reference Range**

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Normal</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All ages</td>
<td>All</td>
<td>&lt;10</td>
<td>mg/L</td>
</tr>
</tbody>
</table>

**Section**
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — C-REACTIVE PROTEIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
</tbody>
</table>

Hemolysis affects results. Please submit a non-hemolyzed sample.
University of Vermont Medical Center

Important Note
Sample should arrive at the lab within 24-hours.
Not appropriate for children less than 1-years old as they are frequently colonized with C. difficile.
Due to sensitivity of the assay, only one sample will be run in 7 days.
Potentially interfering substances include calcium carbonate (Tums) as well as magnesium and aluminum hydroxide (Maalox liquid). Mesalazine Rectal Suspension Enema and Gynol II Vaginal Contraceptive have both shown to be slightly inhibitory.
The following substances have no reportable interference with the assay: Nystatin, Hyderm Hydrocortisone, Glycerin Suppositories, Ihle’s Paste, Anusol Plus, Preparation H with Bio-Dyne, Major Prep with Phenylephrine, Fleet Mineral Oil Enema, Imodium AD, Pepto Bismol, Ex-Lax, Metronidazole, Vancomycin, Polysporin, Neproxen, Tucks Personal Cleansing Pads, Triglyceride Mix, Palmitic Acid, Stearic Acid, Blood, Mucus.

Test Schedule / Analytical Time / Test Priority
8 am, 11 am, 2 pm, 5 pm, and 8 pm / 3 Hours / Not available STAT

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Difficile Molecular Detection</td>
<td>87493</td>
</tr>
</tbody>
</table>

Instrumentation
BD Max

Reference Range
Negative for C. difficile toxin by PCR

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
No
Specimen Information — C. DIFFICILE, PCR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Soft or liquid feces</td>
<td>Refrigerate</td>
<td>1 gram</td>
<td>1 gram</td>
<td>1 gram</td>
<td>5 days</td>
</tr>
</tbody>
</table>

Collect soft or liquid stool (sample must take the shape of the container) in a sterile container; formed stools are not acceptable. Specimens should be submitted in a sterile container without preservatives. The sample must be refrigerated until it is delivered to the laboratory. Sample should arrive at the lab within 24-hours. Not appropriate for children less than 1-year old.
C3CS  C₃ COMPLEMENT

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 3 days / Not available STAT

Method
Immunoturbidometric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3 Complement</td>
<td>86160</td>
</tr>
</tbody>
</table>

Instrumentation
Binding Site Optilite

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
Specimen Information — C3 COMPLEMENT

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Yellow Microtainer</td>
<td></td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Green top tube is **NOT** acceptable. Marked hemolysis or lipemic samples are not acceptable.

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
Reference Range — C3 COMPLEMENT

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥18 years</td>
<td>All</td>
<td></td>
<td>81</td>
<td>157</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
C4CS  C4 COMPLEMENT

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 3 days / Not available STAT

Method
Immunoturbidimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4 Complement</td>
<td>86160</td>
</tr>
</tbody>
</table>

Instrumentation
Binding Site Optilite

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*Yellow Microtainer</td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td>7 days</td>
</tr>
</tbody>
</table>

Green top tube is **NOT** acceptable. Marked hemolysis or lipemic samples are **NOT** acceptable.

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
Reference Range — C4 COMPLEMENT

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥18 years</td>
<td>All</td>
<td></td>
<td>13</td>
<td>39</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
Imported Note
Test subject to Medicare National Coverage Determination (NCD) 190.28-Tumor Antigen by Immunoassay CA 125.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 3 days / Not available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA125</td>
<td>86304</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Centaur

Reference Range
≥17: < 30 U/mL

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.6 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
University of Vermont Medical Center

Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.30 tumor Antigen by Immunoassay CA19-9.

Test Schedule / Analytical Time / Test Priority
Monday Wednesday, Friday / Same day / Not available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA 19-9</td>
<td>86301</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens ADVIA Centaur XPT

Reference Range
≥17 years: < 35 U/mL

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — CA 19-9

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Frozen</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.6 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.6 mL</td>
<td>2 days</td>
</tr>
</tbody>
</table>
University of Vermont Medical Center

Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.29 tumor Antigen by Immunoassay CA15-3/CA 27.29.

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, Friday / 3 days / Not available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA 27.29</td>
<td>86300</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens ADVIA Centaur XPT

Reference Range
≥18 years: <38 U/mL

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Frozen</td>
<td>5 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerated</td>
<td>5 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>2 days</td>
</tr>
</tbody>
</table>
Important Note

Formula for calculated calcium
Calculated calcium = measured total calcium + (4.0 – albumin) * 0.8

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>82310</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — CALCIUM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>22 days</td>
<td></td>
</tr>
<tr>
<td>Lithium Heparin (Green Top) Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>22 days</td>
<td></td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>22 days</td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
## Reference Range — CALCIUM

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 8 days</td>
<td>Female</td>
<td></td>
<td>7.5</td>
<td>11.3</td>
<td>mg/dL</td>
</tr>
<tr>
<td>8 - 30 days</td>
<td>Female</td>
<td></td>
<td>8.4</td>
<td>11.9</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1 - 3 months</td>
<td>Female</td>
<td></td>
<td>8.0</td>
<td>11.1</td>
<td>mg/dL</td>
</tr>
<tr>
<td>3 - 6 months</td>
<td>Female</td>
<td></td>
<td>7.7</td>
<td>11.5</td>
<td>mg/dL</td>
</tr>
<tr>
<td>6 months - 1 year</td>
<td>Female</td>
<td></td>
<td>7.8</td>
<td>11.1</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1 - 4 years</td>
<td>Female</td>
<td></td>
<td>8.7</td>
<td>9.8</td>
<td>mg/dL</td>
</tr>
<tr>
<td>4 - 7 years</td>
<td>Female</td>
<td></td>
<td>8.8</td>
<td>10.1</td>
<td>mg/dL</td>
</tr>
<tr>
<td>7 - 10 years</td>
<td>Female</td>
<td></td>
<td>8.8</td>
<td>10.1</td>
<td>mg/dL</td>
</tr>
<tr>
<td>10 - 12 years</td>
<td>Female</td>
<td></td>
<td>8.9</td>
<td>10.1</td>
<td>mg/dL</td>
</tr>
<tr>
<td>12 - 14 years</td>
<td>Female</td>
<td></td>
<td>8.8</td>
<td>10.6</td>
<td>mg/dL</td>
</tr>
<tr>
<td>14 - 16 years</td>
<td>Female</td>
<td></td>
<td>9.2</td>
<td>10.7</td>
<td>mg/dL</td>
</tr>
<tr>
<td>16 - 18 years</td>
<td>Female</td>
<td></td>
<td>8.9</td>
<td>10.7</td>
<td>mg/dL</td>
</tr>
<tr>
<td>≥18 years</td>
<td>Female</td>
<td></td>
<td>8.5</td>
<td>10.5</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1 - 8 days</td>
<td>Male</td>
<td></td>
<td>7.3</td>
<td>11.4</td>
<td>mg/dL</td>
</tr>
<tr>
<td>8 - 30 days</td>
<td>Male</td>
<td></td>
<td>8.6</td>
<td>11.7</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1 - 3 months</td>
<td>Male</td>
<td></td>
<td>8.5</td>
<td>11.3</td>
<td>mg/dL</td>
</tr>
<tr>
<td>3 - 6 months</td>
<td>Male</td>
<td></td>
<td>8.3</td>
<td>11.4</td>
<td>mg/dL</td>
</tr>
<tr>
<td>6 months - 1 year</td>
<td>Male</td>
<td></td>
<td>7.7</td>
<td>11.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1 - 4 years</td>
<td>Male</td>
<td></td>
<td>8.7</td>
<td>9.8</td>
<td>mg/dL</td>
</tr>
<tr>
<td>4 - 7 years</td>
<td>Male</td>
<td></td>
<td>8.8</td>
<td>10.1</td>
<td>mg/dL</td>
</tr>
<tr>
<td>7 - 10 years</td>
<td>Male</td>
<td></td>
<td>8.8</td>
<td>10.1</td>
<td>mg/dL</td>
</tr>
<tr>
<td>10 - 12 years</td>
<td>Male</td>
<td></td>
<td>8.9</td>
<td>10.1</td>
<td>mg/dL</td>
</tr>
<tr>
<td>12 - 14 years</td>
<td>Male</td>
<td></td>
<td>8.8</td>
<td>10.6</td>
<td>mg/dL</td>
</tr>
<tr>
<td>14 - 16 years</td>
<td>Male</td>
<td></td>
<td>9.2</td>
<td>10.7</td>
<td>mg/dL</td>
</tr>
<tr>
<td>16 - 18 years</td>
<td>Male</td>
<td></td>
<td>8.9</td>
<td>10.7</td>
<td>mg/dL</td>
</tr>
<tr>
<td>≥18 years</td>
<td>Male</td>
<td></td>
<td>8.5</td>
<td>10.5</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
Important Note
The 24 hour urine sample should be delivered to the lab within 12 hours of collection completion.

Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / 1 day / Not available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium, Urine, 24 Hour</td>
<td>82340</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
≥18 years: 100 - 300 mg/24 Hour (Assumes a normal daily intake of calcium between 600 - 800 mg/day)

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — CALCIUM, URINE, 24-HOUR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jug A</td>
<td>24-Hour Urine</td>
<td>Refrigerate</td>
<td>24-hour</td>
<td>100 mL</td>
<td>20 mL</td>
<td>35 days</td>
</tr>
</tbody>
</table>
**UCAR  CALCIUM, URINE, RANDOM**

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**
Daily 8 am-4:30 pm / 1 day / Not available STAT

**Method**
Colorimetric

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium, Urine, Random</td>
<td>82310</td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros 5600

**Reference Range**
No established reference ranges.

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>10 mL</td>
<td>2 mL</td>
<td>35 days</td>
</tr>
</tbody>
</table>
Important Note
Confirmation only, cannot be ordered as a stand alone test.

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 3 days / Not available STAT

Specimen Information — CANNABINOIDS CONFIRMATION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
</tr>
</tbody>
</table>
Important Note
Restricted to Emergency Department and Labor and Delivery use only.
This screen is intended for use in clinical monitoring or management of patients.
This test is subject to Medicare National Coverage Determination (LCD) L36037-Urine Drug Testing.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Immunochromatography

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannabinoids Screen</td>
<td>80306</td>
</tr>
</tbody>
</table>

Instrumentation
MedTox Scan

Reference Range
This screen is intended for use in clinical monitoring or management of patients.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — CANNABINOIDS SCREEN, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
<td>2 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Random Urine</td>
<td>Frozen</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
<td>30 days</td>
</tr>
</tbody>
</table>
CARBAM  CARBAMAZEPINE

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbamazepine</td>
<td>80156</td>
</tr>
</tbody>
</table>

Instrumentation
Abbott Architect i1000

Reference Range
All ages: Therapeutic Range: 4 – 12.0 ug/mL

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — CARBAMAZEPINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Lithium Heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>7 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.
CO2  CARBON DIOXIDE

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Dioxide</td>
<td>82374</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — CARBON DIOXIDE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>5 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
### Reference Range — CARBON DIOXIDE

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>All</td>
<td></td>
<td>22</td>
<td>32</td>
<td>mEq/L</td>
</tr>
</tbody>
</table>
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Co-oximetry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carboxyhemoglobin</td>
<td>82375</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Rapid Point 500

Reference Range
All ages:
Non-smoker: <5%
Smoker: <10%

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Green Top Tube</strong></td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>3 mL</td>
<td>3 mL</td>
<td>0.8 mL</td>
<td>7 days</td>
</tr>
<tr>
<td><em>Syringe</em></td>
<td>Heparinized Whole Blood</td>
<td>Refrigerate</td>
<td>1 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

*Remove the needle from syringe and cap sample immediately.
** Sodium heparin and lithium heparin are not acceptable. Plasma separator tubes (PST) are acceptable.

Green microtainers are not ideal for this assay and should be used when a vacutainer cannot be obtained and will only be accepted from NICU, NUR, B5 and PICU patients.
Important Note
Non-UVMMC clients must send samples frozen. For samples being sent frozen, serum should be separated from clotted blood within 4 hours of collection and frozen at ≤-20 C.

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday / 6 days / Not available STAT

Method
ELISA

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiolipin Ab IgG</td>
<td>86147</td>
</tr>
<tr>
<td>Cardiolipin Ab IgM</td>
<td>86147</td>
</tr>
</tbody>
</table>

Instrumentation
Dynex DSX

Reference Range
≥18 years all sexes:
IgG Negative: <15 GPL
IgG Indeterminate: 15-20 GPL
IgG Low to Medium Positive: 20-80 GPL
IgG High Positive: >80 GPL
IgM Negative: <12.5 MPL
IgM Indeterminate: 12.5-20 MPL
IgM Low to Medium Positive: 20-80 MPL
IgM High Positive: >80 MPL

Section
Immunology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — CARDIOLIPIN ANTIBODY PANEL, IgG AND IgM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Frozen</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.4 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerated</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.4 mL</td>
<td>2 days</td>
</tr>
</tbody>
</table>
**VCAR** Carisoprodol Screen, Urine

*Aspenti Health Laboratory*

**Important Note**
Routine drug screen for inpatients and ambulatory clinics.
Carisoprodol Screen, Urine, test information.

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT

---

**CD1920 CD19 CD20 STUDY**

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**
Monday – Saturday / 3 days / Not available STAT

**Method**
Flow Cytometry

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD19</td>
<td>88184</td>
</tr>
<tr>
<td>CD20</td>
<td>88185</td>
</tr>
</tbody>
</table>

**Instrumentation**
Beckman Coulter FC 500 and Beckman Coulter Navios

**Reference Range**
Patients being treated with Rituximab should have CD19 and CD20 percentages of <1%.

**Section**
Immunology

**Is the UVMMC lab NY State Certified to perform this testing?** Yes

---

**Specimen Information — CD19 CD20 STUDY**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Heparin Tube</td>
<td>Whole Blood*</td>
<td>Ambient</td>
<td>4 mL</td>
<td>4 mL</td>
<td>2 mL</td>
</tr>
<tr>
<td>Purple Top (EDTA)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>4 mL</td>
<td>4 mL</td>
<td>2 mL</td>
</tr>
</tbody>
</table>

* Do not spin tube. Samples collected in sodium Heparin must be tested within 48 hours of collection. Samples collected in EDTA must be tested within 30 hours of collection.
IPBAL  
CD4 / CD8 RATIO, BAL

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Saturday / 3 days / Not available STAT

Method
Flow Cytometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD 3 BAL</td>
<td>86359</td>
</tr>
<tr>
<td>CD 4 BAL</td>
<td>86360</td>
</tr>
<tr>
<td>CD 8 BAL</td>
<td>86360</td>
</tr>
<tr>
<td>RAT BAL</td>
<td>56360</td>
</tr>
</tbody>
</table>

Instrumentation
Beckman Coulter FC500 and Beckman Coulter Navios

Reference Range
RATBAL: 0.9 – 2.5 in patients at least 18 years old. Separate reference ranges for CD3%, CD4%, and CD8% are not noted.

Section
Immunology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — CD4 / CD8 RATIO, BAL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile container</td>
<td>Bronchoalveolar Lavage</td>
<td>Ambient</td>
<td>10 mL</td>
<td>10 mL</td>
<td>5 mL</td>
</tr>
</tbody>
</table>

Specimens should be submitted to the laboratory immediately and tested as soon as possible or same day. Specimens greater than 24 hours may be rejected after consultation with the Attending Hematopathologist.

Refrigerated samples should be cleared with the Attending Hematopathologist prior to analysis, as refrigeration can cause selective loss of CD4+ T-cells.
Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.26 Carcinoembryonic Antigen.
If CSF is submitted, test will be sent to Mayo Clinic Laboratories (Mayo Test Code: CEASF). Pancreatic cyst fluid is sent to Mayo (SQ Test Code: CEAPCF). All other fluid CEA requests must be approved by a supervisor or Pathologist.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 3 days / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEA</td>
<td>82378</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens ADVIA Centaur XPT

Reference Range
≥18 years all sexes:
0 - 2.5 in 98.2% of Nonsmokers and 87.3% of Smokers
2.6 – 5 in 1.8% of Nonsmokers and 8% of smokers
5.1 – 10.1 in 4.7% of Smokers

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — CEA

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Yellow Microtainer</td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>7 days</td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.26 Carcinoembryonic Antigen.
If CSF is submitted, test will be sent to Mayo Clinic Laboratories (Mayo Test Code: CEASF). Pancreatic cyst fluid is sent to Mayo (SQ Test Code: CEAPCF). All other fluid CEA requests must be approved by a supervisor or Pathologist.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 3 day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEA Repeat</td>
<td>82378</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens ADVIA Centaur XPT

Reference Range
0 - 2.5 in 98.2% of Nonsmokers and 87.3% of Smokers
2.6 – 5.0 in 1.8% of Nonsmokers and 8% of smokers
5.1 – 10.1 in 4.7% of Smokers

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Yellow Microtainer</td>
<td></td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Important Note
Testing includes Tissue Transglutaminase Antibody IgA and IgA.

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, and Friday / 3 days / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests.

Instrumentation
See individual tests.

Reference Range
If TTAB positive (>10) and IgA normal:
"Celiac disease possible. Consider referral to gastroenterology specialist for consideration for biopsy."

If IgA is age-specific normal and TTAB is equivocal (4-10 U/mL):
"Equivocal serology, celiac disease cannot be excluded. Referral to gastroenterology specialist recommended for additional evaluation."

If IgA is age specific normal and TTAB is negative (<4.0 U/mL):
"Negative Serology. Celiac disease unlikely. Approximately 10% of patient with celiac disease are seronegative. Patients who are already adhering to a gluten-free diet may be seronegative. If celiac disease is highly clinically suspected, referral to gastroenterology for additional evaluation is recommended."

If IgA ≥ 6.7 mg/dl, but lower than age-specific normal and TTAB is negative (<10 U/mL): "Low total serum IgA; Recommend referral to gastroenterology specialist for additional evaluation."

If IgA is below detection (<6.7 mg/dl) and TTAB is negative (<10 U/mL):
"Total serum IgA deficiency; Recommend referral to gastroenterology specialist for additional evaluation."

Section
Immunology and Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — CELIAC DISEASE PANEL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.6 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Important Note
Deliver specimen to lab immediately. This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. If any nucleated cells are present a differential will be performed. You have the option to decline reflex testing if you believe it is not medically necessary.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Manual Cell Count

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell Count , CSF with differential</td>
<td>89051</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
Age and gender specific, see report.

Section
Hematology

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — CELL COUNT & DIFFERENTIAL, CSF

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF Tube</td>
<td>CSF</td>
<td>Ambient</td>
<td>2 mL</td>
<td>2 mL</td>
<td>0.5 mL</td>
</tr>
</tbody>
</table>

*Tube provided on lumbar puncture tray. Deliver specimen to lab immediately, cells deteriorate on standing. (Lab Only: If extra count on tube #1 is required, use code CCTX for RBC count only.)
Important Note
Deliver sample to laboratory immediately. This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. If any nucleated cells are present, a differential (CPT: 89051) will be performed.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Manual cell count or automated cell count

CPT(s)
89050

Instrumentation
Manual Method or Sysmex XN 9000

Reference Range
Appearance: Clear, Pale Yellow
Cell Count: 0-8 Lymphocytes/cumm

Section
Hematology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — CELL COUNT, FLUID

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Fluid</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>3 mL</td>
<td>3 mL</td>
<td>*</td>
</tr>
</tbody>
</table>

*Deliver to the lab immediately.*
Important Note
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. If any nucleated cells are present, a differential will be performed.

Test Schedule / Analytical Time / Test Priority
Daily / 24 hours / Available STAT

Method
Manual cell count or automated cell count

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>89050</td>
</tr>
</tbody>
</table>

Instrumentation
Manual method or Sysmex XN 9000

Reference Range
Nucleated Cell Count: 0-200/cumm
Mono/Macro: 55-75%
Lymphocytes: 10-20%
Neutrophils: 10-24%

Section
Hematology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — CELL COUNT, SYNOVIAL FLUID

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Synovial Fluid</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>3 mL</td>
<td>0.5 mL</td>
</tr>
</tbody>
</table>

Submit promptly to the lab, cells deteriorate on standing.
CTGC  CHLAMYDIA & GC AMPLIFIED RNA

University of Vermont Medical Center

Important Note
This test is Subject to Medicare Preventive Service Coverage policy for Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's.

For sites not mentioned here see Miscellaneous Chlamydia trachomatis and Neisseria gonorrhoeae by Nucleic Acid Amplification for sample and collection information.

Specimen Information

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aptima (orange vial)</td>
<td>Vaginal Swab*</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>60 days</td>
</tr>
<tr>
<td>Aptima (orange vial)</td>
<td>Vaginal Swab*</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>60 days</td>
</tr>
<tr>
<td>Aptima (purple vial)</td>
<td>Endocervical Swab</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>60 days</td>
</tr>
<tr>
<td>Aptima (purple vial)</td>
<td>Endocervical Swab</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>60 days</td>
</tr>
<tr>
<td>Aptima (purple vial)</td>
<td>Urethral Swab</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>60 days</td>
</tr>
<tr>
<td>Aptima (purple vial)</td>
<td>Urethral Swab</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>60 days</td>
</tr>
</tbody>
</table>

*A vaginal specimen is preferred source for female patients. Aptima vaginal swab specimens have not been evaluated in pregnant women or teenage girls <16 years of age.

Aptima Orange Vial

Aptima Clear Vial

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia Trachomatis Amplified Probe</td>
<td>87491</td>
</tr>
<tr>
<td>GC Amplified Probe</td>
<td>87591</td>
</tr>
</tbody>
</table>

Instrumentation
Hologic Panther Fusion

Reference Range
Negative

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

UCTGC  CHLAMYDIA & GC AMPLIFIED RNA, URINE

University of Vermont Medical Center

Important Note
This test is Subject to Medicare Preventive Service Coverage policy for Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's.

In females, a first voided urine is acceptable for the detection of gonorrhea and chlamydia but might detect up to 10% fewer infections when compared with vaginal and endocervical swab samples.

Specimen Information

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>*Dirty Urine</td>
<td>Refrigerate</td>
<td>&lt;30 mL</td>
<td>2 mL</td>
<td>2 mL</td>
<td>24 Hours</td>
</tr>
<tr>
<td>Aptima Vial (Yellow Label)</td>
<td>*Dirty Urine</td>
<td>Refrigerate</td>
<td>&lt;30 mL</td>
<td>2 mL</td>
<td>2 mL</td>
<td>30 days</td>
</tr>
</tbody>
</table>
The patient should not have urinated for at least 1 hour prior to specimen collection.

*DIRTY URINE:* Direct patient to provide a first-catch urine (approximately 20 to 30 mL of the initial urine stream) into a sterile urine collection cup free of any preservatives. Collection of larger volumes of urine may result in rRNA target dilution that may reduce test sensitivity. Any sample submitted with over 30 mls of urine will be rejected.

Female patients should not cleanse the labial area prior to providing the specimen. Samples must be transported to the lab within 24 hours if it is in a sterile container (2-30° C). If delivery will be >24 hours, transport sample in Aptima urine specimen transport tube available from lab customer service at 847-5121. Must observe exact fill lines on the tube.

**Indicate the 30 mL mark on the urine container prior to giving it to the patient**

---

**Test Schedule / Analytical Time / Test Priority**

Monday – Friday / 1 day / Not available STAT

**Method**

Nucleic Acid Amplification

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia Trachomatis Amplified Probe</td>
<td>87491</td>
</tr>
<tr>
<td>GC Amplified Probe</td>
<td>87591</td>
</tr>
</tbody>
</table>

**Instrumentation**

Hologin Panther Fusion

**Reference Range**

Negative

**Section**

Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No

Yes

---

**TPCTRA CHLAMYDIA AMPLIFIED RNA, THIN PREP**

*University of Vermont Medical Center*

**Important Note**

This test is subject to Medicare Preventive Service Coverage policy for Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's.

**Test Schedule / Analytical Time / Test Priority**

Monday – Friday / 1 day / Not available STAT

**Method**

Nucleic Acid Amplification

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia Trachomatis Amplified Probe, Thin Prep</td>
<td>87491</td>
</tr>
</tbody>
</table>

**Instrumentation**

Hologin Panther Fusion

**Reference Range**

Negative

**Section**

Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No

Yes
Collect cervical specimens in Hologic ThinPrep PreservCyt (Pap) vials with Broom-type or cytobrush/spatula collection devices according to the manufacturer’s instructions using clean technique. Chlamydia PCR testing must be performed PRIOR to other testing being performed on that same vial (such as Pap Test). Do not remove a sample aliquot from the vial.
Important Note
This test is subject to Medicare Preventive Service Coverage policy for Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's. In females, a first voided urine is acceptable for the detection of gonorrhea and chlamydia but might detect up to 10% fewer infections when compared with vaginal and endocervical swab samples.

Specimen Information

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aptima Vial (Yellow Label)**</td>
<td>Dirty Urine</td>
<td>Refrigerate</td>
<td>&lt;30 mL</td>
<td>&lt;30 mL</td>
<td>2 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Dirty Urine</td>
<td>Refrigerate</td>
<td>&lt;30 mL</td>
<td>&lt;30 mL</td>
<td>2 mL</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

The patient should not have urinated for at least 1 hour prior to specimen collection.

*DIRTY URINE: Direct patient to provide a first-catch urine (approximately 20 to 30 mL of the initial urine stream) into a sterile urine collection cup free of any preservatives. Collection of larger volumes of urine may result in rRNA target dilution that may reduce test sensitivity. Any sample submitted with over 30 mls of urine will be rejected. Female patients should not cleanse the labial area prior to providing the specimen.

**Must observe exact fill lines on the tube.

Indicate the 30 mL mark on the urine container prior to giving it to the patient

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia Trachomatis Amplified Probe, Urine</td>
<td>87491</td>
</tr>
</tbody>
</table>

Instrumentation
Hologic Panther Fusion

Reference Range
Negative

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

CTRA  CHLAMYDIA TRACHOMATIS AMPLIFIED RNA

Important Note
This test is Subject to Medicare Preventive Service Coverage policy for Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Transcription Mediated Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia Trachomatis Amplified Probe</td>
<td>87491</td>
</tr>
</tbody>
</table>
Instrumentation
Panther System

Reference Range
Negative

Section
Microbiology-2

Is the UVMCC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aptima (orange vial)</td>
<td>Vaginal*</td>
<td>2 - 30° C</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>60 days</td>
</tr>
<tr>
<td>Aptiva (purple vial)</td>
<td>Endocervical</td>
<td>2 - 30° C</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>60 days</td>
</tr>
<tr>
<td>Aptiva (purple vial)</td>
<td>Urethral</td>
<td>2 - 30° C</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>60 days</td>
</tr>
</tbody>
</table>

*A vaginal specimen is preferred source for female patients. Aptima vaginal swab specimens has not been evaluated in pregnant women or teenage girls <16 years of age.
TPCTGC  CHLAMYDIA/GC AMPLIFIED RNA, THIN PREP

University of Vermont Medical Center

Important Note
This test is Subject to Medicare Preventive Service Coverage policy for Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Transcription Mediated Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia Trachomatis Amplified Probe, Thin Prep</td>
<td>87491</td>
</tr>
<tr>
<td>GC Amplified Probe, Thin Prep</td>
<td>87591</td>
</tr>
</tbody>
</table>

Instrumentation
Panther System

Reference Range
Negative

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
Collect cervical specimens in ThinPrep PreservCyt (Pap) vials with Broom-type cytobrush/spatula collection devices according to the manufacturer’s instructions using clean technique. Gonorrhea and Chlamydia PCR testing must be performed PRIOR to other testing being performed on that same vial (such as Pap Test). Do not remove a sample aliquot from the vial.
CL  CHLORIDE

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Ion Selective Electrode

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloride</td>
<td>82435</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — CHLORIDE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>28 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>28 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>28 days</td>
</tr>
</tbody>
</table>

While a microtainer is an optional tube type in rare circumstances, it is not recommended.
## Reference Range — CHLORIDE

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td></td>
<td></td>
<td>96</td>
<td>110</td>
<td>mEq/L</td>
</tr>
</tbody>
</table>
CHLORIDE, URINE, 24 HOUR

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / 1 day / Available STAT

Method
Ion – Specific Electrode

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloride, Urine, 24 hour</td>
<td>82436</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
≥18 years 24 Hour Sample: 110 - 250 mEq/L

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Page 188
### Specimen Information — CHLORIDE, URINE, 24 HOUR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Min Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jug A</td>
<td>24-Hour Urine</td>
<td>Refrigerate</td>
<td>Total Volume</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>


**UCLR CHLORIDE, URINE, RANDOM**

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**
Daily 8 am-4:30 pm / 1 day / Available STAT

**Method**
Ion – Selective Electrode

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloride, Urine, Random</td>
<td>82436</td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros 5600

**Reference Range**
No Established Reference Range

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes
# Specimen Information — CHLORIDE, URINE, RANDOM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>100 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td></td>
</tr>
</tbody>
</table>
CHOL  CHOLESTEROL

University of Vermont Medical Center

Important Note
Test subject to Medicare national Coverage Decision 190.23 - Lipids Testing and Cardiovascular Screening Blood Tests.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholesterol</td>
<td>82465</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
<18 years all sexes:
Acceptable: <170 mg/dL
Borderline High: 170-199 mg/dL
High: ≥200 mg/dL

≥18 years all sexes:
Acceptable: <200 mg/dL
Borderline High: 200-239 mg/dL
High: ≥240 mg/dL

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No

Yes
### Specimen Information — CHOLESTEROL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>5 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
FCHOL  CHOLESTEROL, FLUID

University of Vermont Medical Center

**Important Note**
Best interpreted in the context of a paired serum total cholesterol value.

**Test Schedule / Analytical Time / Test Priority**
Daily / 1 day / Available STAT

**Method**
Colorimetric

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>In process</td>
<td></td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros 5600

**Reference Range**
No Established Reference Range

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes
**Specimen Information — CHOLESTEROL, FLUID**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Pleural or Peritoneal only</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>5 days</td>
</tr>
</tbody>
</table>
**HDL  CHOLESTEROL, HDL**

*University of Vermont Medical Center*

**Important Note**
Test subject to Medicare national Coverage Decision 190.23 - Lipids Testing and Cardiovascular Screening Blood Tests. Patient should be fasting.

**Test Schedule / Analytical Time / Test Priority**
Daily / 1 day / Not available STAT

**Method**
Colorimetric

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholesterol, HDL</td>
<td>83718</td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros 5600

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes
### Specimen Information — CHOLESTEROL, HDL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1.5 mL</td>
<td>0.8 mL</td>
<td>5 days</td>
</tr>
</tbody>
</table>
## Reference Range — CHOLESTEROL, HDL

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;18 years</td>
<td>All</td>
<td>Pediatric Low</td>
<td>&lt;40</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>&lt;18 years</td>
<td>All</td>
<td>Pediatric Borderline</td>
<td>40</td>
<td>45</td>
<td>mg/dL</td>
</tr>
<tr>
<td>&lt;18 years</td>
<td>All</td>
<td>Pediatric Acceptable</td>
<td>&gt;45</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>≥18 years</td>
<td>All</td>
<td>Adult Low</td>
<td>&lt;40</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>≥18 years</td>
<td>All</td>
<td>Adult Normal</td>
<td>40</td>
<td>60</td>
<td>mg/dL</td>
</tr>
<tr>
<td>≥18 years</td>
<td>All</td>
<td>Adult high</td>
<td>&gt;60</td>
<td></td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
**Important Note**

This test is not orderable. It is part of the Lipid Profile (LPR).

**Reference Range — CHOLESTEROL/NON-HDL CALCULATED**

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥18 years</td>
<td>All</td>
<td>Desirable</td>
<td>&lt;130</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>≥18 years</td>
<td>All</td>
<td>Borderline High</td>
<td>130</td>
<td>159</td>
<td>mg/dL</td>
</tr>
<tr>
<td>≥18 years</td>
<td>All</td>
<td>High</td>
<td>160</td>
<td>189</td>
<td>mg/dL</td>
</tr>
<tr>
<td>≥18 years</td>
<td>All</td>
<td>Very High</td>
<td>≥190</td>
<td>mg/dL</td>
<td></td>
</tr>
</tbody>
</table>
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority

Daily / 1 day / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CK</td>
<td>82550</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Page 200
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Green Microtainer</td>
<td></td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>5 days</td>
</tr>
</tbody>
</table>

Hemolysis affects result. Please submit a non-hemolyzed sample.

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
## Reference Range — CK

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 18</td>
<td>Female</td>
<td>30</td>
<td>135</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>≥ 18</td>
<td>Male</td>
<td>0</td>
<td>251</td>
<td></td>
<td>U/L</td>
</tr>
</tbody>
</table>
CMV IgG ANTIBODY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, and Friday, run starts at 9 am / 1 day / Not available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMV IgG Antibody</td>
<td>86644</td>
</tr>
</tbody>
</table>

Instrumentation
DiaSorin Liaison XL

Reference Range
All ages and sexes:
- **Negative:** Absence of detectable CMV IgG antibodies. A negative result generally indicates that the patient is susceptible to CMV.
- **Equivocal:** Recommend collecting a second sample for testing in no less than one to two weeks.
- **Positive:** Presence of detectable CMV IgG antibodies.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Samples that are markedly lipemic, markedly hemolyzed or markedly icteric are not acceptable.
VCOC  Cocaine Metabolite (Benzylecgonine) Screen, Urine

Important Note
Routine drug screen for inpatients and ambulatory clinics.
Cocaine Metabolite (Benzylecgonine) Screen, Urine, test information.

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 24 Hours / Not Available STAT

UCOCA2  COCAINE SCREEN, URINE

University of Vermont Medical Center

Important Note
Restricted to Emergency Department and Labor and Delivery use only.
This screen is intended for use in clinical monitoring or management of patients.
This test is subject to Medicare National Coverage Determination (LCD) L36037-Urine Drug Testing.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Immunochromatography

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cocaine Metabolites Screen, Urine</td>
<td>80306</td>
</tr>
</tbody>
</table>

Instrumentation
MedTox Scan

Reference Range
This screen is intended for use in clinical monitoring or management of patients.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
## Specimen Information — COCAINE SCREEN, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
<td>2 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Frozen</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
<td>30 days</td>
</tr>
</tbody>
</table>
Important Note
Test includes Alkaline Phosphorous, Albumin, ALT, AST, Total Bilirubin, BUN, Calcium, Chloride, CO2, Creatinine, Glucose, Potassium, Total Protein, and Sodium.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
See individual Tests.

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive Metabolic Panel</td>
<td>80053</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
See individual Tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — COMPREHENSIVE METABOLIC PANEL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>1 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium Heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>1 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>5 days</td>
</tr>
</tbody>
</table>

While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
Important Note
The results of this assay can be *falsely elevated* due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cortisol</td>
<td>82533</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — CORTISOL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Yellow Microtainer</td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>5 days</td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
Reference Range — CORTISOL

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>All</td>
<td>Before 10 am</td>
<td>4</td>
<td>23</td>
<td>ug/dL</td>
</tr>
<tr>
<td>All</td>
<td>All</td>
<td>After 5 pm</td>
<td>2</td>
<td>14</td>
<td>ug/dL</td>
</tr>
</tbody>
</table>

The results of this assay can be **falsely elevated** due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.
Important Note
Cortisol Stimulation Tests are performed in Infusion on Shep 4. To Schedule a Cortisol Stimulation Test contact Infusion Scheduling at 847-7788 selection #2. For billing, the baseline and 30-minutes cortisols should be billed CPT code 80400, for the 60-minute cortisol bill CPT 82533. The results of this assay can be **falsely elevated** due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cortisol Stimulation 30 minutes</td>
<td>82533</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
See report
The results of this assay can be **falsely elevated** due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Cortisol levels are drawn at specific intervals for this test.

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>5 days</td>
</tr>
</tbody>
</table>
COR60  CORTISOL STIMULATION 60 MINUTES

University of Vermont Medical Center

Important Note
Cortisol Stimulation T Tests are performed in Infusion on Shep 4. To Schedule a Cortisol Stimulation Test contact Infusion Scheduling at 847-7788 selection #2. For billing, the baseline and 30-minutes cortisols should be billed CPT code 80400, for the 60-minute cortisol bill CPT 82533. The results of this assay can be falsely elevated due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cortisol Stimulation 60 minutes</td>
<td>82533</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
See report
The results of this assay can be falsely elevated due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
**Specimen Information — CORTISOL STIMULATION 60 MINUTES**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>5 days</td>
</tr>
</tbody>
</table>

Cortisol levels are drawn at specific intervals for this test.
Important Note
Cortisol Stimulation Tests are performed in Infusion on Shep 4. To Schedule a Cortisol Stimulation Test contact Infusion Scheduling at 847-7788 selection #2. If three cortisols are performed, 82533 will be billed x 1 and 80400 will be billed x 1.

The results of this assay can be *falsely elevated* due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cortisol Stimulation Baseline</td>
<td>82533</td>
</tr>
</tbody>
</table>

If three cortisols are performed, 82533 will be billed x 1 and 80400 will be billed x 1.

Instrumentation
Ortho Vitros 5600

Reference Range
See report
The results of this assay can be *falsely elevated* due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — CORTISOL STIMULATION BASELINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>5 days</td>
</tr>
</tbody>
</table>

Cortisol levels are drawn at specific intervals for this test.
VCOT  Cotinine Screen, Urine

Aspenti Health Laboratory

Important Note
Routine drugs screen for inpatients and ambulatory clinics.
Cotinine Screen, Urine, test information.

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 24 Hours / Not Available STAT

CRCL  CREATININE CLEARANCE

University of Vermont Medical Center

Important Note
Submit both a timed urine sample and serum. Submit serum sample within 24-hours of urine collection. Serum must be collected within 5 days of 24-hour urine collection time period. Collections that are not 22 - 26 hours in length will not have the Creatinine Clearance calculated.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine Clearance</td>
<td>82575</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Submit both a timed urine sample and serum. Submit serum sample within 24-hours of urine collection. Serum must be collected within 5 days of 24-hour urine collection time period. Collections that are not 22 - 26 hours in length will not have the Creatinine Clearance calculated.
## Reference Range — CREATININE CLEARANCE

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥18 years</td>
<td>Female</td>
<td></td>
<td>88</td>
<td>128</td>
<td>mL/min</td>
</tr>
<tr>
<td>≥18 years</td>
<td>Male</td>
<td></td>
<td>97</td>
<td>137</td>
<td>mL/min</td>
</tr>
</tbody>
</table>
FCREA  CREATININE, FLUID

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>In process</td>
<td></td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
No Established Reference Range

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — CREATININE, FLUID

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Pleural, Peritoneal, Retroperitoneal</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>5 days</td>
</tr>
</tbody>
</table>
Creatinine, Serum

University of Vermont Medical Center

**Test Schedule / Analytical Time / Test Priority**
Daily / 1 day / Available STAT

**Method**
Colorimetric

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine, Serum</td>
<td>82565</td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros 5600

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes
### Specimen Information — CREATININE, SERUM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>30 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
### Reference Range — CREATININE, SERUM

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 2 Months</td>
<td>All</td>
<td></td>
<td>0.31</td>
<td>0.92</td>
<td>mg/dL</td>
</tr>
<tr>
<td>2 Months - 1 Year</td>
<td>All</td>
<td></td>
<td>0.16</td>
<td>0.39</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1 Year - 3 Year</td>
<td>All</td>
<td></td>
<td>0.17</td>
<td>0.35</td>
<td>mg/dL</td>
</tr>
<tr>
<td>3 Year - 5 Year</td>
<td>All</td>
<td></td>
<td>0.26</td>
<td>0.42</td>
<td>mg/dL</td>
</tr>
<tr>
<td>5 Year - 7 Year</td>
<td>All</td>
<td></td>
<td>0.29</td>
<td>0.48</td>
<td>mg/dL</td>
</tr>
<tr>
<td>7 Year - 9 Year</td>
<td>All</td>
<td></td>
<td>0.34</td>
<td>0.55</td>
<td>mg/dL</td>
</tr>
<tr>
<td>9 Year - 11 Year</td>
<td>All</td>
<td></td>
<td>0.32</td>
<td>0.64</td>
<td>mg/dL</td>
</tr>
<tr>
<td>11 Year - 13 Year</td>
<td>All</td>
<td></td>
<td>0.42</td>
<td>0.71</td>
<td>mg/dL</td>
</tr>
<tr>
<td>13 Year - 15 Year</td>
<td>All</td>
<td></td>
<td>0.46</td>
<td>0.81</td>
<td>mg/dL</td>
</tr>
<tr>
<td>15 Year - 18 Year</td>
<td>Male</td>
<td></td>
<td>0.6</td>
<td>1.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>15 Year - 18 Year</td>
<td>Female</td>
<td></td>
<td>0.5</td>
<td>0.9</td>
<td>mg/dL</td>
</tr>
<tr>
<td>≥18 Year</td>
<td>Male</td>
<td></td>
<td>0.66</td>
<td>1.25</td>
<td>mg/dL</td>
</tr>
<tr>
<td>≥18 Year</td>
<td>Female</td>
<td></td>
<td>0.52</td>
<td>1.04</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

All results reported with an eGFR calculated using CKD-EPI equation for non-African Americans. Multiply eGFR by 1.16 for African Americans. eGFR Reference Range: >60 mL/min/1.73m²
Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / 1 day / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine, Urine, 24 hour</td>
<td>82570</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — CREATININE, URINE, 24 HOUR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jug A</td>
<td>24-Hour Urine</td>
<td>Refrigerate</td>
<td>24-Hour Urine</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Age</td>
<td>Sex</td>
<td>Physiological Status</td>
<td>Low</td>
<td>High</td>
<td>Units</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>----------------------</td>
<td>-----</td>
<td>------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>≥18 Years</td>
<td>Female</td>
<td></td>
<td>0.8</td>
<td>1.8</td>
<td>g/24-hour</td>
<td></td>
</tr>
<tr>
<td>≥18 Years</td>
<td>Male</td>
<td></td>
<td>1.02</td>
<td>2.0</td>
<td>g/24-hour</td>
<td></td>
</tr>
</tbody>
</table>
Test Schedule / Analytical Time / Test Priority
Daily 8:430 / 1 day / Available STAT

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine, Urine, Random</td>
<td>82570</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
No Established Reference Range

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — CREATININE, URINE, RANDOM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>5 Days</td>
</tr>
</tbody>
</table>
CCAG  CRYPTOCOCCAL ANTIGEN, CSF

University of Vermont Medical Center

Important Note
Fungal cultures are required in addition to the CSF Cryptococcal Antigen Testing. Exception: Fungal cultures of follow-up specimens used for trending the antigen titer are not required.

Test Schedule / Analytical Time / Test Priority
Daily / 1day / Available STAT on days and evenings

Method
Immunochromatographic

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cryptococcal Antigen, CSF</td>
<td>87899</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
Negative (no Cryptococcal Antigen detected)

Section
Microbiology-2

Is the UVMCC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Tube</td>
<td>CSF</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>72 Hours</td>
</tr>
</tbody>
</table>
SCAG  CRYPTOCCAL ANTIGEN, SERUM

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Not available STAT

Method
Immunochromatographic

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cryptococcal Antigen, Serum</td>
<td>87899</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
Negative (No cryptococcal antigen detected)

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>72 Hours</td>
</tr>
</tbody>
</table>
Important Note
Fecal samples submitted in Total Fix or Unifix Transport Vials will be accepted for testing at UVMMC. Fecal samples submitted in EcoFix or Formalin/PVA will be forwarded to Mayo Clinic Laboratories for testing. All other transport vials will be rejected.
This test in combination with Giardia Antigen is the preferred method for detecting stool parasites in patients who have not traveled outside of the United States.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
DFA

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cryptosporidium Exam</td>
<td>87272</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No Cryptosporidium antigen detected

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — CRYPTOSPORIDIUM EXAM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fix Vial*</td>
<td>Feces</td>
<td>Ambient</td>
<td>5 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>72 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Feces</td>
<td>Ambient</td>
<td>5 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>&lt;2 hours</td>
</tr>
</tbody>
</table>

If unable to transport specimen to the lab within 2 hours of collection, use Total Fix Vial*. Kits are available from Lab Customer Service 847-5121.

### Collection and Transport of Sample for Fecal Ova and Parasites

- Collect sample in a bedpan, avoiding contamination with urine.
- If the patient is at home, collect specimen in Stool Collection Commode or have the patient put plastic wrap over the toilet bowl.
- At least 1 mL (size of a walnut) of sample is needed. **Do not fill stool above the fill line on the transport vial**
- If the specimen cannot be transported to the lab within two hours, inoculate stool into a *Total Fix Vial which can be obtained from Customer Service (802)847-5121. Transport to the lab within 72 hours.
- All vials should be inverted several times so the sample and preservative are well mixed.
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Polarized Light Evaluation

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystal Analysis</td>
<td>89060</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No crystals seen

Section
Hematology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — CRYSTAL ANALYSIS, FLUID

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Fluid</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
</tr>
</tbody>
</table>

Sodium Heparin Tubes are acceptable. Ambient temperature samples are acceptable but not preferred.
**Test Schedule / Analytical Time / Test Priority**
Monday, Wednesday, and Friday for outpatients and daily for inpatients, run starts at 11 pm / 1 day / Not available STAT

**Method**
Chemiluminescence Immunoassay

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclosporine, Blood</td>
<td>80158</td>
</tr>
</tbody>
</table>

**Instrumentation**
Abbott Architect i1000

**Reference Range**
Therapy dependent

**Section**
Chemistry-2

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes
## Specimen Information — CYCLOSPORINE, BLOOD

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top (EDTA) Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>4 mL</td>
<td>2.5 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Lavender Microtainer</td>
<td></td>
<td>Refrigerate</td>
<td>0.5 mL</td>
<td></td>
<td></td>
<td>7 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
Important Note
Samples must be received in lab within 24 hours of collection. Specimen quality can be assessed by applying quantitative criteria to the number of squamous epithelial cells and neutrophils. Many (>25) squamous epithelial cells per low power field, indicate the sample is contaminated with oral secretions and not suitable for testing.

Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive. Negative final at 5 days / Gram smear available STAT

Method
Culture & Smear

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gram Stain</td>
<td>87205</td>
</tr>
<tr>
<td>Routine Culture</td>
<td>87070</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
Usual oropharyngeal flora

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Page 240
## Specimen Information — CYSTIC FIBROSIS RESPIRATORY CULTURE & SMEAR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Expectoration</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>24 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Bronchoscopy</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>24 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Tracheal aspiration</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>24 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Transtracheal aspiration</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>24 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Biopsy</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

Samples must be received in lab within 24 hours of collection.
Specimens should originate from the lungs or bronchial tree. Saliva and postnasal drip materials are not suitable for testing. Submit the sample in a sterile screw-capped container, syringe, or leukens tube. All containers must be leak proof. Deliver the specimen to the laboratory as soon as possible.
Important Note
The sample must be received in the laboratory within 24 hours of collection.

Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive. Negative final at 5 days / Not available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cystic Fibrosis Respiratory Culture, Swab</td>
<td>87070</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
Usual oropharyngeal flora

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — CYSTIC FIBROSIS RESPIRATORY CULTURE, SWAB

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial Collection Kit</td>
<td>Throat</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

Samples must be received in lab within 24 hours of collection.
**DDT  D-DIMER**

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**
Daily / Same day / Available STAT

**Method**
Photo Optical Latex Agglutination

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-Dimer</td>
<td>85379</td>
</tr>
</tbody>
</table>

**Instrumentation**
ACL Top

**Reference Range**

<230 ng/mL DDU (DDIMER Units)

Any use of the age-adjusted cutoff value is a post-analytic modification of this FDA-approved test and is considered “off-label” use of the test result. UVMMC laboratory does not have literature to support the validity of age-adjusted cutoff for our specific assay.

**Section**
Coagulation

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**

Yes
### Specimen Information — D-DIMER

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>4 hours</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>1 mL plasma</td>
<td>6 months</td>
</tr>
</tbody>
</table>

**TUBE MUST BE FULL AT COLLECTION.** Refer to Coagulation Specimen Handling before collecting. Deliver whole blood specimens within 4 hours of collection. For delayed delivery, send frozen plasma.
**VDEP  Depressants Panel, Urine**

*Aspenti Health Laboratory*

**Important Note**
Routine drug screen for inpatients and ambulatory clinics.
Test includes the following tests:
- Alcohol Metabolite (EtG) Screen-Urine
- Benzodiazepines Screen-Urine
- Zolpidem Screen-Urine

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT

---

**DEXSPR  DEXAMETHASONE SUPPRESSION TEST**

*University of Vermont Medical Center*

**Important Note**
The physician provides Dexamethasone dose to the patient and instructs the patient to take the dose before bed (11 p.m.) the night before they will come into the lab to have their blood collected at 8 a.m. Provider places lab order for Dexamethasone Suppression Test (Test Code LAB2046) in their EMR or writes it on a paper form. Patient can be collected for the test at any location.

**Test Schedule / Analytical Time / Test Priority**
Daily / 1 day / Available STAT

**Method**
Chemiluminescence Immunoassay

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dexamethasone Suppression</td>
<td>82533</td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros 5600

**Reference Range**
- Non-suppression: > 5 ug/dL
- Suppression (normal): <5 ug/dL

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?  Yes/No**
Yes
### Specimen Information — DEXAMETHASONE SUPPRESSION TEST

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>5 days</td>
</tr>
</tbody>
</table>
DHESS  DHEA SULFATE

University of Vermont Medical Center

Important Note
This test should not be ordered on infants 60 days or less.

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, and Friday / 1 day / Not available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHEA Sulfate</td>
<td>82627</td>
</tr>
</tbody>
</table>

Instrumentation
Abbott Architect i1000

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
### Specimen Information — DHEA SULFATE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>7 day</td>
</tr>
<tr>
<td>Age</td>
<td>Sex</td>
<td>Physiological Status</td>
<td>Low</td>
<td>High</td>
<td>Units</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>---------</td>
<td>----------------------</td>
<td>------</td>
<td>-------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>15-20 years</td>
<td>Female</td>
<td></td>
<td>61</td>
<td>494</td>
<td>ug/dL</td>
<td></td>
</tr>
<tr>
<td>20-25 years</td>
<td>Female</td>
<td></td>
<td>134</td>
<td>407</td>
<td>ug/dL</td>
<td></td>
</tr>
<tr>
<td>25-35 years</td>
<td>Female</td>
<td></td>
<td>96</td>
<td>512</td>
<td>ug/dL</td>
<td></td>
</tr>
<tr>
<td>35-45 years</td>
<td>Female</td>
<td></td>
<td>75</td>
<td>410</td>
<td>ug/dL</td>
<td></td>
</tr>
<tr>
<td>45-55 years</td>
<td>Female</td>
<td></td>
<td>56</td>
<td>283</td>
<td>ug/dL</td>
<td></td>
</tr>
<tr>
<td>55-65 years</td>
<td>Female</td>
<td></td>
<td>30</td>
<td>182</td>
<td>ug/dL</td>
<td></td>
</tr>
<tr>
<td>65-70 years</td>
<td>Female</td>
<td></td>
<td>34</td>
<td>79</td>
<td>ug/dL</td>
<td></td>
</tr>
<tr>
<td>15-20 years</td>
<td>Male</td>
<td></td>
<td>45</td>
<td>385</td>
<td>ug/dL</td>
<td></td>
</tr>
<tr>
<td>20-24 years</td>
<td>Male</td>
<td></td>
<td>238</td>
<td>539</td>
<td>ug/dL</td>
<td></td>
</tr>
<tr>
<td>25-35 years</td>
<td>Male</td>
<td></td>
<td>168</td>
<td>592</td>
<td>ug/dL</td>
<td></td>
</tr>
<tr>
<td>35-45 years</td>
<td>Male</td>
<td></td>
<td>140</td>
<td>484</td>
<td>ug/dL</td>
<td></td>
</tr>
<tr>
<td>45-55 years</td>
<td>Male</td>
<td></td>
<td>136</td>
<td>448</td>
<td>ug/dL</td>
<td></td>
</tr>
<tr>
<td>55-65 years</td>
<td>Male</td>
<td></td>
<td>49</td>
<td>362</td>
<td>ug/dL</td>
<td></td>
</tr>
<tr>
<td>65-70 years</td>
<td>Male</td>
<td></td>
<td>228</td>
<td>284</td>
<td>ug/dL</td>
<td></td>
</tr>
</tbody>
</table>
Important Note
Testing includes: Hepatitis B Surface Antigen, Hepatitis B Surface Antibody, Hepatitis B Core Antibody, and Hepatitis C Antibody. This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. Samples testing positive for the Hepatitis B Surface Antigen will have confirmatory testing Hepatitis B Surface Antigen Confirmation done at an additional charge. If Hepatitis C Antibody is low level reactive, Hepatitis C PCR will be performed at an additional charge.

HBSAG is Subject to Medicare Preventive Service Coverage policy for Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's.
Test subject to Medicare National Coverage Determination (NCD), see individual tests.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 3 day / Not available STAT

Method
Chemiluminescence Immunoassay

Instrumentation
Siemens ADVIA Centaur XPT

Reference Range
See individual tests.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — DIALYSIS HEPATITIS

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2.5 mL</td>
<td>1.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
DIFFAD
DIFFERENTIAL BLOOD COUNT-HEMATOLOGY USE ONLY

University of Vermont Medical Center

Important Note
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. A pathologist review and written interpretation (CPT: 85060) may be generated.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Automated or manual with potential smear review

Instrumentation
Sysmex XN 9000

Reference Range

<table>
<thead>
<tr>
<th>Age</th>
<th>Cell Type</th>
<th>Absolute Number - x 10³</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;18 Years</td>
<td>Neutrophil</td>
<td>2.20 - 8.85</td>
</tr>
<tr>
<td>&gt;18 Years</td>
<td>Lymphocyte</td>
<td>1.09 - 3.30</td>
</tr>
<tr>
<td>&gt;18 Years</td>
<td>Monocyte</td>
<td>0.10 - 0.8*</td>
</tr>
<tr>
<td>&gt;18 Years</td>
<td>Eosinophil</td>
<td>0.03 - 0.61</td>
</tr>
<tr>
<td>&gt;18 Years</td>
<td>Basophil</td>
<td>0.01 - 0.11</td>
</tr>
<tr>
<td>&gt;18 Years</td>
<td>Immature Grans</td>
<td>0.00 - 0.06</td>
</tr>
<tr>
<td>&gt;18 Years</td>
<td>Ret</td>
<td>0.5 - 2.5 %</td>
</tr>
</tbody>
</table>

References: MCHV normal value data from Employee Health Samples - 1994 (95% confidence range) - NE-8000 cell counter
Males: N=49
Female N=64
9/3/98 adult Monocyte reference range adjusted for Gen*S (N=37)
Ranges were verified by 2012 study on the Beckman Coulter DxH 800

Section
Hematology

Is the UVMCC lab NY State Certified to perform this testing? Yes/No
Yes

DIGOX DIGOXIN

University of Vermont Medical Center

Important Note
This test is subject to Medicare National Coverage Determination (NCD) 190.24 Digoxin Therapeutic Drug Assay.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digoxin</td>
<td>80162</td>
</tr>
</tbody>
</table>

Instrumentation
Abbott Architect i1000

Reference Range
All ages Therapeutic Range: 0.8 - 2.0 ng/mL
Section
Chemistry-1

Is the UVMCC lab NY State Certified to perform this testing? Yes/No
Yes
**Specimen Information — DIGOXIN**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>2 days</td>
</tr>
<tr>
<td>Lithium Heparin (green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>2 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.*
**DRVV  DILUTE RUSSELL VIPER VENOM TIME**

*University of Vermont Medical Center*

**Important Note**
This is a reflex test for lab use only. Please review LA Cascade for more information.

**Test Schedule / Analytical Time / Test Priority**
Monday – Friday / 1 day / Not available STAT

**Method**
Clot Based Assay

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dilute Russell Viper Venom Time</td>
<td>85613</td>
</tr>
</tbody>
</table>

**Instrumentation**
ACL Top 500

**Reference Range**
Dilute Russell Viper Venom Time: Varies according to reagent lot. See report.

**Section**
Coagulation

**Is the UVMMC lab NY State Certified to perform this testing?** Yes

---

**UDS11  DRUG SCREEN 11, URINE**

*University of Vermont Medical Center*

**Important Note**
For the Emergency Department and Labor and Delivery only. This screen is intended for use in clinical monitoring or management of patients. NCD statement.

UDS11 Includes: Amphetamine, Barbiturate, Benzodiazepine, Cannabinoid (THC), Methadone, Opiate, Oxycodone, Cocaine, Buprenorphine, Methamphetamine, and Propoxyphene.

This test is subject to Medicare National Coverage Determination (LCD) L36037-Urine Drug Testing.

**Test Schedule / Analytical Time / Test Priority**
Daily / 1 day / Available STAT

**Method**
Immunochromatography

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug Screen</td>
<td>80306 x 1</td>
</tr>
</tbody>
</table>

**Instrumentation**
MedTox Scan

**Reference Range**
This screen is intended for use in clinical monitoring or management of patients.

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes

Yes
### Specimen Information — DRUG SCREEN 11, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
<td>2 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Frozen</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
<td>30 days</td>
</tr>
</tbody>
</table>
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, and Friday, run starts at 9 am / 3 days / Not available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBNA</td>
<td>86664</td>
</tr>
<tr>
<td>EBV IgG</td>
<td>86665</td>
</tr>
<tr>
<td>EBV IgM</td>
<td>86665</td>
</tr>
</tbody>
</table>

Instrumentation
DiaSorin Liaison XL

Reference Range
All Ages:
VCA IgG: Negative,
VCA IgM: Negative,
EBNA IgG: Negative Interpretation: Results indicate no previous exposure to Epstein-Barr virus.

VCA IgG: Positive
VCA IgM: Positive
EBNA IgG: Negative Interpretation: Results indicate recent infection with Epstein-Barr virus.

VCA IgG: Positive,
VCA IgM: Negative,
EBNA IgG: Positive Interpretation: Results indicate past infection with Epstein-Barr virus.

VCA IgG: Positive,
VCA IgM: Negative,
EBNA IgG: Negative Interpretation: Indeterminate, result might indicate recent infection with Epstein-Barr virus. Time of infection cannot be definitively determined in absence of EBNA IgG.

VCA IgG: Negative,
VCA IgM: Positive,
EBNA IgG: Negative Interpretation: Result indicates recent infection with Epstein-Barr virus.

VCA IgG: Negative,
VCA IgM: Positive,
EBNA IgG: Positive Interpretation: Result indicates recent infection with Epstein-Barr virus.

VCA IgG: Positive,
VCA IgM: Positive,
EBNA IgG: Positive Interpretation: Result indicates recovery from or recent reactivation with Epstein-Barr virus.

VCA IgG: Negative,
VCA IgM: Negative,
EBNA IgG: Positive Interpretation: Indeterminate, suggest recollection if clinically indicated.

VCA IgG, VCA IgM, and/or EBNA IgG: Equivocal Interpretation: Indeterminate, suggest recollection if clinically indicated.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Samples that are markedly lipemic, markedly hemolyzed or markedly icteric are not acceptable.
**VECSTC**  ECSTACY (MDMA) CONFIRMATION PANEL, URINE

*Aspentti Health Laboratory*

**Important Note**
Routine drug screen for inpatients and ambulatory clinics.
Ecstasy MDMA Confirmation, Urine, test information.

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT

---

**EDFLUR**  ED, URGENT CARE INFLUENZA, RSV, PCR

*University of Vermont Medical Center*

**Specimen Information**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viral Collection Kit (M6)</td>
<td>Nasopharyngeal Swab</td>
<td>Refrigerate</td>
<td></td>
<td></td>
<td></td>
<td>7 days</td>
</tr>
</tbody>
</table>

**COLLECTION**
1. Insert the tip of the floqswab swab into a nostril to obtain a specimen from the posterior nasopharynx.
2. Do not force the swab; resistance will be felt when the posterior nasopharynx is reached.
3. Rotate the swab and leave it in place for 10-30 seconds or until the patient coughs.
4. Repeat the process for the second nostril

**Test Schedule / Analytical Time / Test Priority**
Daily / One day / Available STAT

**Method**
Nucleic Acid Amplification

**CPT(s)**

<table>
<thead>
<tr>
<th>Narrative</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory Virus</td>
<td>87631 x 1</td>
</tr>
</tbody>
</table>

**Instrumentation**
Cepheid GeneXpert

**Reference Range**
No virus detected

**Section**
Microbiology-2

**Is the UVMMC lab NY State Certified to perform this testing?**  Yes/No
No

---

**LYT**  ELECTROLYTES PANEL

*University of Vermont Medical Center*

**Important Note**
Tests included: Sodium, Potassium, Chloride, Carbon dioxide

**Test Schedule / Analytical Time / Test Priority**
Daily / 1 day / Available STAT

**Method**
See Individual Tests.

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrolytes Panel</td>
<td>80051</td>
</tr>
</tbody>
</table>
Instrumentation
Ortho Vitros

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — ELECTROLYTES PANEL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td>Refrigerate</td>
<td>0.6 mL</td>
<td>N/A</td>
<td>N/A</td>
<td>5 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
Important Note
Tests includes are: Sodium, Potassium, and Chloride.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Ion Selective Electrode

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloride, Urine, Random</td>
<td>82436</td>
</tr>
<tr>
<td>Potassium, Urine, Random</td>
<td>84133</td>
</tr>
<tr>
<td>Sodium, Urine, Random</td>
<td>84300</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
See individual Tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — ELECTROLYTES PANEL, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Important Note
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. Includes Total Protein and Electrophoresis and quantitation of monoclonal protein if present. If a suspicious band is seen which has not been previously detected, then an immunotyping performed (CPT: 86334) at an additional charge.

Test Schedule / Analytical Time / Test Priority
Monday – Friday, run starts at 8:00 am / 3 days / Not available STAT

Method
Capillary Electrophoresis

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein Electrophoresis</td>
<td>84165</td>
</tr>
<tr>
<td>Protein, Total</td>
<td>84155</td>
</tr>
</tbody>
</table>

Instrumentation
Sebia Capillariys 2 Flex

Reference Range
All ages:
Albumin: 55.8 – 66.1%
Alpha-1: 2.9 – 4.9%
Alpha-2: 7.1 – 11.8%
Beta: 8.4 – 13.1%
Gamma: 11.1 – 18.8%

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — ELECTROPHORESIS, SERUM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
</tbody>
</table>

Heparin tube (green) is NOT acceptable.
University of Vermont Medical Center

Important Note
This test is Subject to Medicare Preventive Service Coverage policy for Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's.
Test includes Hepatitis B Surface Antigen, Hepatitis C Quantification-includes RT, Rapid HIV 1/2 Antibody.
Source patient is tested if there is a needle stick exposure. Patient is tested under their UVMMC Medical Record Number (not anonymous) and UVMMC Employee Health pays for all testing for UVMMC events. Outside accounts will be fiscally responsible for exposure testing. Employee is not tested unless source patient is positive. At that time, employee is tested for the positive assay, anonymously at baseline, 3 months and 6 months.

Test Schedule / Analytical Time / Test Priority
See individual tests

Method
See individual tests.

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B Surface Antigen</td>
<td>87340</td>
</tr>
<tr>
<td>Hepatitis C Quantification, includes RT</td>
<td>87522</td>
</tr>
<tr>
<td>Rapid HIV 1/2 Antibody</td>
<td>86703</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Centaur XP

Reference Range
HIVSS2: Negative
HBSAG: Negative
HCVQU: Undetected

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — EMPLOYEE HEALTH EXPOSURE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>7 mL</td>
<td>3 mL</td>
<td>2 mL</td>
<td>6 days</td>
</tr>
</tbody>
</table>

Red top tube NOT acceptable.
Important Note
Source patient is tested if there is a needle stick exposure. Test code below. Patient is tested under their UVMMC Medical Record Number (not anonymous) and UVMMC Employee Health pays for all testing for UVMMC events. Outside accounts will be fiscally responsible for exposure testing. Employee is not tested unless source patient is positive. At that time, employee is tested for the positive assay, anonymously at baseline, 3 months and 6 months.

This test is Subject to Medicare Preventive Service Coverage policy for Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B Surface Antigen</td>
<td>87340</td>
</tr>
<tr>
<td>Hepatitis C Quantification, includes RT</td>
<td>87522</td>
</tr>
<tr>
<td>Rapid HIV 1/2 Antibody</td>
<td>86703</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Centaur XP

Reference Range
HIVSS2: Negative
HBSAG: Negative
HCVQU: Target not detected

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — EMPLOYEE NEEDLE STICK RECOMMENDATIONS

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>7 mL</td>
<td>3 mL</td>
<td>2 mL</td>
</tr>
</tbody>
</table>

Red top tube NOT acceptable. Serum must be separated from cells within 24 hours of collection. Specimens must be frozen within 72 hours of collection.
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Tuesday and Thursday / Same Day / Not available STAT

Method
ELISA

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>RNP Antibody</td>
<td>86235</td>
</tr>
<tr>
<td>SM Antibody</td>
<td>86235</td>
</tr>
<tr>
<td>SSA Antibody</td>
<td>86235</td>
</tr>
<tr>
<td>SSB Antibody</td>
<td>86235</td>
</tr>
</tbody>
</table>

Instrumentation
Inova Quantalyzer

Reference Range
Negative: <20 Units  
Weak Positive: 20-39 Units  
Moderate Positive: 40-80 Units  
Strong Positive: >80 Units

Section
Immunology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — ENA PANEL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Frozen</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.4 mL</td>
</tr>
</tbody>
</table>

Serum should be separated from clotted blood and stored at 2 - 8 C within 4 hours of collection. If the assay will not be completed within 48 hours of collection or for shipment of the specimen, freeze at -20 C or lower.
ENVGE  ENTERO VIRUS PCR, CSF

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
CSF Daily / 1 day / Not available STAT

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Narrative</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterovirus</td>
<td>87498 x 1</td>
</tr>
</tbody>
</table>

Instrumentation
Cepheid GeneXpert

Reference Range
Negative

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
No
## Specimen Information — ENTEROVIRUS PCR, CSF

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>CSF</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>3 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>CSF</td>
<td>Frozen</td>
<td>2 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Important Note

Estradiol concentration in fulvestrant-treated women should only be measured using an assay that has negligible cross reactivity with fulvestrant such as Liquid Chromatography-Mass Spectrometry (LC-MS/MS) available at Mayo Clinic Laboratories.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estradiol</td>
<td>82670</td>
</tr>
</tbody>
</table>

Instrumentation
Centaur

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — ESTRADIOL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.4 mL</td>
<td>2 days</td>
</tr>
</tbody>
</table>
## Reference Range — ESTRADIOL

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Follicular Phase (-12 to -4 days)</td>
<td>20</td>
<td>144</td>
<td>pg/mL</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>Mid Cycle (-3 to 2 days)</td>
<td>64</td>
<td>357</td>
<td>pg/mL</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>Luteal Phase (+4 to 12 days)</td>
<td>56</td>
<td>214</td>
<td>pg/mL</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>Post Menopausal</td>
<td>&lt;12</td>
<td>32</td>
<td>pg/mL</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>&lt;12</td>
<td>40</td>
<td>pg/mL</td>
<td></td>
</tr>
</tbody>
</table>
**VETOH Ethanol Screen, Urine**

*Aspenti Health Laboratory*

**Important Note**
Routine drug screen for inpatients and ambulatory clinics. Ethanol Screen, Urine, test information.

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT

---

**ETOH ETHANOL, BLOOD**

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**
Daily / 24 Hours / Available STAT

**Method**
Colorimetric Reflectance Spectrophotometry

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol Quant, blood</td>
<td>80320</td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros

**Reference Range**
<10 mg/dL in abstaining adults

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes

---

**Specimen Information — ETHANOL, BLOOD**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>4 mL</td>
<td>2 mL</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>4 mL</td>
<td>2 mL</td>
</tr>
<tr>
<td>Green Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Do NOT use alcohol prep to cleanse the skin prior to venipuncture, use betadine. Sample must be tightly sealed, do NOT remove tube top. *While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
Important Note
Please call Lab Customer Service at 847-5121 or 1-800-991-2799 to notify us that a sample is on the way. This notification will allow time for us to prepare the instrumentation and ensure an appropriate turnaround time.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Gas – Liquid Chromatography

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol Quant</td>
<td>82693</td>
</tr>
</tbody>
</table>

Instrumentation
Agilent 7890B Gas Chromatograph

Reference Range
None detected

Section
Chemistry-2

Is the UVMCC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — ETHYLENE GLYCOL, QUANTITATIVE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>3 days</td>
</tr>
</tbody>
</table>

Stable 3 days refrigerated as long as the sample remains tightly capped to prevent evaporation of any volatile substances.
FA10  FACTOR 10 ASSAY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Available STAT, nights and weekends with pathologist approval

Method
Photo Optical Clot Detection

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 10 Assay</td>
<td>85260</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
86 – 195%

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
### Specimen Information — FACTOR 10 ASSAY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>1 mL plasma</td>
<td>6 Months</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>4 Hours</td>
</tr>
</tbody>
</table>

Refer to Coagulation Specimen Handling before collecting. Submit 2 × 0.5 mL frozen plasma aliquots for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again, and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at less than or equal to minus 40° C, if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.
FA11  FACTOR 11 ASSAY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Available STAT, nights and weekends with pathologist approval

Method
Photo Optical Clot Detection

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 11 Assay</td>
<td>85270</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
62 – 145%

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>1 mL plasma</td>
<td>6 Months</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>4 Hours</td>
</tr>
</tbody>
</table>

Refer to Coagulation Specimen Handling before collecting. Submit 2 × 0.5 mL frozen plasma aliquots for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again, and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at less than or equal to minus 40° C, if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.
FA12  FACTOR 12 ASSAY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Available STAT, nights and weekends with pathologist approval

Method
Photo Optical Clot Detection

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 12 Assay</td>
<td>85280</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
52 – 146%

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Yes
Specimen Information — FACTOR 12 ASSAY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>1 mL plasma</td>
<td>6 Months</td>
</tr>
<tr>
<td>Blue Top tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>4 Hours</td>
</tr>
</tbody>
</table>

Refer to Coagulation Specimen Handling before collecting. Submit 2 × 0.5 mL frozen plasma aliquots for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again, and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at less than or equal to minus 40° C, if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.
FA13AG  FACTOR 13 ANTIGEN

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Latex Enhanced Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 13 Antigen</td>
<td>85290</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
Range varies according to reagent lot, see report or call Coagulation at 847-5121.

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — FACTOR 13 ANTIGEN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>1 mL plasma</td>
<td>6 Months</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>4 Hours</td>
</tr>
</tbody>
</table>

Refer to Coagulation Specimen Handling before collecting. Submit 2 x 0.5 mL frozen plasma aliquots for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again, and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at less than or equal to minus 40° C, if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.
FA2  FACTOR 2 ASSAY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Available STAT, nights and weekends need pathologist approval

Method
Photo Optical Clot Detection

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 2 Assay</td>
<td>85210</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
73 – 133%

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>1 mL plasma</td>
<td>6 months</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>4 Hours</td>
</tr>
</tbody>
</table>

Refer to Coagulation Specimen Handling before collecting. Submit 2 × 0.5 mL frozen plasma aliquots for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again, and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at less than or equal to minus 40° C, if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.
FA5  FACTOR 5 ASSAY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Available STAT, nights and weekends with pathologist approval

Method
Photo Optical Clot Detection

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 5 Assay</td>
<td>85220</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
63 – 135%

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — FACTOR 5 ASSAY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>1 mL plasma</td>
<td>6 Months</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>4 Hours</td>
</tr>
</tbody>
</table>

Refer to Coagulation Specimen Handling before collecting. Submit 2 × 0.5 mL frozen plasma aliquots for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again, and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at less than or equal to minus 40° C, if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.
FACTOR 7 ASSAY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Available STAT, nights and weekends with pathologist approval

Method
Photo Optical Clot Detection

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 7 Assay</td>
<td>85230</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
51 – 161%

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — FACTOR 7 ASSAY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>1 mL plasma</td>
<td>6 Months</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>4 Hours</td>
</tr>
</tbody>
</table>

Refer to Coagulation Specimen Handling before collecting. Submit 2 × 0.5 mL frozen plasma aliquots for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again, and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at less than or equal to minus 40° C, if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.
FA8  FACTOR 8 ASSAY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Available STAT, nights and weekends with pathologist approval

Method
Photo Optical Clot Detection

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 8 Assay</td>
<td>85240</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
53 – 143%

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
# Specimen Information — FACTOR 8 ASSAY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>1 mL plasma</td>
<td>6 Months</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>4 Hours</td>
</tr>
</tbody>
</table>

Refer to Coagulation Specimen Handling before collecting. Submit 2 × 0.5 mL frozen plasma aliquots for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again, and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at less than or equal to minus 40° C, if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.
FA9  FACTOR 9 ASSAY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Available STAT, nights and weekends with pathologist approval

Method
Photo Optical Clot Detection

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 9 Assay</td>
<td>85250</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
75 – 150%

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Refer to Coagulation Specimen Handling before collecting. Submit 2 × 0.5 mL frozen plasma aliquots for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again, and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at less than or equal to minus 40° C, if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.
Important Note
The sample must be received in the lab within 2 hours if submitted in a sterile container. Acceptable in Cary Blair media for 4 days. Microbiology testing for bacterial fecal pathogens (Salmonella, Shigella, Campylobacter, and Shiga toxin producing E.coli) testing will be performed using the BD Max instrument and results will be available within 24 hours.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Not available STAT

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal Bacterial Pathogens PCR</td>
<td>87505</td>
</tr>
</tbody>
</table>

Instrumentation
BD Max

Reference Range
No Salmonella spp. DNA detected.
No Shigella spp. or Enteroinvasive E.coli DNA detected.
No Campylobacter spp. (jejuni or coli) DNA detected.
No shiga toxin producing genes detected.

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — FECAL BACTERIAL PATHOGENS BY PCR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Para-Pak (Carey Blair Media) <em>(preferred)</em></td>
<td>Feces</td>
<td>Ambient</td>
<td>5 grams*</td>
<td>5 grams</td>
<td>0.5 grams</td>
<td>4 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Feces</td>
<td>Refrigerate</td>
<td>5 grams*</td>
<td>5 grams</td>
<td>0.5 grams</td>
<td>2 hours</td>
</tr>
</tbody>
</table>

*About the size of a walnut or 2 tablespoons.
FELF  FECAL LACTOFERRIN FOR WBC

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
Immunochromatographic

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal Lactoferrin for WBC's</td>
<td>83630</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
Absence of elevated lactoferrin

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
### Specimen Information — FECAL LACTOFERRIN FOR WBC

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Feces</td>
<td>Refrigerate</td>
<td>1 gram</td>
<td>1 gram</td>
<td>1 gram</td>
<td>2 weeks</td>
</tr>
</tbody>
</table>
FECCX  FECES CULTURE UNUSUAL PATHOGENS

University of Vermont Medical Center

Important Note
Must be received in lab within 2 hours if submitted in a sterile container. Acceptable in Cary Blair media for 4 days. This test can be added to Fecal Bacterial Pathogens by PCR for up to 96 hours after collection. Fecal culture is available for unusual bacterial pathogens (Aeromonas sp., Plesiomonas shigelloides, Yersinia enterocolitica, or Vibrio sp.). Testing for these pathogens should be considered if PCR testing is negative and there is significant travel history or unresolved diarrhea.

Test Schedule / Analytical Time / Test Priority
Daily / 2 days / Not available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>In process</td>
<td>87046</td>
</tr>
<tr>
<td>In process</td>
<td>87046.91</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No Aeromonas sp., Plesiomonas, Yersinia enterocolitica, or Vibrio sp. isolated.

Section
Microbiology-1

Is the UVMCC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Para-Pak (Cary Blair Media) Preferred</td>
<td>Feces</td>
<td>Ambient</td>
<td>5 grams*</td>
<td>5 grams</td>
<td>0.5 grams</td>
<td>4 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Feces</td>
<td>Ambient</td>
<td>5 grams*</td>
<td>5 grams</td>
<td>0.5 grams</td>
<td>2 hours</td>
</tr>
</tbody>
</table>

*About the size of a walnut or 2 tablespoons.*
VFENTC  FENTANYL AND METABOLITE CONFIRMATION

Aspenti Health Laboratory

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 3 days / Not available STAT

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
</tr>
</tbody>
</table>
VFENT  Fentanyl Screen, Urine

Aspent Health Laboratory

Important Note
Routine drug screen for inpatients and ambulatory clinics.
Fentanyl Screen, Urine , test information.

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 24 Hours / Not Available STAT

FER  FERRITIN

University of Vermont Medical Center

Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.18 Serum Iron Studies.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferritin</td>
<td>82728</td>
</tr>
</tbody>
</table>

Instrumentation
AVDIA
Centaur

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
Specimen Information — FERRITIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Yellow Microtainer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Marked hemolysis is not acceptable.
*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
## Reference Range — FERRITIN

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 months to 12 years</td>
<td>All</td>
<td></td>
<td>10</td>
<td>140</td>
<td>ng/mL</td>
</tr>
<tr>
<td>Older than 12 years</td>
<td>Female</td>
<td></td>
<td>10</td>
<td>291</td>
<td>ng/mL</td>
</tr>
<tr>
<td>Older than 12 years</td>
<td>Male</td>
<td></td>
<td>22</td>
<td>322</td>
<td>ng/mL</td>
</tr>
</tbody>
</table>
**RFFN  FETAL FIBRONECTIN**

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**
Daily / 24 Hours / Available STAT

**Method**
Lateral Flow Solid Phase Immunoabsorbant

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fetal Fibronectin</td>
<td>82731</td>
</tr>
</tbody>
</table>

**Instrumentation**
Hologic/Adeza Systems

**Reference Range**
Negative

**Section**
Chemistry-2

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes
### Specimen Information — FETAL FIBRONECTIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td></td>
<td>Refrigerate</td>
<td></td>
<td></td>
<td></td>
<td>3 days</td>
</tr>
</tbody>
</table>

Must be assayed within 3-days of collection. Only acceptable specimen is a *Fetal Fibronectin Specimen Collection Kit*. Sample should not be centrifuged. Bring sample to Chemistry-2.
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Photo Optical Clot Detection

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibrinogen</td>
<td>85384</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
Varies according to reagent lot. See report or call, if needed.

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — FIBRINOGEN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>4 hours</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>1 mL plasma</td>
<td>6 months</td>
</tr>
</tbody>
</table>

**TUBE MUST BE FULL AT COLLECTION.** Refer to Coagulation Specimen Handling before collecting. Submit frozen plasma if the sample will be delayed more than 4 hours.
University of Vermont Medical Center

Important Note
Patient should be fasting.
The results of this assay can be **falsely elevated** due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Folate</td>
<td>82746</td>
</tr>
</tbody>
</table>

Instrumentation
AVDIA Centaur

Reference Range
Normal: >5.4 ng/mL
Indeterminate: 3.4 – 5.4 ng/mL
Deficient: <3.4 ng/mL

The results of this assay can be **falsely elevated** due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
### Specimen Information — FOLATE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Sample must not be hemolyzed.
Important Note
This assay is not validated for the pediatric population.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Turbidimetry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kappa Free Light Chains</td>
<td>83883</td>
</tr>
<tr>
<td>Lambda Free Light Chains</td>
<td>83883</td>
</tr>
</tbody>
</table>

Instrumentation
Binding Site Optilite

Reference Range
Kappa free light chain: 0.33 – 1.94 mg/dL
Lambda free light chain: 0.57 – 2.63 mg/dL
Kappa/Lambda free light chain ratio: 0.26 – 1.65 mg/dL

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — FREE LIGHT CHAINS, SERUM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Markedly lipemic or hemolyzed samples will be rejected.
FSH

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSH</td>
<td>83001</td>
</tr>
</tbody>
</table>

Instrumentation
ADVIA Centaur

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — FSH

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
## Reference Range — FSH

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Female</td>
<td>Follicular</td>
<td>2.5</td>
<td>10.2</td>
<td>mIU/mL</td>
</tr>
<tr>
<td>N/A</td>
<td>Female</td>
<td>Midcycle</td>
<td>3.4</td>
<td>33.4</td>
<td>mIU/mL</td>
</tr>
<tr>
<td>N/A</td>
<td>Female</td>
<td>Luteal</td>
<td>1.5</td>
<td>9.1</td>
<td>mIU/mL</td>
</tr>
<tr>
<td>N/A</td>
<td>Female</td>
<td>Postmenopausal</td>
<td>23.0</td>
<td>116.3</td>
<td>mIU/mL</td>
</tr>
<tr>
<td>13-70 years</td>
<td>Male</td>
<td>N/A</td>
<td>1.4</td>
<td>18.1</td>
<td>mIU/mL</td>
</tr>
</tbody>
</table>
Important Note
Sample must be received within 48 hours of collection. Testing for both fungal culture and smear are the best practice for diagnosis of fungal infections.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Fungal smear NOT available STAT

Method
Smear

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fungus Smear</td>
<td>87206</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No fungi seen

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — FUNGAL SMEAR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Oral</td>
<td>Refrigerate</td>
<td></td>
<td></td>
<td></td>
<td>48 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Genital</td>
<td>Refrigerate</td>
<td></td>
<td></td>
<td></td>
<td>48 hours</td>
</tr>
</tbody>
</table>

See sample requirements for fungus culture (FC).
Important Note
Testing for both fungal culture and smear are the best practice for diagnosis of fungal infections. Testing includes isolation and identification (additional charges/CPT codes may apply). If culture results warrant, susceptibility testing (at an additional charge) of all appropriate Candida sp isolates from sterile sites or pathology approved requests from non-sterile sites will be performed. Bacterial culture, Urine is the appropriate order for the detection of Candida spp. Fungal culture of urine should only be performed to diagnose invasive fungi (Cryptococcus, Aspergillus, Mucormyces, Blastomyces and Histoplasmosis).

Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive. Negative final at 28 days/ Not available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fungus Culture, Other</td>
<td>87102</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No fungus isolated

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — FUNGUS CULTURE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>CSF</td>
<td>Ambient</td>
<td>1 mL</td>
<td>1 mL</td>
<td>1 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>1 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Other*</td>
<td>Refrigerate</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Samples must be received within 48 hours of collection.
*Tissue, fluids, scrapings, skin, hair and nails are preferred specimens. Swabs are acceptable for the recovery of yeasts, but are suboptimal for the recovery of mold. A bacterial collection kit can be used (An eSwab in Amies media is preferred, Copan swabs will be accepted, wooden swabs will be rejected).
Important Note
Most yeast will be recovered in routine blood culture bottles.

Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive. Negative final at 28 days / Not available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fungus Culture</td>
<td>87103</td>
</tr>
</tbody>
</table>

Testing includes culture, identification (additional charges/CPT codes may apply) and if culture results warrant, susceptibility testing (at an additional charge) of all appropriate Candida species isolates.

Instrumentation
Manual Method

Reference Range
No fungus isolated

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — FUNGUS CULTURE, BLOOD

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Isolator Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>10 mL</td>
<td>10 mL</td>
<td>8.0 mL</td>
<td>24 hours</td>
</tr>
<tr>
<td>Pedi Isolator Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>1.5 mL</td>
<td>1.5 mL</td>
<td>1.0 mL</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

Adult patient samples drawn in pediatric isolator tubes will be rejected as quantity NOT sufficient for testing.

Collection of Blood Cultures

1. Clean the venipuncture site using a Blood Culture ChloroPrep Kit supply #59183. Squeeze the handle of the scrubber once to release the isopropyl alcohol. Use the scrubber to vigorously cleanse the site for 30 seconds and then allow it to air dry; do not use gauze to wipe off the site. Squeeze the center of the iodine ampule and use the swab end to apply it to the site, starting in the center and working out in concentric circles, to cover an area about 5cm. in diameter. A double application of alcohol may be used if the patient is sensitive to iodine. Wait several minutes for the site to air dry.

2. Once the puncture area is prepared, do not palpate the site again. If the puncture area is touched, it must be thoroughly prepped again.

3. If an Isolator™ tube is used, a vacutainer set up may be used, but care must be taken to keep the tube below the level of the vein so that the lysing solution does not flow back into the arm of the patient.

Blood Culture, Fungal (Pediatric) (Pedi Isolator® supply # 59186): Inject 1.5 mL of blood into an alcohol-swabbed tube.

1. Label bottles or tube with patient’s full name, date of birth and UVM Medical Center Medical Record number if available. The label must contain two unique identifiers, UVMMC medical record number (MRN) or patient’s date of birth along with the patient’s full name.

2. Deliver immediately (samples must be received within 24 hours of collection) to the laboratory. Do not place blood cultures samples in the refrigerator.
Important Note
Samples must be received within 48 hours of collection.
Pus, fluid, tissue, scrapings, and clippings are optimal samples. A swab is acceptable for the recovery of yeasts but is not suitable for recovery of dimorphic fungi or molds.

Bacterial culture, Urine is the appropriate order for the detection of Candida spp. Fungal culture of urine should only be performed to diagnose invasive fungi (Cryptococcus, Aspergillus, Mucormycetes, Blastomyces and Histoplasmosis).

Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive. Negative final at 28 days/ Fungal smear is NOT available STAT

Method
Culture & Smear

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fungus Culture</td>
<td>87102</td>
</tr>
<tr>
<td>Fungus Smear</td>
<td>87206</td>
</tr>
</tbody>
</table>

Testing includes culture, identification (additional charges/CPT codes may apply) and if culture results warrant, susceptibility testing (at an additional charge) of all appropriate Candida sp isolates from sterile sites or pathology approved requests from non-sterile sites.

Instrumentation
Manual Method

Reference Range
No fungus isolated

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — FUNGUS CULTURE, OTHER & SMEAR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>CSF</td>
<td>Ambient</td>
<td>1 mL</td>
<td>1 mL</td>
<td>1 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>1 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Other*</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>1 mL</td>
</tr>
</tbody>
</table>

Samples must be received within 48 hours of collection.
*Tissue, fluids, scrapings, skin, hair and nails are preferred specimens. Swabs are acceptable for the recovery of yeasts, but are suboptimal for the recovery of mold.
Important Note
Samples must be received within 48 hours of collection.
Testing for both fungal culture and smear are the best practice for diagnosis of fungal infections.

Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive. Negative final at 28 days / Fungal smear NOT available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fungus Culture, Respiratory</td>
<td>87102</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No fungus isolated

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — FUNGUS CULTURE, RESPIRATORY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Bronchial Alveolar Lavage BAL (Preferred)</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>5 mL</td>
<td>1 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Bronchial Wash</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>5 mL</td>
<td>1 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Sputum</td>
<td>Refrigerate</td>
<td>3 mL</td>
<td>3 mL</td>
<td>1 mL</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Tissue</td>
<td>Refrigerate</td>
<td>2 mm</td>
<td>2 mm</td>
<td>1 mm</td>
</tr>
</tbody>
</table>

Swabs are not acceptable. Samples must be received within 48 hours of collection.
Important Note
Samples must be received within 48 hours from collection.
Fungal culture of respiratory specimens is useful if dimorphic fungal infection (Histoplasma, Blastomyces, and Coccidioides) is suspected and for immunocompromised patients who are suspected to have invasive fungal infection. Fungal cultures are NOT useful for diagnosis of pneumonia in immunocompetent hospitalized patients (e.g., ventilator pneumonia).

Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive. Negative final at 28 days / Fungal smear NOT available STAT

Method
Culture & Smear

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fungus Culture</td>
<td>87102</td>
</tr>
<tr>
<td>Fungus Smear</td>
<td>87206</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No fungus isolated

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — FUNGUS CULTURE, RESPIRATORY & SMEAR (C+S)

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>BAL (Preferred)</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>5 mL</td>
<td>1 mL</td>
<td>48 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Bronchial Wash</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>5 mL</td>
<td>1 mL</td>
<td>48 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Sputum</td>
<td>Refrigerate</td>
<td>3 mL</td>
<td>3 mL</td>
<td>1 mL</td>
<td>48 hours</td>
</tr>
<tr>
<td>Sterile container</td>
<td>Tissue</td>
<td>Refrigerate</td>
<td>2 mm</td>
<td>2 mm</td>
<td>1 mm</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

Swabs are not acceptable. Samples must be received within 48 hours from collection.
Important Note
Sample must be received within 48 hours of collection.
Testing includes isolation and identification (additional charges/CPT codes may apply).

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Reported when positive. Negative final at 28 days / Not available STAT

Method
Culture & KOH

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fungus Culture, Skin, Hair or Nail</td>
<td>87101</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No fungus isolated.

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — FUNGUS CULTURE, SKIN, HAIR OR NAIL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile</td>
<td>Varies</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

Sample must be received within 48 hours of collection.
Important Note
Samples must be received within 48 hours of collection.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Reported when positive. Negative final at 28 days / Fungal smear NOT available STAT

Method
Culture & Smear

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fungus Culture</td>
<td>87101</td>
</tr>
<tr>
<td>Fungus Smear</td>
<td>87206</td>
</tr>
</tbody>
</table>

Testing includes isolation and identification (additional charges/CPT codes may apply).

Instrumentation
Manual Method

Reference Range
No fungus isolated.

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — FUNGUS CULTURE, SKIN, HAIR OR NAIL, & SMEAR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile</td>
<td>Varies</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

Samples must be received within 48 hours of collection.
**Important Note**
Sample must be received within 48 hours of collection. Testing for both fungal culture and smear are the best practice for diagnosis of fungal infections.

**Test Schedule / Analytical Time / Test Priority**
Daily / Reported when positive. Negative final at 28 days / Not available STAT

**Method**
Culture

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fungus Culture, Tissue</td>
<td>87102</td>
</tr>
</tbody>
</table>

Testing includes culture, identification (additional charges/CPT codes may apply) and if culture results warrant, susceptibility testing (at an additional charge) of all appropriate Candida sp. isolated from sterile sites or pathology approved requests from non-sterile.

**Instrumentation**
Manual Method

**Reference Range**
No fungus isolated

**Section**
Microbiology-2

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes
## Specimen Information — FUNGUS CULTURE, TISSUE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Tissue*</td>
<td>Refrigerate</td>
<td>1 gram</td>
<td>1 gram</td>
<td>0.2 gram</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

*Specify Site. Sample must be received within 48 hours of collection.
Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive. Negative final at 28 days / Fungal smear NOT available STAT

Method
Culture & Smear

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fungus Culture</td>
<td>87102</td>
</tr>
<tr>
<td>Fungus Smear</td>
<td>87206</td>
</tr>
</tbody>
</table>

Testing includes culture, identification (additional charges/CPT codes may apply) and if culture results warrant, susceptibility testing (at an additional charge) of all appropriate Candida sp isolated from sterile sites or pathology approved requests from non-sterile sites.

Instrumentation
Manual Method

Reference Range
No fungus isolated

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
**Specimen Information — FUNGUS CULTURE, TISSUE & SMEAR**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Tissue*</td>
<td>Refrigerate</td>
<td>1 gram</td>
<td>1 gram</td>
<td>0.2 gram</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

*Please specify site. Sample must be received within 48 hours of specimen collection.*
Important Note
is Subject to Medicare Preventive Service Coverage policy for Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's.
For sites not listed here please use Neisseria gonorrhoea Misc Sites for sample and collection information.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Transcription Mediated Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>GC Amplified Probe</td>
<td>87591</td>
</tr>
</tbody>
</table>

Instrumentation
Panther System

Reference Range
Negative

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — GC AMPLIFIED RNA

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aptima (orange vial)</td>
<td>Vaginal*</td>
<td>2 - 30° C</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>60 days</td>
</tr>
<tr>
<td>Aptima (purple vial)</td>
<td>Endocervical</td>
<td>2 - 30° C</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>60 days</td>
</tr>
<tr>
<td>Aptima (purple vial)</td>
<td>Urethral</td>
<td>2 - 30° C</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>60 days</td>
</tr>
</tbody>
</table>

*A vaginal specimen is preferred source for female patients. Aptima vaginal swab specimens has not been evaluated in pregnant women or teenage girls <16 years of age.*
Important Note
is Subject to Medicare Preventive Service Coverage policy for Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gc Amplified Probe, Thin Prep</td>
<td>87591</td>
</tr>
</tbody>
</table>

Instrumentation
Hologic Panther Fusion

Reference Range
Negative

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>ThinPrep Vial</td>
<td>Cervical</td>
<td>Ambient</td>
<td>4 mL</td>
<td>1 mL</td>
<td>1 mL</td>
<td>30 days</td>
</tr>
</tbody>
</table>

Collect cervical specimens in Hologic ThinPrep PreservCyt (Pap) vials with Broom-type or cytobrush/spatula collection devices according to the manufacturer’s instructions using clean technique. Gonorrhea PCR testing must be performed PRIOR to other testing being performed on that same vial (such as Pap Test). Do not remove a sample aliquot from the vial.
Important Note
This test is subject to Medicare National Coverage Determination (NCD) Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's.
In females, a first voided urine is acceptable for the detection of gonorrhea and chlamydia but might detect up to 10% fewer infections when compared with vaginal and endocervical swab samples.

### Specimen Information

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aptima (Yellow Label)</td>
<td>*Dirty Urine</td>
<td>Refrigerate</td>
<td>&lt;30 mL</td>
<td>&lt;30 mL</td>
<td>2 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>*Dirty Urine</td>
<td>Refrigerate</td>
<td>&lt;30 mL</td>
<td>&lt;30 mL</td>
<td>2 mL</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

The patient should not have urinated for at least 1 hour prior to specimen collection.

*DIRTY URINE:* Direct patient to provide a first-catch urine (approximately 20 to 30 mL of the initial urine stream) into a sterile urine collection cup free of any preservatives. Collection of larger volumes of urine may result in rRNA target dilution that may reduce test sensitivity. Any sample submitted with over 30 mls of urine will be rejected. Female patients should not cleanse the labial area prior to providing the specimen. A first voided urine is acceptable for the detection of gonorrhea and chlamydia but might detect up to 10% fewer infections when compared with vaginal and endocervical swab samples.

Samples must be transported to the lab within 24 hours if it is in a sterile container (2-30°C). If delivery will be >24 hours, transport sample in Aptima urine specimen transport tube available from lab customer service at 847-5121. Must observe exact fill lines on the tube.

**Indicate the 30 mL mark on the urine container prior to giving to the patient**

---

**Test Schedule / Analytical Time / Test Priority**
Monday – Friday / 1 day / Not available STAT

**Method**
Nucleic Acid Amplification

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>GC Amplified Probe, Urine</td>
<td>87591</td>
</tr>
</tbody>
</table>

**Instrumentation**
Hologic Panther Fusion

**Reference Range**
Negative

**Section**
Microbiology-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes

---

**EXTHLD GENETIC TESTING SUPPORT FOR INHERITED DISEASE OR INHERITED RISK**

**University of Vermont Medical Center**

**Important Note**
The Genomic Medicine Laboratory at the University of Vermont Medical Center offers total nucleic acid testing (RNA plus DNA) to be used in testing for inherited disease or risk. Extractions are performed on blood, bone marrow or formalin-fixed paraffin-embedded tissue. Quantifications of the RNA and DNA fractions of the extract are carried out and reported.

**Test Schedule / Analytical Time / Test Priority**
Monday – Friday / 1 - 2 days / Not available STAT

**Method**
RNA and DNA Manual Extraction or Qiagen QIAcube
### CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraction</td>
<td></td>
</tr>
</tbody>
</table>

### Instrumentation

Manual Method

### Section

Genomic Medicine
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formalin fixed paraffin embedded tissue or cell block</td>
<td>Tissue</td>
<td>Ambient</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lavender Top Tube (EDTA)</td>
<td>Bone Marrow</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>4 mL</td>
<td>2 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Lavender Top Tube (EDTA)</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>4 mL</td>
<td>2 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Important Note
Peak levels should be collected 30 minutes after completion of the infusion.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gentamicin Peak</td>
<td>80170</td>
</tr>
</tbody>
</table>

Instrumentation
Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>72 hours</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>*</td>
</tr>
<tr>
<td>**</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Samples must be spun within one hour of collection.
When collected in a gel barrier tube sample is stable for 72-hours on the gel and 7 days removed from gel and refrigerated.
*When collected in a Green Top Tube, plasma must be removed within one hour. It is then stable 7 days refrigerated.
**While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.
<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>All</td>
<td>Peak</td>
<td>5</td>
<td>12</td>
<td>ug/mL</td>
</tr>
<tr>
<td>N/A</td>
<td>All</td>
<td>Call Value</td>
<td>&gt;12</td>
<td></td>
<td>ug/mL</td>
</tr>
</tbody>
</table>
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gentamicin</td>
<td>80170</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
Trough: <1.5 ug/mL
Peak: 5.0 – 12.0 ug/mL

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
**Specimen Information — GENTAMICIN, RANDOM**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>72 hours</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>*</td>
</tr>
<tr>
<td><strong>Green Microtainer</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
</tr>
</tbody>
</table>

Samples must be spun within one hour of collection.

When collected in a gel barrier tube (SST) sample is stable for 72-hours on the gel and 7 days removed from gel and refrigerated.

*When collected in a Green Top Tube, plasma must be removed within one hour. It is then stable 7 days refrigerated.

**While a microtainer is an optional tube type in rare circumstances, it is not recommended.
GENTT  GENTAMICIN, TROUGH

University of Vermont Medical Center

Important Note
Trough levels should be collected 30 minutes before the next dose.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gentamicin Trough</td>
<td>80170</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Samples must be spun within one hour of collection.
When collected in a gel barrier tube (SST) sample is stable for 72-hours on the gel and 7 days removed from gel and refrigerated.
*When collected in a Green Top Tube, plasma must be removed within one hour. It is then stable 7 days refrigerated.
**While a microtainer is an optional tube type in rare circumstances, it is not recommended.

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>72 hours</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>*</td>
</tr>
<tr>
<td><strong>Green Microtainer</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
</tr>
</tbody>
</table>
## Reference Range — GENTAMICIN, TROUGH

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>All</td>
<td>Trough</td>
<td>&lt;1.5</td>
<td>ug/mL</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>All</td>
<td>Call Value</td>
<td>&gt;1.5</td>
<td>ug/mL</td>
<td></td>
</tr>
</tbody>
</table>
Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.32 - Gamma Glutamyl Transferase. While a microtainer is an optional tube type in rare circumstances, it is not recommended.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Rate Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gamma Glutamyl Transferase</td>
<td>82977</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
**Specimen Information — GGT (GAMMA GT)**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium Heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
</tbody>
</table>

Hemolysis affects results, please submit non hemolyzed sample.
<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-7 days</td>
<td>Male</td>
<td></td>
<td>25</td>
<td>148</td>
<td>U/L</td>
</tr>
<tr>
<td>1-7 days</td>
<td>Female</td>
<td></td>
<td>19</td>
<td>131</td>
<td>U/L</td>
</tr>
<tr>
<td>8-30 days</td>
<td>Male</td>
<td></td>
<td>25</td>
<td>153</td>
<td>U/L</td>
</tr>
<tr>
<td>8-30 days</td>
<td>Female</td>
<td></td>
<td>17</td>
<td>124</td>
<td>U/L</td>
</tr>
<tr>
<td>1-3 months</td>
<td>Male</td>
<td></td>
<td>17</td>
<td>130</td>
<td>U/L</td>
</tr>
<tr>
<td>1-3 months</td>
<td>Female</td>
<td></td>
<td>17</td>
<td>124</td>
<td>U/L</td>
</tr>
<tr>
<td>4-6 month</td>
<td>Male</td>
<td></td>
<td>&lt;84</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>4-6 months</td>
<td>Female</td>
<td></td>
<td>15</td>
<td>109</td>
<td>U/L</td>
</tr>
<tr>
<td>7-12 months</td>
<td>Male</td>
<td></td>
<td>&lt;36</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>7-12 months</td>
<td>Female</td>
<td></td>
<td>&lt;55</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>1-3 years</td>
<td>Male</td>
<td></td>
<td>&lt;17</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>1-3 years</td>
<td>Female</td>
<td></td>
<td>&lt;17</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>4-6 years</td>
<td>Male</td>
<td></td>
<td>&lt;19</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>4-6 years</td>
<td>Female</td>
<td></td>
<td>&lt;19</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>7-9 years</td>
<td>Male</td>
<td></td>
<td>&lt;22</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>7-9 years</td>
<td>Female</td>
<td></td>
<td>&lt;22</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>10-11 years</td>
<td>Male</td>
<td></td>
<td>14</td>
<td>25</td>
<td>U/L</td>
</tr>
<tr>
<td>10-11 years</td>
<td>Female</td>
<td></td>
<td>14</td>
<td>23</td>
<td>U/L</td>
</tr>
<tr>
<td>12-13 years</td>
<td>Male</td>
<td></td>
<td>14</td>
<td>37</td>
<td>U/L</td>
</tr>
<tr>
<td>12-13 years</td>
<td>Female</td>
<td></td>
<td>&lt;22</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>14-15 years</td>
<td>Male</td>
<td></td>
<td>&lt;29</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>14-15 years</td>
<td>Female</td>
<td></td>
<td>&lt;23</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>16-18 years</td>
<td>Male</td>
<td></td>
<td>&lt;30</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>16-18 years</td>
<td>Female</td>
<td></td>
<td>&lt;24</td>
<td></td>
<td>U/L</td>
</tr>
<tr>
<td>18 and &gt;</td>
<td>Male</td>
<td></td>
<td>15</td>
<td>73</td>
<td>U/L</td>
</tr>
<tr>
<td>18 and &gt;</td>
<td>Female</td>
<td></td>
<td>&lt;44</td>
<td></td>
<td>U/L</td>
</tr>
</tbody>
</table>
Important Note
This test is the preferred method for detecting stool parasites in patients who have not traveled outside of the United States. Fecal samples submitted in Total Fix or Unifix Transport Vials will be accepted for testing at UVM. Fecal samples submitted in EcoFix or Formalin/PVA will be forwarded to Mayo Clinical Laboratories for testing the clinician approval. All other transport vials will be rejected.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Fluorescent Microscopy

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration for Infectious Agents</td>
<td>87015</td>
</tr>
<tr>
<td>Cryptosporidium Exam</td>
<td>87272</td>
</tr>
<tr>
<td>Giardia Antigen</td>
<td>87269</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
See Giardia Antigen Detection and Cryptosporidium Exam

Section
Microbiology-2

Is the UVMCC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — GIARDIA & CRYPTOSPORIDIUM ANTIGEN DETECTION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fix Vial</td>
<td>Feces</td>
<td>Ambient</td>
<td>5 mL</td>
<td>1 mL</td>
<td>1 mL</td>
<td>72 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Feces</td>
<td>Ambient</td>
<td>5 mL</td>
<td>1 mL</td>
<td>1 mL</td>
<td>&lt;2 hours</td>
</tr>
</tbody>
</table>

If unable to transport specimen to the lab within 2 hours of collection, use Total Fix Vial. Kits are available from Lab Customer Service 847-5121.

Collection and Transport of Sample for Fecal Ova and Parasites

- Collect sample in a bedpan, avoiding contamination with urine.
- If patient is at home, collect specimen in Stool Collection Commode or have the patient put plastic wrap over toilet bowl.
- At least 1 mL (size of a walnut) of sample is needed. Do not fill stool above the fill line on the transport vial.
- If the specimen cannot be transported to the lab within two hours, inoculate stool into a transport vial (Total Fix) which can be obtained from Customer Service (802) 847-5121. Transport to the lab within 72 hours.
- All vials should be inverted several times so the sample and preservative are well mixed.
Important Note
Fecal samples submitted in Total Fix or Unifix Transport Vials will be accepted for testing at UVMMC. Fecal samples submitted in EcoFix or Formalin/PVA will be forwarded to Mayo Clinic Laboratories for testing. All other transport vials will be rejected. This test in combination with Cryptosporidium Exam is the preferred method for detecting stool parasites in patients who have not traveled outside of the United States.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Fluorescent Microscopy

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration for Infectious Agents</td>
<td>87015</td>
</tr>
<tr>
<td>Giardia Antigen</td>
<td>87269</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No Giardia antigen detected.

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — GIARDIA ANTIGEN DETECTION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fix Vial</td>
<td>Feces</td>
<td>Ambient</td>
<td>5 mL</td>
<td>1 mL</td>
<td>1 mL</td>
<td>72 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Feces</td>
<td>Ambient</td>
<td>5 mL</td>
<td>1 mL</td>
<td>1 mL</td>
<td>&lt;2 hours</td>
</tr>
</tbody>
</table>

If unable to transport specimen to the lab within 2 hours of collection, use Total Fix Vial. Kits are available from Lab Customer Service 847-5121.

Collection and Transport of Sample for Fecal Ova and Parasites
- Collect sample in a bedpan, avoiding contamination with urine.
- If patient is at home, collect specimen in Stool Collection Commode or have the patient put plastic wrap over toilet bowl.
- At least 1 mL (size of a walnut) of sample is needed. Do not fill stool above the fill line on the transport vial.
- If the specimen cannot be transported to the lab within two hours, inoculate stool into a transport vial (Total Fix) which can be obtained from Customer Service (802) 847-5121. Transport to the lab within 72 hours.
- All vials should be inverted several times so the sample and preservative are well mixed.
GT1  GLUCOSE TOLERANCE, 1 HOUR SCREEN (GESTATIONAL)

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose, 1 Hour Gestational Screen</td>
<td>82950</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
1 Hour Plasma Glucose: 50 - 134 mg/dL

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — GLUCOSE TOLERANCE, 1 HOUR SCREEN (GESTATIONAL)

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grey top Tube</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
</tr>
</tbody>
</table>
GT2  GLUCOSE TOLERANCE, 2 HOUR

University of Vermont Medical Center

Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.20 Blood Glucose Testing and Diabetes Screening. Test must be scheduled in advance at the Ambulatory Care Center, Fanny Allen Medical Office Building, One Prospect Street, or Blair Park Williston. See Special Test Considerations.

Test Schedule / Analytical Time / Test Priority
Monday – Friday, by appointment only (847-5121) / Same day / Not available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose Tolerance post glucose dose</td>
<td>82950</td>
</tr>
<tr>
<td>Glucose Tolerance Fasting</td>
<td>82947</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — GLUCOSE TOLERANCE, 2 HOUR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grey Top Tube</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
</tr>
</tbody>
</table>

Reference Range — GLUCOSE TOLERANCE, 2 HOUR

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Fasting Non-gestational</td>
<td>50</td>
<td>100</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>2-Hour Non-gestational</td>
<td>50</td>
<td>140</td>
<td>mg/dL</td>
<td></td>
</tr>
</tbody>
</table>
Important Note
Test must be scheduled in advance at the Ambulatory Care Center, Fanny Allen Medical Office Building, One Prospect Street, or Blair Park Williston. See Special Test considerations. A significant number of patients experience a critically low serum glucose level following this procedure. Please encourage your patients to bring a snack for after the procedure.

Test Schedule / Analytical Time / Test Priority
Monday – Friday, by appointment only (847-5121) / Same day / Not available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose Tolerance additional specimen</td>
<td>82952</td>
</tr>
<tr>
<td>Glucose Tolerance 3 specimens</td>
<td>82951</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — GLUCOSE TOLERANCE, 3-HOUR (GESTATIONAL)

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grey Top Tube</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
</tr>
</tbody>
</table>

Reference Range — GLUCOSE TOLERANCE, 3-HOUR (GESTATIONAL)

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Female</td>
<td>Fasting</td>
<td>50</td>
<td>95</td>
<td>mg/dL</td>
</tr>
<tr>
<td>N/A</td>
<td>Female</td>
<td>1-Hour Plasma Glucose</td>
<td>50</td>
<td>180</td>
<td>mg/dL</td>
</tr>
<tr>
<td>N/A</td>
<td>Female</td>
<td>2-Hour Plasma Glucose</td>
<td>50</td>
<td>155</td>
<td>mg/dL</td>
</tr>
<tr>
<td>N/A</td>
<td>Female</td>
<td>3-Hour Plasma Glucose</td>
<td>50</td>
<td>140</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
CGL  GLUCOSE, CSF

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose, CSF</td>
<td>82945</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
60-80% of serum glucose.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — GLUCOSE, CSF

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF Tube</td>
<td>CSF</td>
<td>Refrigerate</td>
<td>0.5 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
</tr>
</tbody>
</table>

Page 360
FGL  GLUCOSE, FLUID

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose, Fluid</td>
<td>82945</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range

Pleural Fluid
Low glucose is accepted as <60 mg/dl or pleural fluid to serum glucose ratio of <0.5.

Peritoneal Fluid
Low glucose is generally accepted as < 50 mg/dl.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — GLUCOSE, FLUID

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Pleural or Peritoneal Fluid only</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
</tr>
</tbody>
</table>
Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.20 Blood Glucose Testing and Diabetes Screening.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose, Plasma</td>
<td>82947</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grey Top Tube</td>
<td>Plasma</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>24 hours</td>
</tr>
<tr>
<td>Age</td>
<td>Sex</td>
<td>Physiological Status</td>
<td>Low</td>
<td>High</td>
<td>Units</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>----------------------</td>
<td>-----</td>
<td>------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>0-1 day</td>
<td>All</td>
<td></td>
<td>40</td>
<td>100</td>
<td>mg/dl</td>
<td></td>
</tr>
<tr>
<td>1-7 days</td>
<td>All</td>
<td></td>
<td>50</td>
<td>100</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>&gt;7 days</td>
<td>All</td>
<td></td>
<td>70</td>
<td>100</td>
<td>mg/dL</td>
<td></td>
</tr>
</tbody>
</table>
Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.20 Blood Glucose Testing and Diabetes Screening.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose, Screening</td>
<td>82947</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — GLUCOSE, SCREENING

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium Heparinized (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>5 days</td>
</tr>
</tbody>
</table>
Reference Range — GLUCOSE, SCREENING

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Day</td>
<td>All</td>
<td></td>
<td>40</td>
<td>100</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1 - 7 Days</td>
<td>All</td>
<td></td>
<td>50</td>
<td>100</td>
<td>mg/dL</td>
</tr>
<tr>
<td>&gt;7 Days</td>
<td>All</td>
<td></td>
<td>70</td>
<td>100</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

A glucose of >180 mg/dL will trigger a Hemoglobin A1C order.
Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.20 Blood Glucose Testing and Diabetes

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose, Serum</td>
<td>82947</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — GLUCOSE, SERUM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium Heparinized (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Yellow Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended**. Approximately 7% of glucose is lost/hr when kept on cells unspun.
**Reference Range — GLUCOSE, SERUM**

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1 day</td>
<td>All</td>
<td>Fasting</td>
<td>40</td>
<td>100</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1-7 days</td>
<td>All</td>
<td>Fasting</td>
<td>50</td>
<td>100</td>
<td>mg/dL</td>
</tr>
<tr>
<td>&gt;7 days</td>
<td>All</td>
<td>Fasting</td>
<td>70</td>
<td>100</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
UGL  GLUCOSE, URINE

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / Same day / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose, Urine</td>
<td>82945</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
<30 mg/dL

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — GLUCOSE, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>3 days</td>
</tr>
</tbody>
</table>

Spot or 24-hour urine is acceptable.
Important Note
Sample must be received in the lab within 24 hours of collection. This test is intended for pregnant women with a penicillin allergy. A PCR test for Group B Strep will be performed. If the test is positive, a culture will also be done to provide susceptibility information. It is possible to have a positive PCR result and not grow the organism in culture because PCR has a higher sensitivity and is able to detect Group B Strep in lower numbers.

Specimen Information

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect</th>
<th>Submit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial/Yeast Collection Kit</td>
<td>Rectal and Vaginal</td>
<td>Refrigerated</td>
<td>Swab</td>
<td>Swab in collection kit</td>
</tr>
</tbody>
</table>
Test Schedule / Analytical Time / Test Priority
Monday - Friday / 2 days / Not available STAT

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grp B Strep PCR for Penicillin Allergic Patients</td>
<td>87653</td>
</tr>
</tbody>
</table>

Instrumentation
BD Max

Reference Range
Negative

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

SXBBD GROUP B STREP, PCR

University of Vermont Medical Center

Specimen Information

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Min Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial/Yeast Collection Kit</td>
<td>Rectal and Vaginal</td>
<td>Refrigerated</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Test Schedule / Analytical Time / Test Priority
Monday - Friday / 2 days / Not available STAT

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strep, Group B Amplified Probe</td>
<td>87653</td>
</tr>
</tbody>
</table>

Instrumentation
BD Max

Reference Range
Negative

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

HAPTS  HAPTOGLOBIN

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Same day / Not available STAT

Method
Turbidometric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haptoglobin</td>
<td>83010</td>
</tr>
</tbody>
</table>

Instrumentation
Binding Site Optilite

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — HAPTOGLOBIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>8 days</td>
</tr>
<tr>
<td><em>Yellow Microtainer</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
</tr>
</tbody>
</table>

Heparinized plasma (green top) is not acceptable. Markedly hemolyzed or lipemic samples are not acceptable.

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.*
Reference Range — HAPTOGLOBIN

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;18 years</td>
<td>All</td>
<td></td>
<td>32</td>
<td>197</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.27 - Human Chorionic Gonadotropin.
All results 5 MIU/mL or above are called to the physician.
The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCG Accutane</td>
<td>84702</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
Pregnancy:
Negative: Less than 5 MIU/mL
Indeterminate: Between 5 and 25 MIU/mL, recommend repeat testing in 48 hours
Positive: Greater than 25 MIU/mL
The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — HCG FOR ACCUTANE MONITORING

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>5 days</td>
</tr>
</tbody>
</table>
HCV QU HCV RNA DETECTION QUANTITATIVE

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, Thursday and Friday / Same day / Not available STAT

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCV RNA Quant PCR</td>
<td>87522</td>
</tr>
</tbody>
</table>

Instrumentation
Roche Taqman and Ampliprep

Reference Range
Undetected

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — HCV RNA DETECTION QUANTITATIVE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Frozen</td>
<td>8 mL</td>
<td>2.0 mL</td>
<td>1.5 mL</td>
<td>6 weeks</td>
</tr>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerated</td>
<td>8 mL</td>
<td>2.0 mL</td>
<td>1.5 mL</td>
<td>3 days</td>
</tr>
</tbody>
</table>

Serum must be separated from cells within 24-hours of collection.
Important Note
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. If HCV RNA by PCR (HCVRX1) is >500 IU/mL an HCV Genotyping (SQ Test code HCVGEN) will be performed.

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, Thursday and Friday / Same day / Not available STAT

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCV RNA by PCR</td>
<td>87522</td>
</tr>
</tbody>
</table>

Instrumentation
Roche Taqman and Ampiprep

Reference Range
Target not detected

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — HCV RNA QUANT. WITH REFLEX

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Frozen</td>
<td>8 mL</td>
<td>5 mL</td>
<td>3 mL</td>
<td>6 weeks</td>
</tr>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerated</td>
<td>8 mL</td>
<td>5 mL</td>
<td>3 mL</td>
<td>3 days</td>
</tr>
</tbody>
</table>

Serum must be separated from cells within 24-hours of collection.
Test Schedule / Analytical Time / Test Priority
Tuesday and Thursday / Same day / Not available STAT

Method
Enzyme-Linked Immunosorbent Assay (ELISA)

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. pylori Antigen</td>
<td>87338</td>
</tr>
</tbody>
</table>

Instrumentation
Dynex DSX

Reference Range
Reference Range: Negative

Interpretation:
Positive: Indicates the presence of H. pylori antigens.
Negative: Indicates the absence of H. pylori antigens, or that the level of antigen is below the cut-off of the assay.

Limitations:
False negative results may be obtained within 2 weeks of treatment with antimicrobials, bismuth, or proton pump inhibitors. A negative result in such a situation should be followed up with repeat testing at least 2 weeks after discontinuation of therapy.

Section
Immunology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — HELICOBACTER PYLORI STOOL ANTIGEN TESTING

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Feces</td>
<td>Frozen</td>
<td>5 grams</td>
<td>5 grams</td>
<td>*</td>
<td>60 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Feces</td>
<td>Refrigerate</td>
<td>5 grams</td>
<td>5 grams</td>
<td>*</td>
<td>72 hours</td>
</tr>
</tbody>
</table>

5 g (walnut sized) fecal specimen collected into a sterile airtight container (without preservatives) and stored at 2-8°C until tested. The specimen may be held refrigerated (2-8°C) for up to 72 hours prior to testing. If testing cannot be performed within this time frame or for shipment, specimens should be frozen immediately upon receipt and stored frozen (-20°C to -80°C) until tested. Sample is stable frozen up to 60 days. *Minimum volume is 100 µL of well-mixed liquid or semi-solid stool and 5-6 mm diameter of well-mixed formed/solid stool. Stool in transport media, swabs, or preservatives are unacceptable. Performance characteristics have not been established for watery, diarrheal stools. Stool must be mixed thoroughly.
Important Note
Test subject to Medicare National Coverage Decision (NCD) 190.15 - Blood Count

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Automated Cell Counter

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematocrit</td>
<td>85014</td>
</tr>
</tbody>
</table>

Instrumentation
Sysmex XN 9000

Reference Range
Age and gender dependent. See report

Section
Hematology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — HEMATOCRIT

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>2 mL</td>
<td>1.5 mL</td>
</tr>
<tr>
<td>*Lavender Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
Important Note
Test subject to Medicare National Coverage Decision (NCD) 190.15 - Blood Counts.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Centrifugation

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematocrit, Body Fluid</td>
<td>85013</td>
</tr>
</tbody>
</table>

Instrumentation
Hettich Haematokrit 210 Microhematocrit Centrifuge

Reference Range
No reference range

Section
Hematology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — HEMATOCRIT, BODY FLUID

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Bloody Fluid</td>
<td>Refrigerate</td>
<td></td>
<td></td>
<td>0.5 mL</td>
</tr>
</tbody>
</table>

Clotted samples will be rejected.
Important Note
This test is subject to Medicare National Coverage Decision (NCD) 190.15 - Blood Counts.
MHT collection tubes only available on pediatric in-patient floors, for all other patients order HCT.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Centrifugation

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematocrit, Spun</td>
<td>85013</td>
</tr>
</tbody>
</table>

Instrumentation
Hettich Haematokrit 210 Microhematocrit Centrifuge

Reference Range
Age and gender dependent. See report.

Section
Hematology

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — HEMATOCRIT, SPUN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capillary Tubes*</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2 Tubes</td>
<td>2 Tubes</td>
<td>1 Tube</td>
</tr>
</tbody>
</table>

*Fill 2-heparinized microhematocrit tubes 3/4 full and seal one end with clay. Label and place capillary tube inside a large red top tube to protect from breaking.
HEMOGLOBIN

University of Vermont Medical Center

Important Note
Test subject to Medicare National Coverage Decision (NCD) 190.15 - Blood Counts.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Automated Cell Counter

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin</td>
<td>85018</td>
</tr>
</tbody>
</table>

Instrumentation
Sysmex XN 9000

Reference Range
Age and gender dependent. See report.

Section
Hematology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — HEMOGLOBIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>2 mL</td>
<td>1.5 mL</td>
</tr>
<tr>
<td>*Lavender Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.21 - Glycated Hemoglobin/Glycated Protein.
This test subject to reflex testing see laboratory policy. If Hemoglobin A1C shows a suspicious Hgb not previously identified a Hemoglobin/Thalassemia Evaluation will be performed (cpt: 83020/85660/83021). You have the option to decline reflex testing if you believe it is not medically necessary. If we are not able to assay using the UVM Medical Center Hemoglobin A1C test methodology due to the presence of an abnormal hemoglobin in the patient sample, the test will be credited with the following reason: A1c unreportable. Abnormal hemoglobin present. Measurement of serum fructosamine may be helpful to monitor glycemic control.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
High Performance Liquid Chromatography (HPLC)

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin A1C</td>
<td>83036</td>
</tr>
</tbody>
</table>

Instrumentation
Tosoh G8

Reference Range
The following A1c interpretive data reflect the 2017 American Diabetes Association (ADA) guidelines and will be reported with each A1c result:

<5.7% Normal
5.7 - 6.4% Prediabetes
=>6.5% Diagnostic for diabetes (if confirmed)

Goals for glycemic control in diabetes (ADA 2017)
<7% - The A1c target for nonpregnant adults with diabetes.
More or less stringent targets may be appropriate for individual patients.
<7.5% - The A1c target for children and adolescents with type 1 diabetes.

References:

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
**Specimen Information — HEMOGLOBIN A1C**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*Lavender Microtainer</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>0.5 mL</td>
<td>0.5 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
HBA2   HEMOGLOBIN A2

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, Friday, run starts at 8 am / Same day / Not available STAT

Method
Capillary Electrophoresis

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin A2</td>
<td>82664</td>
</tr>
</tbody>
</table>

Instrumentation
Sebia Capillary 2 Flex

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing?   Yes/No
Yes
### Specimen Information — HEMOGLOBIN A2

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top (EDTA) Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
### Reference Range — HEMOGLOBIN A2

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2</td>
<td></td>
<td></td>
<td>2.2</td>
<td>3.2</td>
<td>%</td>
</tr>
</tbody>
</table>


ACIDH  HEMOGLOBIN ELECTROPHORESIS, ACID

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, Friday, run starts at 8 am / Same day / Not available STAT

Method
Capillary Electrophoresis

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin Electrophoresis</td>
<td>83020</td>
</tr>
<tr>
<td>Hemoglobin Electrophoresis Part B</td>
<td>83020.26</td>
</tr>
</tbody>
</table>

Reference Range
Interpretation: No abnormal hemoglobins identified

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
### Specimen Information — HEMOGLOBIN ELECTROPHORESIS, ACID

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTA (lavender top)</td>
<td>Tube Whole Blood</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>5 days</td>
</tr>
</tbody>
</table>

Do not spin tube.
University of Vermont Medical Center

Important Note
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. If sickle test is positive, then Hemoglobin/Thalassemia Evaluation (cpt: 83020, 83020.26) will be performed at an additional charge. False negatives may occur in infants less than 6 months of age due to elevated levels of Hemoglobin F. It is recommended, therefore, that infants not be tested prior to six months of age.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Not available STAT

Method
Sicklesol Hemoglobin Precipitation Kit

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sickle Cell Test</td>
<td>85660</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
Negative
False negatives may occur in infants less than 6 months of age due to elevated levels of Hemoglobin F. It is recommended, therefore, that infants not be tested prior to six months of age.

Section
Hematology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — HEMOGLOBIN S SCREEN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>1.5 mL</td>
</tr>
</tbody>
</table>
**HBF  HEMOGLOBIN, FETAL**

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**
Monday, Wednesday, Friday, run starts at 8 am / Same day / Not available STAT

**Method**
Capillary Electrophoresis

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin, Fetal</td>
<td>82664</td>
</tr>
</tbody>
</table>

**Instrumentation**
Manual Method

**Section**
Chemistry-2

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes
### Specimen Information — HEMOGLOBIN, FETAL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTA (lavender top)Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Do not spin tube.
### Reference Range — HEMOGLOBIN, FETAL

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td></td>
<td></td>
<td>&lt;2%</td>
<td>%</td>
<td></td>
</tr>
</tbody>
</table>

Page 404
Important Note
Please supply most recent Hemagram (CBC) results, if available. Samples on newborns under the age of 28 days are not acceptable for analysis by this method. Capillary Electrophoresis is performed, if suspicious for abnormal hemoglobin an acid electrophoresis plate may be performed. If capillary electrophoresis is suspicious for hemoglobin S a hemoglobin S screen (Test Code: SIC) is performed.

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, Friday, run starts at 8 am / Same day / Not available STAT

Method
Capillary Electrophoresis

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin Electrophoresis</td>
<td>83020</td>
</tr>
<tr>
<td>Hemoglobin Electrophoresis Part B</td>
<td>83020.26</td>
</tr>
</tbody>
</table>

Instrumentation
See individual Tests.

Reference Range
Hgb A: 96.7 – 97.8%
Hgb A2: 2.2 – 3.2%
Hgb F: <2.0%
Interpretation: No abnormal hemoglobins identified

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — HEMOGLOBIN/THALASSEMA EVALUATION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender top (EDTA) Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Do not spin tube.
HEPUFH  HEPARIN LEVEL-UFH

University of Vermont Medical Center

Important Note
This test can only be collected at the Main Campus 111 Colchester Avenue Burlington Vermont. See Special Test Considerations. Patient should be receiving UNFRACTIONATED HEPARIN if this assay is ordered.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Chromogenic Anti Xa Assay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heparin Level Anti-XA</td>
<td>85520</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
THERAPEUTIC HEPARIN RANGE:
Unfractionated heparin therapeutic range 0.3 – 0.7 IU/mL. Results may not be reliable for direct thrombin inhibitors or pentasaccharides such as fondaparinux.

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
**Specimen Information — HEPARIN LEVEL-UFH**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>1 mL plasma</td>
<td>1 mL plasma</td>
<td>6 months</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>75 minutes</td>
</tr>
</tbody>
</table>

TUBE MUST BE FULL AT COLLECTION. Whole blood should remain at ambient temperature until processed. Refer to Coagulation Specimen Handling prior to collection. Double spin before freezing—see Coag Spec Processing step 3. Submit 2 x 0.5 mL frozen plasma aliquots for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at ≤-40°C if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have one tube per test.
HEPLMW  HEPARIN LEVEL, LOW MOLECULAR WEIGHT (LMWH)

University of Vermont Medical Center

Important Note
This test can only be collected at the Main Campus 111 Colchester Avenue Burlington Vermont. See Special Test Considerations. Patient should be receiving LOW MOLECULAR WEIGHT HEPARIN if this assay is ordered.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Chromogenic Anti Xa Assay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heparin Level Low Molecular Weight</td>
<td>85520</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
THERAPEUTIC HEPARIN RANGE
(for twice-a-day dosing, peak sample drawn 4 hours post subcutaneous injection) for treatment of venous thromboembolism: Adults and children: 0.5 – 1.1 IU/mL Newborn: 0.5 - 1.0 IU/mL

(for once-a-day dosing, peak sample drawn 4 hours post subcutaneous injection) for treatment of venous thromboembolism: 1.0 – 2.0 IU/mL Patient sample tested against Low Molecular Weight heparin – Results may not be reliable for unfractionated heparin, pentassacharide (Fondaparinux) or Danaparoid (ORGARAN).

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No

Yes
Specimen Information — HEPARIN LEVEL, LOW MOLECULAR WEIGHT (LMWH)

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>1 mL plasma</td>
<td>1 mL plasma</td>
<td>6 months</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>75 minutes</td>
</tr>
</tbody>
</table>

TUBE MUST BE FULL AT COLLECTION. Whole blood should remain at ambient temperature until processed. Refer to Coagulation Specimen Handling prior to collection. Double spin before freezing—see Coag Spec Processing step 3. Submit 2 × 0.5 mL frozen plasma aliquots for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again and place citrate platelet-poor plasma in the required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at ≤ -40° C if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have one tube per test.
**Important Note**
Tests included: Albumin, Alkaline Phosphatase, ALT, AST, Direct Bilirubin, Total Bilirubin, and Total Protein.

**Test Schedule / Analytical Time / Test Priority**
Daily / 24 Hours / Available STAT

**Method**
See individual tests, Albumin, Alkaline Phosphatase, ALT, AST, Direct Bilirubin, Total Bilirubin, and Total Protein.

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatic Function Panel</td>
<td>80076</td>
</tr>
</tbody>
</table>

**Instrumentation**
See individual tests, Albumin, Alkaline Phosphatase, ALT, AST, Direct Bilirubin, Total Bilirubin, and Total Protein.

**Reference Range**
See individual tests, Albumin, Alkaline Phosphatase, ALT, AST, Direct Bilirubin, Total Bilirubin, and Total Protein.

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes

**Specimen Information — HEPATIC FUNCTION PANEL**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
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<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
</tr>
<tr>
<td>Green Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
HAIGM2  HEPATITIS A ANTIBODY IgM

University of Vermont Medical Center

Important Note
This is a reflex test for Hepatitis A Antibody. If Hepatitis A Antibody is positive, this test will be performed. The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis A Antibody IgM</td>
<td>86709</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Centaur XP

Reference Range
Negative
The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
HAAB2  HEPATITIS A ANTIBODY WITH REFLEX

University of Vermont Medical Center

Important Note
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. If Hepatitis A Antibody is positive, a Hepatitis A IgM Antibody (CPT 86709) will be performed. You have the option to decline reflex testing if you believe it is not medically necessary.
The results of this assay can be falsely elevated due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis A Antibody</td>
<td>86708</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Centaur XP

Reference Range
Negative
The results of this assay can be falsely elevated due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood draw.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — HEPATITIS A ANTIBODY WITH REFLEX

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Important Note
This test is for detection of immunity or past infection with hepatitis A, NOT acute disease. A reflex test to Hepatitis A IgM Antibody testing is not performed.
The results of this assay can be falsely elevated due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis A Total</td>
<td>86708</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Centaur XP

Reference Range
Negative
The results of this assay can be falsely elevated due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood draw.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
HBCOR  
HEPATITIS B CORE ANTIBODY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B Core Antibody</td>
<td>86704</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Centaur XP

Reference Range
Negative

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — HEPATITIS B CORE ANTIBODY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
HEPB2  HEPATITIS B PROFILE

University of Vermont Medical Center

Important Note
Samples testing positive for the antigen (HBSAG) will have confirmatory testing done at an additional charge. This test is Subject to Medicare Preventive Service Coverage policy for Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Chemiluminescent Immunoassay

Instrumentation
Siemens Centaur XP

Reference Range
HBSAG: Negative
HBCOR: Negative, but interpretation depends on clinical setting
HBABQL: Vaccinated: Positive, Unvaccinated: Negative
HBABQN: <10.0 miU/L: Negative, ≥ 10.0 miU/L: Positive

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Page 420
### Specimen Information — HEPATITIS B PROFILE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
HBABQ2  HEPATITIS B SURFACE ANTIBODY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B Surface Antibody</td>
<td>86706</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Centaur XP

Reference Range
HBABQ2L: Vaccinated - Positive, Unvaccinated - Negative
HBABQT: <10.0 mIU/mL - Negative, ≥10.0 mIU/mL - Positive

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
### Specimen Information — HEPATITIS B SURFACE ANTIBODY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Important Note
Samples testing positive for the antigen will have confirmatory testing done at an additional charge. This test is Subject to Medicare Preventive Service Coverage policy for Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Chemiluminescent Immunoassay

Instrumentation
Siemens Centaur XP

Reference Range
HBSAG: Negative

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — HEPATITIS B SURFACE ANTIGEN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>0.8 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
University of Vermont Medical Center

Important Note
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. If Hepatitis C Antibody is low level reactive, Hepatitis C PCR (Test Code HCVQU, CPT: 87522) will be performed.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis C Antibody</td>
<td>86803</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Centaur XP

Reference Range
Negative
The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — HEPATITIS C ANTIBODY WITH REFLEX TO HCV RNA BY PCR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>2.5 mL</td>
<td>1.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
HEPACU  HEPATITIS PROFILE - ACUTE

University of Vermont Medical Center

Important Note
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. Samples testing positive for the antigen (HBSAG) will have confirmatory testing (HBAGC) done at an additional charge. If Hepatitis C Antibody is reactive, Hepatitis C PCR (Test Code HCVQU, CPT: 87522) will be performed at an additional charge. If Hepatitis B Core Antibody is positive when ordered as part the Acute Hepatitis Profile, Hepatitis B Core Ab, IgM (HBCORM) will be performed at an additional charge. HBSAG is Subject to Medicare Preventive Service Coverage policy for Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's. This profile is Subject to Medicare National Coverage Determination (NCD) 190.33 Hepatitis Panel/Acute Hepatitis Panel.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B Core Antibody</td>
<td>86704</td>
</tr>
<tr>
<td>Hepatitis A Antibody, IgM</td>
<td>86709</td>
</tr>
<tr>
<td>Hepatitis C Antibody</td>
<td>86803</td>
</tr>
<tr>
<td>Hepatitis B Surface Antigen</td>
<td>87340</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Centaur XP

Reference Range
Negative

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Important Note
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. If Hepatitis C Antibody is reactive, Hepatitis C PCR (Test Code HCVQU, CPT 87522) will be performed at an additional charge.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B Surface Antigen</td>
<td>87340</td>
</tr>
<tr>
<td>Hepatitis B Surface Antibody</td>
<td>86706</td>
</tr>
<tr>
<td>Hepatitis B Core Antibody</td>
<td>86704</td>
</tr>
<tr>
<td>Hepatitis C Antibody</td>
<td>86803</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Centaur XP

Reference Range
HBSAG: Negative
HCSCCR2: Negative
HBCOR: Negative, but interpretation depends on clinical setting
HBABQL: Vaccinated: Positive, Unvaccinated: Negative
HBABQNL: <10.0 mIU/L: Negative, ≥ 10.0 mIU/L: Positive

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No

Yes
### Specimen Information — HEPATITIS PROFILE, CHRONIC UNKNOWN TYPE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2.5 mL</td>
<td>1.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
**V6AM  Heroin Metabolite (6-AM) Screen, Urine**

*Aspenti Health Laboratory*

**Important Note**
Routine drug screen for inpatients and ambulatory clinics.
Heroin Metabolite (6-AM) Screen, Urine, test information.

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT

---

**HSVLM  HERPES SIMPLEX VIRUS, PCR**

*University of Vermont Medical Center*

**Specimen Information**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viral Collection Kit (M6)</td>
<td>Mucocutaneous sites</td>
<td>Refrigerate</td>
<td></td>
<td></td>
<td></td>
<td>15 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>CSF</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
**Test Schedule / Analytical Time / Test Priority**

Daily / 24 hours / Not available STAT

**Method**

PCR

**CPT(s)**

<table>
<thead>
<tr>
<th>Narrative</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herpes Simplex Virus 1</td>
<td>87529 x 1</td>
</tr>
<tr>
<td>Herpes Simplex Virus 2</td>
<td>87529.59 x 1</td>
</tr>
</tbody>
</table>

**Instrumentation**

Luminex Aries

**Reference Range**

No virus detected

**Section**

Microbiology-2

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No

No

---

**CRPS  HIGH SENSITIVITY CRP**

University of Vermont Medical Center

**Important Note**

Test is appropriate for cardiac risk assessment.

**Test Schedule / Analytical Time / Test Priority**

Daily / Same day / Not available STAT

**Method**

Two-point Rate

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-Reactive Protein, High Sensitivity</td>
<td>86141</td>
</tr>
</tbody>
</table>

**Instrumentation**

Ortho Vitros

**Reference Range**

- **Less Risk:** <1.0 mg/L
- **Average Risk:** 1.0 - 3.0 mg/L
- **High Risk:** >3.0 mg/L
- **Indeterminate*: >10 mg/L
  *May be indication of inflammation or infection

**Section**

Chemistry-2

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No

Yes
**Specimen Information — HIGH SENSITIVITY CRP**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.2 mL</td>
<td>0.2 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.2 mL</td>
<td>0.2 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Green Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Lipemic specimens are not acceptable.

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
Important Note
This test is subject to Medicare National Coverage Determination (NCD) 190.14 - Human Immunodeficiency Virus (HIV) Testing (Diagnosis). Reactive specimens will be confirmed by HIV 1 & 2 Confirmation / Differentiation, and additional charges will apply. It is strongly recommended that a properly dated and signed consent form reside in the patient chart for each HIV testing episode. Do not send the consent form to the laboratory.
For Anonymous HIV testing, see Anonymous Testing procedure in the Laboratory Services Directory, Anonymous Patient Testing.
UVMMC laboratory does not perform Expedited Maternal/Newborn HIV testing or Occupational Exposure Anonymous HIV Testing for New York State.

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 1 Day / Not available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV 1/2 Antibody</td>
<td>86703</td>
</tr>
</tbody>
</table>

Instrumentation
Fourth generation assay performed on the Siemens Centaur XP

Reference Range
Negative
The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — HIV 1 & 2 ANTIGEN AND ANTIBODY, 4TH GENERATION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>0.8 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
HIVRX  HIV 1 QUANT. WITH REFLEX TO GENOTYPE

University of Vermont Medical Center

Important Note
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. If the HIV Quantitation is equal to greater than 500 copies/mL the HIV-1 Genotypic Drug Protease and Reverse Transcriptase Inhibitor Drug Resistance, plasma (Mayo Test Code: HIVGP1) will automatically be sent to Mayo Clinic Laboratories.
Test schedule may change without notice.

Test Schedule / Analytical Time / Test Priority
**Monday and Thursday / 1 day / Not available STAT
**Test schedule may change without notice.

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV 1 Quant w/Reflex to Genotype</td>
<td>87536</td>
</tr>
</tbody>
</table>

Instrumentation
Roche Taqman and Ampliprep

Reference Range
Undetected

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Plasma</td>
<td>*Frozen</td>
<td>7 mL</td>
<td>3.5 mL</td>
<td>2.5 mL</td>
<td>6 weeks</td>
</tr>
<tr>
<td>Lavender Top Tube</td>
<td>Plasma</td>
<td>Refrigerated</td>
<td>7 mL</td>
<td>3.5 mL</td>
<td>2.5 mL</td>
<td>6 days</td>
</tr>
</tbody>
</table>

*Plasma must be separated from cells within 24-hours of collection.
**HIVQU  HIV 1 RNA QUANTITATION**

*University of Vermont Medical Center*

**Important Note**
Test schedule may change without notice.

**Test Schedule / Analytical Time / Test Priority**
**Monday and Thursday / Same day / Not available STAT  
**Test schedule may change without notice.

**Method**
Nucleic Acid Amplification

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV 1 RNA Quant</td>
<td>87536</td>
</tr>
</tbody>
</table>

**Instrumentation**
Roche Taqman and Ampliprep

**Reference Range**
Undetected

**Section**
Chemistry-2

**Is the UVMMC lab NY State Certified to perform this testing?  Yes/No**
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>7 mL</td>
<td>2.5 mL</td>
<td>1.2 mL</td>
<td>6 weeks</td>
</tr>
<tr>
<td>Lavender Top Tube</td>
<td>Plasma</td>
<td>Refrigerated</td>
<td>7 mL</td>
<td>2.5 mL</td>
<td>1.2 mL</td>
<td>6 days</td>
</tr>
</tbody>
</table>

Plasma must be separated from cells within 24-hours of collection.
HIVDI  HIV ANTIBODY CONFIRMATION/DIFFERENTIATION

University of Vermont Medical Center

Important Note
This test is a reflex test order only for samples that test positive for HIV 1 & 2 Antibody and for referring hospitals use only. Test subject to Medicare National Coverage Determination (NCD) 190.14 - Human Immunodeficiency Virus (HIV) Testing (Diagnosis).

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 1 Day / Not available STAT
Test schedule may change without notice.

Method
Rapid Immunochromatographic Assay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV 1/2 Antibody</td>
<td>86703</td>
</tr>
</tbody>
</table>

Instrumentation
BioRad Geenius

Reference Range
Negative
The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — HIV ANTIBODY CONFIRMATION/DIFFERENTIATION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
HIVSS2  HIV, RAPID 1 & 2 ANTIBODY

University of Vermont Medical Center

Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.14 - Human Immunodeficiency Virus (HIV) Testing (Diagnosis). Routine HIV 1/2 Antibody should be ordered using the test code HIVSCN. HIV 1/2 Antibody (STAT - HIVSS2) should be ordered when the HIV status of the patient is needed ASAP (for example, needle stick or accidental exposure, labor and delivery, high risk patients). Reactive specimens will be confirmed by HIV 1 + 2 Confirmation / Differentiation and additional charges will apply. UVMMC laboratory does not perform STAT Maternal/Newborn testing or Occupational Exposure Anonymous HIV Testing for New York State.

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV 1/2 Antibody</td>
<td>86703</td>
</tr>
</tbody>
</table>

Instrumentation
Fourth generation assay performed on the Siemens Centaur XP

Reference Range
Negative
The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — HIV, RAPID 1 & 2 ANTIBODY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>0.8 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Important Note
THIS TEST IS RESTRICTED TO TRANPLANT ONLY.
HLA typing samples should not be shared. This test should have a separate sample tube.
Test subject to Local Coverage Determination (LCD) Molecular Pathology Procedures (L35000).
Please check with the patient's insurance to determine if prior authorization is required. Reminder- Medicare does not provider prior authorization. If in doubt about the coverage for a Medicare patient, please obtain an ABN.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 5 days / Not available STAT

Method
PCR/Reverse SSO

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNA HLA A Typing</td>
<td>81373</td>
</tr>
</tbody>
</table>

Instrumentation
Luminex

Section
HLA

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
**Specimen Information — HLA A TYPE DNA**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

DO NOT SPIN. The specimen must be labeled with the collection date and time. The specimen is stable at ambient temperature for 24 hours and at 2 - 8° C for 30 days, consult the HLA department for other situations. If ruling out an HLA antigen, disease or syndrome, please specify that information in the comment section of the test order.
Important Note
THIS TEST IS TEMPORARILY INACTIVE
THIS TEST IS RESTRICTED TO TRANSPLANT ONLY.
HLA typing samples should not be shared. This test should have a separate sample tube.
Test subject to Local Coverage Determination (LCD) Molecular Pathology Procedures (L35000).
Please check with the patient's insurance to determine if prior authorization is required. Reminder- Medicare does not provider prior authorization. If in doubt about the coverage for a Medicare patient, please obtain an ABN.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 5 days / Not available STAT

Method
PCR/Reverse SSO

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNA HLA B Typing</td>
<td>81373</td>
</tr>
</tbody>
</table>

Instrumentation
Luminex

Section
HLA

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — HLA B TYPE DNA

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

DO NOT SPIN. Specimen must be labeled with the collection date. Specimen is stable at ambient temperature for 24-hours and a 2-8° C for 30 days, consult HLA for other situations. If ruling out an HLA antigen, disease or syndrome, please specify that information in the comment section of the test order.
Important Note

THIS TEST IS TEMPORARILY INACTIVE PLEASE USE TEST CODE B271
Specimen must be labeled with collection date. Specimen should be received in the laboratory within 24-hours.
Test subject to Local Coverage Determination (LCD) Molecular Pathology Procedures (L35000).
Please check with the patient’s insurance to determine if prior authorization is required. Reminder- Medicare does not provide prior authorization. If in doubt about the coverage for a Medicare patient, please obtain an ABN.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 2 Days / Not available STAT

Method
PCR-rSSO

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLA B27 Screen DNA</td>
<td>81374</td>
</tr>
</tbody>
</table>

Instrumentation
Luminex

Reference Range
HLA B27 detected or not detected.

Section
HLA

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — HLA B27 SCREEN, DNA

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender (EDTA)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>4 mL</td>
<td>4 mL</td>
<td>2.5 mL</td>
</tr>
</tbody>
</table>

Specimen must be labeled with collection date. Specimen should be received in the laboratory within 24-hours.
Important Note

THIS TEST IS RESTRICTED TO TRANSPLANT ONLY.
HLA typing samples should not be shared. This test should have a separate sample tube.
Test subject to Local Coverage Determination (LCD) Molecular Pathology Procedures (L35000).
Please check with the patient’s insurance to determine if prior authorization is required. Reminder: Medicare does not provide prior authorization. If in doubt about the coverage for a Medicare patient, please obtain an ABN.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 5 days / Not available STAT

Method
PCR/ Reverse SSO

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNA HLA C Typing</td>
<td>81373</td>
</tr>
</tbody>
</table>

Instrumentation
Luminex

Section
HLA

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>2.5mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

DO NOT SPIN. The specimen must be labeled with the collection date and time. The specimen is stable at ambient temperature for 24-hours and at 2-8 degrees for 30 days, consult the HLA for other situations. If ruling out an HLA antigen, disease or syndrome, please specify that information in the comment section of the test order.
Important Note
HLA typing samples should not be shared. This test should have a separate sample tube. Test subject to Local Coverage Determination (LCD) Molecular Pathology Procedures (L35000). Please check with the patient’s insurance to determine if prior authorization is required. Reminder- Medicare does not provider prior authorization. If in doubt about the coverage for a Medicare patient, please obtain an ABN.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 5 days / Not available STAT

Method
PCR/Reverse SSO

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNA CLS I and II HLA Typing</td>
<td>81370</td>
</tr>
</tbody>
</table>

Instrumentation
Luminex

Section
HLA

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — HLA CLASS I & II TYPE DNA

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube (EDTA)</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Lavender Top Tube (EDTA)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

DO NOT SPIN. Specimen must be labeled with the collection date and time. Specimen is stable at ambient temperature for 24 hours and at 2 - 8°C for 30 days, consult HLA department for other situations.
Important Note
HLA typing samples should not be shared. This test should have a separate sample tube.
Test subject to Local Coverage Determination (LCD) Molecular Pathology Procedures (L35000).
Please check with the patient’s insurance to determine if prior authorization is required.
Reminder- Medicare does not provider prior authorization. If in doubt about the coverage for a Medicare patient, please obtain an ABN.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 5 days / Not available STAT

Method
PCR/Reverse SSO

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNA CLS I HLA Typing</td>
<td>81372</td>
</tr>
</tbody>
</table>

Instrumentation
Luminex

Section
HLA

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — HLA CLASS I TYPE DNA

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube (EDTA)</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Lavender Top Tube (EDTA)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

DO NOT SPIN. The specimen must be labeled with the collection date and time.
The specimen is stable at ambient temperature for 24 hours and at 2 - 8° C for 30 days, consult the HLA department for other situations.
Important Note
HLA typing samples should not be shared. This test should have a separate sample tube.
Test subject to Local Coverage Determination (LCD) Molecular Pathology Procedures (L35000).
Please check with the patient’s insurance to determine if prior authorization is required. Reminder- Medicare does not provide prior authorization. If in doubt about the coverage for a Medicare patient, please obtain an ABN.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 5 days / Not available STAT

Method
PCR/Reverse SSO

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNA HLP DP Typing</td>
<td>81376</td>
</tr>
</tbody>
</table>

Instrumentation
Luminex

Section
HLA

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — HLA DP TYPE DNA

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>24 Hours</td>
</tr>
</tbody>
</table>

Tube must be full, do not spin. Draw specimens per instructions from the HLA lab. Specimen must be labeled with collection date and time. Specimens should be received within 24-hours. Specimen is stable at ambient temperature for 24 hours and at 2 - 8° C for 30 days, consult HLA department for other situations.
Important Note
THIS TEST IS RESTRICTED TO TRANSPLANT ONLY.
Include ICD-10, signs and symptoms and pertinent history and lab data with the patient lab order. If ruling out an HLA antigen, disease or syndrome, please specify that information in the comment section of the test order.
HLA typing samples should not be shared. This test should have a separate sample tube.
Test subject to Local Coverage Determination (LCD) Molecular Pathology Procedures (L35000).
Please check with the patient’s insurance to determine if prior authorization is required. Reminder- Medicare does not provider prior authorization. If in doubt about the coverage for a Medicare patient, please obtain an ABN.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 5 days / Not available STAT

Method
PCR/Reverse SSO

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNA HLA DQ Typing</td>
<td>81376</td>
</tr>
</tbody>
</table>

Instrumentation
Luminex

Section
HLA

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — HLA DQ TYPE DNA

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube (EDTA)</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Lavender Top Tube (EDTA)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

DO NOT SPIN. Specimen must be labeled with collection date and time. Specimen is stable at ambient temperature for 24 hours and at 2 - 8° C for 30 days, consult HLA department for other situations.
Important Note
THIS TEST IS RESTRICTED TO TRANSPLANT ONLY.
Include ICD-10, signs and symptoms and pertinent history and lab data with the patient lab order. If ruling out an HLA antigen, disease or syndrome, please specify that information in the comment section of the test order.
HLA typing samples should not be shared. This test should have a separate sample tube.
Test subject to Local Coverage Determination (LCD) Molecular Pathology Procedures (L35000).
Please check with the patient’s insurance to determine if prior authorization is required. Reminder- Medicare does not provide prior authorization. If in doubt about the coverage for a Medicare patient, please obtain an ABN.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 5 days / Not available STAT

Method
PCR/Reverse SSO

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLA DR Type, DNA</td>
<td>81376</td>
</tr>
</tbody>
</table>

Instrumentation
Luminex

Section
HLA

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — HLA DR TYPE, DNA

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube (EDTA)</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Lavender Top Tube (EDTA)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

DO NOT SPIN. The specimen must be labeled with collection date and time.
The specimen is stable at ambient temperature for 24 hours and at 2 - 8°C for 30 days, consult the HLA department for other situations.
Important Note

HLA typing samples should not be shared. This test should have a separate sample tube.
Test subject to Local Coverage Determination (LCD) Molecular Pathology Procedures (L35000).
Please check with the patient’s insurance to determine if prior authorization is required.
Reminder- Medicare does not provide prior authorization. If in doubt about the coverage for a Medicare patient, please obtain an ABN.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 5 days / Not available STAT

Method
PCR/Reverse SSO

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNA CLS II HLA Typing</td>
<td>81375</td>
</tr>
</tbody>
</table>

Instrumentation
Luminex

Section
HLA

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — HLA TYPE CLASS II, DNA

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube (EDTA)</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>30 days</td>
</tr>
<tr>
<td>Lavender Top Tube (EDTA)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

DO NOT SPIN. The specimen must be labeled with the collection date and time. The specimen is stable at ambient temperature for 24 hours and at 2 - 8° C for 30 days, consult the HLA department for other situations.
Important Note
Patient should be fasting.

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, Friday / 1 day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homocysteine</td>
<td>83090</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Advia Centaur

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — HOMOCYSTEINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>3.5 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
</tr>
</tbody>
</table>

Sample must be kept on ice until you spin, remove plasma immediately after centrifugation. Refrigerate plasma. Serum separator or red top tube is acceptable, centrifuge within 30 minutes and remove serum from gel or cells as soon as possible. Due to special sample handling and transport, add on requests cannot be done.

Reference Range — HOMOCYSTEINE

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;18</td>
<td>All</td>
<td></td>
<td>5</td>
<td>13.9</td>
<td>umol/L</td>
</tr>
</tbody>
</table>
Important Note
HPV testing may be performed on the same ThinPrep sample submitted for cytologic evaluation. This test can only be performed on cervical samples. To order HPV testing on a ThinPrep Pap test, circle yes for HPV Detection, in the ThinPrep area on the laboratory requisition form or in Epic under Pap Test (LAB4), question #4 under the prompt “Please Specify HPV Testing”. If you have questions, please call Cytopathology at (802)-847-5121.
HPV Testing: Anal Pap tests have not been approved by the FDA for HPV testing therefore, our laboratory will not perform HPV testing on this type of sample. There is no FDA-approved HPV test for anal or oral samples, therefore we do not perform this testing and will not forward to a reference lab. Outside clients submit a manual order.
Vaginal thinprep requests for HPV Genotyping will be sent to Mayo Clinic Laboratories.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Transcription Mediated Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPV Detection, High Risk Types</td>
<td>87624</td>
</tr>
</tbody>
</table>

Instrumentation
Panther

Reference Range
Negative for HPV. No E6 or E7 mRNA detected from HPV types 16,18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, and 68.

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — HPV AMPLIFIED RNA, HIGH RISK

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>ThinPrep Vial</td>
<td>Cervical</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>4 mL</td>
<td>1 mL</td>
<td>30 days</td>
</tr>
</tbody>
</table>

Collect specimen in ThinPrep PreservCyt (Pap) vials with broom-type or cytobrush/spatula collection devices according to the manufacturer’s instructions. Specimen is stable for 30 days at 2-30° C. This testing may be ordered as reflex testing to a diagnosis of Atypical Squamous Cells- Undetermined Significance (ASC-US). HPV testing may also be ordered up front, regardless of the diagnosis of the current ThinPrep cytology result.

**Vaginal samples are NOT acceptable**, vaginal high risk HPV samples will be sent to Mayo Medical Laboratory for testing.
Important Note
If the result for HPV Amplified Probe Testing and Pap smear meet the appropriate ASCCP guidelines, HPV Genotype 16, 18/45 can be performed. Contact Microbiology to request testing (847-5121 or 1-800-991-2799).

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 3 days / Not available STAT

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>87625</td>
</tr>
</tbody>
</table>

Instrumentation
Hologic Panther Fusion

Reference Range
Negative for HPV types 16 and 18/45.

Section
Microbiology 2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinprep Vial</td>
<td>Endocervical or Cervical</td>
<td>Ambient</td>
<td>4 mL</td>
<td>4 mL</td>
<td>1 mL</td>
<td>105 days</td>
</tr>
</tbody>
</table>
HSVIGP  HSV TYPE 1&2 ANTIBODY, IgG

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Mon, Wed, Fri / Same day / Not available STAT

Method
Competitive Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSV Type 1 Ab, IgG</td>
<td>86695</td>
</tr>
<tr>
<td>HSV Type 2 Ab, IgG</td>
<td>86696</td>
</tr>
</tbody>
</table>

Instrumentation
Diasorin Liaison XL

Reference Range
Negative

Section
Chemistry -2

Is the UVMMC lab NY State Certified to perform this testing? Yes

Yes
Specimen Information — HSV TYPE 1&2 ANTIBODY, IgG

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.8 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Serum should be separated from clotted blood as soon as possible and stored at 2 - 8°C.
Identify Isolated Anaerobe

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 2-3 days / Not available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify Isolated Anaerobe</td>
<td>87076</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — IDENTIFY ISOLATED ANAEROBE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate/Slant</td>
<td>Isolated Organism</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Package anaerobically.
**Important Note**
Charge for each organism isolated. If a susceptibility test is also needed, order Organism Identification & Susceptibility (Test Code: IOSUSC) instead.

**Test Schedule / Analytical Time / Test Priority**
Daily / 2-3 days / Not available STAT

**Method**
Culture

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify Isolated Organism</td>
<td>87077</td>
</tr>
</tbody>
</table>

**Instrumentation**
Manual Method

**Section**
Microbiology-1

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes

**Specimen Information — IDENTIFY ISOLATED ORGANISM**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate/Slant</td>
<td>Isolated Organism</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
**UIO  IDENTIFY ISOLATED ORGANISM, URINE**

*University of Vermont Medical Center*

**Important Note**
Charge for each organism isolated. If a susceptibility test is also needed, order Organism Identification & Susceptibility (Test Code: IOSUSC) instead.

**Test Schedule / Analytical Time / Test Priority**
Daily / 2-3 days / Not available STAT

**Method**
Culture

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify Isolated Organism -Urine</td>
<td>87077</td>
</tr>
</tbody>
</table>

**Instrumentation**
Manual Method

**Section**
Microbiology-1

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes

**Specimen Information — IDENTIFY ISOLATED ORGANISM, URINE**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate/Slant</td>
<td>Isolated Organism</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Important Note
See also Immunoglobulins.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Same day / Not available STAT

Method
Turbimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>IgA</td>
<td>82784</td>
</tr>
</tbody>
</table>

Instrumentation
Binding Site Optilite

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Heparinized plasma (green top) is NOT acceptable. Markedly hemolyzed or lipemic samples are not acceptable.
<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;19 years</td>
<td>All</td>
<td>N/A</td>
<td>85</td>
<td>499</td>
<td>mg/dL</td>
</tr>
<tr>
<td>16 - 18 years</td>
<td>All</td>
<td>N/A</td>
<td>61</td>
<td>348</td>
<td>mg/dL</td>
</tr>
<tr>
<td>14 - 15 years</td>
<td>All</td>
<td>N/A</td>
<td>47</td>
<td>249</td>
<td>mg/dL</td>
</tr>
<tr>
<td>12 - 13 years</td>
<td>All</td>
<td>N/A</td>
<td>58</td>
<td>358</td>
<td>mg/dL</td>
</tr>
<tr>
<td>10 - 11 years</td>
<td>All</td>
<td>N/A</td>
<td>53</td>
<td>204</td>
<td>mg/dL</td>
</tr>
<tr>
<td>7 - 9 years</td>
<td>All</td>
<td>N/A</td>
<td>34</td>
<td>305</td>
<td>mg/dL</td>
</tr>
<tr>
<td>4 - 6 years</td>
<td>All</td>
<td>N/A</td>
<td>27</td>
<td>195</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1 - 3 years</td>
<td>All</td>
<td>N/A</td>
<td>20</td>
<td>100</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
IGE  IgE

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, and Friday / 1 day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>IgE</td>
<td>82785</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Advia Centaur

Reference Range
Age 16 years and above <158 IU/mL

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Page 479
### Specimen Information — IgE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
IGGS  IgG

University of Vermont Medical Center

Important Note
See also immunoglobulins.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Same day / Not available STAT

Method
Turbidometric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>IgGS</td>
<td>82784</td>
</tr>
</tbody>
</table>

Instrumentation
Binding Site Optilite

Section
Chemistry-2
### Specimen Information — IgG

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>8 days</td>
</tr>
</tbody>
</table>

Heparinized plasma (green top) is NOT acceptable. Markedly hemolyzed or lipemic samples are not acceptable.
<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;18 years</td>
<td>All</td>
<td>N/A</td>
<td>610</td>
<td>1616</td>
<td>mg/dL</td>
</tr>
<tr>
<td>14 - 17 years</td>
<td>All</td>
<td>N/A</td>
<td>550</td>
<td>1440</td>
<td>mg/dL</td>
</tr>
<tr>
<td>12 - 13 years</td>
<td>All</td>
<td>N/A</td>
<td>664</td>
<td>1490</td>
<td>mg/dL</td>
</tr>
<tr>
<td>10 - 11 years</td>
<td>All</td>
<td>N/A</td>
<td>568</td>
<td>1490</td>
<td>mg/dL</td>
</tr>
<tr>
<td>8 - 9 years</td>
<td>All</td>
<td>N/A</td>
<td>568</td>
<td>1360</td>
<td>mg/dL</td>
</tr>
<tr>
<td>6 - 7 years</td>
<td>All</td>
<td>N/A</td>
<td>454</td>
<td>1360</td>
<td>mg/dL</td>
</tr>
<tr>
<td>4 - 5 years</td>
<td>All</td>
<td>N/A</td>
<td>532</td>
<td>1340</td>
<td>mg/dL</td>
</tr>
<tr>
<td>2 - 3 years</td>
<td>All</td>
<td>N/A</td>
<td>468</td>
<td>1250</td>
<td>mg/dL</td>
</tr>
<tr>
<td>0 - 1 year</td>
<td>All</td>
<td>N/A</td>
<td>327</td>
<td>1270</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
IGGIN  IgG INDEX, CSF

University of Vermont Medical Center

Important Note
Both serum and CSF required for testing. Testing includes: Serum IgG, Serum Albumin, CSF IgG, CSF albumin, CSF IgG/albumin ratio, CSF IgG index and IgG synthesis rate.

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday and Friday / 1 day / Not available STAT

Method
See individual test.

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF Albumin</td>
<td>82042</td>
</tr>
<tr>
<td>CSF IgG</td>
<td>82784</td>
</tr>
<tr>
<td>Serum Albumin</td>
<td>82040</td>
</tr>
<tr>
<td>Serum IgG</td>
<td>82784</td>
</tr>
</tbody>
</table>

Instrumentation
See individual tests

Reference Range
CSF IgG: <3.4 mg/dL
CSF Albumin: <35.0 mg/dL
Serum IgG: 751-1560 mg/dL
CSF IgG/Albumin Ratio: less than or equal to 0.24 ratio
CSF IgG Index: less than or equal to 0.84 index;
CSF IgG Synthesis Rate: less than or equal to 8mg/24-hours

Section
Chemistry-2

Is the UVMCC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>CSF Tube</td>
<td>CSF</td>
<td>Refrigerate</td>
<td>1 mL</td>
<td>0.8 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Both serum and CSF required for testing.
CIGG  IgG, CSF

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday and, Friday / Same day / Not available STAT

Method
Rate Nephelometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>IgG, CSF</td>
<td>82784</td>
</tr>
</tbody>
</table>

Instrumentation
Binding Site Optilite

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — IgG, CSF

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF Tube</td>
<td>CSF</td>
<td>Refrigerate</td>
<td>0.7 mL</td>
<td>0.7 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
## Reference Range — IgG, CSF

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>All</td>
<td></td>
<td>0.48</td>
<td>5.86</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Same day / Not available STAT

Method
Turbidometric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>IgM</td>
<td>82784</td>
</tr>
</tbody>
</table>

Instrumentation
Binding Site Optilite

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — IgM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>14 days</td>
</tr>
</tbody>
</table>

Heparinized plasma (green top tube) is **NOT** acceptable. Markedly hemolyzed or lipemic samples are not acceptable.
### Reference Range — IgM

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;18 years</td>
<td>All</td>
<td>N/A</td>
<td>35</td>
<td>242</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
Important Note
Hemogram and differential (CBCDF) are required for total CD4 count (absolute). Outside clients may submit a hemogram with differential from their own instrumentation with the sample or place an order for a CBCDF and also submit a lavender top tube (EDTA) for testing. If the CBCDF will not be tested within 12 hours, also submit a properly labelled smear. A CBCDF must be performed within 24 hours of the subset analysis, however a CBCDF drawn at the same time is optimal.

Test Schedule / Analytical Time / Test Priority
Monday – Saturday / 3 days / Not available STAT

Method
Flow Cytometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD 3</td>
<td>86359</td>
</tr>
<tr>
<td>CD 4 &amp; CD 8</td>
<td>86360</td>
</tr>
</tbody>
</table>

Instrumentation
Beckman Coulter FC500 and Beckman Coulter Navios

Reference Range
CD3% = 62 – 87%
CD4% = 35 – 63%
CD8% = 10 – 35%
Absolute CD4 = 329 – 1427 cells/μL

Section
Immunology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
**Specimen Information — IMMUNODEFICIENCY PANEL (T-CELL SUBSETS ONLY)**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Heparin Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>48 hours</td>
</tr>
<tr>
<td>Purple Top (EDTA)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>30 hours</td>
</tr>
</tbody>
</table>

Samples drawn in sodium heparin (supply #032050) must be tested within 48 hours of collection. Lavender top tube (EDTA) is also acceptable. EDTA samples must be tested within 30 hours. A clinical history and a properly filled out laboratory requisition must be provided.
IMMUNODEFICIENCY PANEL (T, B & NK CELL SUBSETS)

University of Vermont Medical Center

Important Note
Hemagram and differential (CBCDF) are required for absolute counts. Dual platform analysis is performed when done at the University of Vermont Laboratory. Outside clients may submit a hemagram and differential from their own instrumentation with the sample or place an order for a CBCDF and submit an EDTA for testing. If the CBCDF will not be tested within 12 hours, also submit a properly labelled smear.

A CBCDF must be performed within 24 hours of the subset analysis, however a CBCDF drawn at the same time is optimal.

Test Schedule / Analytical Time / Test Priority
Monday – Saturday / 3 days / Not available STAT

Method
Flow Cytometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD 19</td>
<td>86355</td>
</tr>
<tr>
<td>CD 3</td>
<td>86359</td>
</tr>
<tr>
<td>CD 4 &amp; CD 8</td>
<td>86360</td>
</tr>
<tr>
<td>CD NK</td>
<td>86357</td>
</tr>
</tbody>
</table>

Instrumentation
Beckman Coulter Navios

Reference Range

Pediatric Reference Ranges

<table>
<thead>
<tr>
<th>Age</th>
<th>CD3%</th>
<th>CD4%</th>
<th>CD8%</th>
<th>CD19%</th>
<th>CD16+56%</th>
<th>Absolute CD4</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2 Mos.</td>
<td>53-84%</td>
<td>35-64%</td>
<td>12-28%</td>
<td>6-32%</td>
<td>4-18%</td>
<td>1600-4000</td>
</tr>
<tr>
<td>3-5 Mos.</td>
<td>51-77%</td>
<td>35-56%</td>
<td>12-23%</td>
<td>11-41%</td>
<td>3-14%</td>
<td>1800-4000</td>
</tr>
<tr>
<td>6-11 Mos.</td>
<td>49-76%</td>
<td>31-56%</td>
<td>12-24%</td>
<td>14-37%</td>
<td>3-15%</td>
<td>1400-4300</td>
</tr>
<tr>
<td>12-23 Mos.</td>
<td>53-75%</td>
<td>32-51%</td>
<td>14-30%</td>
<td>16-35%</td>
<td>3-15%</td>
<td>1300-3400</td>
</tr>
<tr>
<td>2-5 Yrs.</td>
<td>56-75%</td>
<td>28-47%</td>
<td>16-30%</td>
<td>14-33%</td>
<td>4-17%</td>
<td>700-2200</td>
</tr>
<tr>
<td>6-11 Yrs.</td>
<td>60-76%</td>
<td>31-47%</td>
<td>18-35%</td>
<td>13-17%</td>
<td>3-22%</td>
<td>650-1500</td>
</tr>
<tr>
<td>12-17 Yrs.</td>
<td>56-84%</td>
<td>31-52%</td>
<td>18-35%</td>
<td>6-23%</td>
<td>3-22%</td>
<td>530-1300</td>
</tr>
</tbody>
</table>

Adult Reference Ranges

<table>
<thead>
<tr>
<th>Subset</th>
<th>%</th>
<th>Absolute</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD3%</td>
<td>62-87%</td>
<td>548-2118 cells/µL</td>
</tr>
<tr>
<td>CD4%</td>
<td>35-63%</td>
<td>329-1427 cells/µL</td>
</tr>
<tr>
<td>CD8%</td>
<td>10-35%</td>
<td>66-750 cells/µL</td>
</tr>
<tr>
<td>CD19%</td>
<td>5-22%</td>
<td>&lt;488 cells/µL</td>
</tr>
<tr>
<td>CD16+56%</td>
<td>5-23%</td>
<td>72-425 cells/µL</td>
</tr>
</tbody>
</table>

Section
Immunology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — IMMUNODEFICIENCY PANEL (T, B & NK CELL SUBSETS)

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Heparin Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>4 mL</td>
<td>2 mL</td>
<td>2 mL</td>
</tr>
<tr>
<td>Purple Tube (EDTA)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>4 mL</td>
<td>2 mL</td>
<td>2 mL</td>
</tr>
</tbody>
</table>

Samples collected in sodium Heparin must be tested within 48 hours of collection. Samples collected in EDTA must be tested within 30 hours of collection.
IGAMS  IMMUNOGLOBULINS

University of Vermont Medical Center

Important Note
Test includes IgA, IgG, and IgM.

Test Schedule / Analytical Time / Test Priority
Monday – Friday, run starts at 10 am / Same day / Not available STAT

Method
Turbidometric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>IgA</td>
<td>82784</td>
</tr>
<tr>
<td>IgG</td>
<td>82784</td>
</tr>
<tr>
<td>IgM</td>
<td>82784</td>
</tr>
</tbody>
</table>

Instrumentation
Binding Site Optilite

Reference Range
See individual Tests.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — IMMUNOGLOBULINS

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>25 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*Yellow Microtainer</td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Heparinized plasma (green top) is NOT acceptable. Markedly hemolyzed or lipemic samples are not acceptable.

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.
Important Note
Test includes Immunotyping, Professional Interpretation, Protein Electrophoresis, and Total Protein

Test Schedule / Analytical Time / Test Priority
Monday – Friday, run starts at 8 am / Same day / Not available STAT

Method
Capillary Electrophoresis

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immunofixation</td>
<td>86334</td>
</tr>
<tr>
<td>Immunofixation Part B</td>
<td>86334.26</td>
</tr>
<tr>
<td>Protein Electrophoresis</td>
<td>84165</td>
</tr>
<tr>
<td>Protein, Total</td>
<td>84155</td>
</tr>
</tbody>
</table>

Instrumentation
Sebia Capillars 2 Flex

Reference Range
Negative for Monoclonal Immunoglobulins

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — IMMUNOTYPING/ELECTROPHORESIS

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1.5 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Heparin tube (green) is NOT acceptable.
### Specimen Information

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viral Collection Kit (M6)</td>
<td>Nasopharyngeal</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>4 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Respiratory Fluid</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>4 days</td>
</tr>
</tbody>
</table>
COLLECTION
1. Insert the tip of the flogswab swab into a nostril to obtain a specimen from the posterior nasopharynx.
2. Do not force the swab; resistance will be felt when the posterior nasopharynx is reached.
3. Rotate the swab and leave it in place for 10-30 seconds or until the patient coughs.
4. Repeat the process for the second nostril

Test Schedule / Analytical Time / Test Priority
Daily / One day / Not available STAT

Method
PCR

CPT(s)
<table>
<thead>
<tr>
<th>Narrative</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory Virus</td>
<td>87631 x 1</td>
</tr>
</tbody>
</table>

Instrumentation
Hologic Panther Fusion

Reference Range
No virus detected

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
No

INS  INSULIN

University of Vermont Medical Center

Important Note
It is preferred that insulin levels are drawn fasting.

Test Schedule / Analytical Time / Test Priority
Thursday / Same day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)
<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin</td>
<td>83525</td>
</tr>
</tbody>
</table>

Instrumentation
Abbott Architect i1000

Reference Range
Fasting: <29 µU/mL

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — INSULIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Frozen</td>
<td>4 mL</td>
<td>1 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>EDTA (Lavender Top)</td>
<td>Plasma</td>
<td>Frozen</td>
<td>4 mL</td>
<td>1 mL</td>
<td>1 mL</td>
<td></td>
</tr>
<tr>
<td>*Yellow Microtainer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
Important Note
Place heparinized syringe or unspun green top tube on ice and transport immediately to lab. For Green Top tubes - Do not remove cap and fill to black fill line. As long as the cap has NOT been removed, spun tubes are acceptable for 3-hours at ambient temperature or 24-hours if refrigerated.

Test Schedule / Analytical Time / Test Priority
Daily / Immediately / Available STAT

Method
Ion-Selective Electrode

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium, Ionized, Whole Blood</td>
<td>82330</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Rapid Point 500

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — IONIZED CALCIUM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Green Top Tube</strong></td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>3 mL</td>
<td>3 mL</td>
<td>0.8 mL</td>
<td>30 minutes</td>
</tr>
<tr>
<td><strong>Green Top Tube</strong></td>
<td>Whole Blood</td>
<td>On ice</td>
<td>3 mL</td>
<td>3 mL</td>
<td>0.8 mL</td>
<td>4 Hours</td>
</tr>
<tr>
<td><em>Syringe</em></td>
<td>Heparinized Whole Blood</td>
<td>Ambient</td>
<td>3 mL</td>
<td>3 mL</td>
<td>0.8 mL</td>
<td>30 minutes</td>
</tr>
<tr>
<td><em>Syringe</em></td>
<td>Heparinized Whole Blood</td>
<td>On Ice</td>
<td>3 mL</td>
<td>3 mL</td>
<td>0.8 mL</td>
<td>4 Hours</td>
</tr>
<tr>
<td>Green Top</td>
<td>Plasma</td>
<td>Ambient</td>
<td>3 mL</td>
<td>3 mL</td>
<td>0.8 mL</td>
<td>3 Hours</td>
</tr>
<tr>
<td>Green Top</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>3 mL</td>
<td>3 mL</td>
<td>0.8 mL</td>
<td>24 Hours</td>
</tr>
</tbody>
</table>

**For Green Top tubes** – Do not remove the cap and fill to black fill line see below.

**Sodium heparin or lithium heparin are both acceptable.** Plasma separator tube (PST) is acceptable.

*For syringes remove needle and cap immediately.

Frozen samples are NOT acceptable. On ice samples ONLY.

Overheparinization and exposure to air can decrease result.

**Green microtainers are not ideal for this assay and should be used when a vacutainer cannot be obtained and will only be accepted from NICU, NUR, B5 and PICU patients.**

**For Green Top tubes** – Do not remove the cap and fill to black fill line see below.
## Reference Range — IONIZED CALCIUM

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;6 months</td>
<td>All</td>
<td></td>
<td>1.12</td>
<td>1.32</td>
<td>mmol/L</td>
</tr>
</tbody>
</table>
Important Note
Test subject to Medicare National Coverage Determination 190.18 - Serum Iron Studies.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>83540</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — IRON

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium heparin (green top tube)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
</tr>
</tbody>
</table>

*Green Microtainer

Hemolysis affects result, please submit non-hemolyzed sample.

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 42 days</td>
<td>All</td>
<td></td>
<td>100</td>
<td>250</td>
<td>ug/dL</td>
</tr>
<tr>
<td>43 days - 1 year</td>
<td>All</td>
<td></td>
<td>40</td>
<td>100</td>
<td>ug/dL</td>
</tr>
<tr>
<td>1 year - 10 years</td>
<td>All</td>
<td></td>
<td>50</td>
<td>120</td>
<td>ug/dL</td>
</tr>
<tr>
<td>11-18 years</td>
<td>Female</td>
<td></td>
<td>50</td>
<td>170</td>
<td>ug/dL</td>
</tr>
<tr>
<td>11-18 years</td>
<td>Male</td>
<td></td>
<td>65</td>
<td>175</td>
<td>ug/dL</td>
</tr>
<tr>
<td>&gt;18 years</td>
<td>Female</td>
<td></td>
<td>37</td>
<td>170</td>
<td>ug/dL</td>
</tr>
<tr>
<td>&gt;18 years</td>
<td>Male</td>
<td></td>
<td>49</td>
<td>181</td>
<td>ug/dL</td>
</tr>
</tbody>
</table>
Important Note
Test subject to Medicare National Coverage Determination 190.18 - Serum Iron Studies.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Two-Point Rate

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron Binding Capacity</td>
<td>83550</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — IRON BINDING CAPACITY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
</tr>
<tr>
<td>*Yellow Microtainer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hemolysis affects results. Please submit a non-hemolyzed sample.
*While a microtainer is an optional tube type in rare circumstances, it is not recommended.

Reference Range — IRON BINDING CAPACITY

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL</td>
<td>Female</td>
<td></td>
<td>265</td>
<td>497</td>
<td>ug/dL</td>
</tr>
<tr>
<td>ALL</td>
<td>Male</td>
<td></td>
<td>261</td>
<td>462</td>
<td>ug/dL</td>
</tr>
</tbody>
</table>
KLI  KLEIHAUER TEST, BLOOD

University of Vermont Medical Center

Important Note
Maternal Rh status and testing indication should be provided with each order.

Test Schedule / Analytical Time / Test Priority
Monday – Friday 7 am to 3:30 only / 1 day / Not available STAT

Method
Acid Elution of Adult Hemoglobin

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kleihauer Test, Blood</td>
<td>85460</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No fetal cells seen

Section
Hematology

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — KLEIHAUER TEST, BLOOD

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>1.5 mL</td>
</tr>
</tbody>
</table>
LACTIC  LACTIC ACID

University of Vermont Medical Center

Specimen Information

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Top Tube (LithiumHeparin)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>6 mL</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>*</td>
</tr>
<tr>
<td>Green Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Ideal: Collected | Placed on ice immediately | Spun within 15 minutes of collection
*Acceptable: Collected | Placed on ice within 15 minutes | Spun within 1 hour of collection
Reject: Collected | Not placed on ice within 15 minutes of collection | Not spun within 1 hour of collection

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactic Acid</td>
<td>83605</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
Above 18 Years: Less than or equal to 2.0 mmol/L

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

CLAC  LACTIC ACID, CSF

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric reflectance spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactic Acid, CSF</td>
<td>83605</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
No reference range available.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — LACTIC ACID, CSF

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF Tube</td>
<td>CSF</td>
<td>Refrigerate</td>
<td>1 mL</td>
<td>1 mL</td>
<td>1 mL</td>
<td>*</td>
</tr>
</tbody>
</table>

Deliver to lab immediately. *Sample is stable unspun 6-hours refrigerated and spun 14-days refrigerated.
**LDH**

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**

Daily / 24 Hours / Available STAT

**Method**

Rate Reflectance Spectrophotometry

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDH</td>
<td>83615</td>
</tr>
</tbody>
</table>

**Instrumentation**

Ortho Vitros

**Section**

Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No

Yes
## Specimen Information — LDH

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.6 mL</td>
<td>24 hours*</td>
</tr>
</tbody>
</table>

*Must be spun and serum or plasma removed from cells within 1-hour of collection. Add on orders will not be honored for specimens that are greater than 24 hours old. Lithium heparin (green top) sample acceptable. Hemolysis affects results. Please submit a non-hemolyzed sample.
### Reference Range — LDH

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-30 days</td>
<td>Female</td>
<td></td>
<td>580</td>
<td>2000</td>
<td>U/L</td>
</tr>
<tr>
<td>0-30 days</td>
<td>Male</td>
<td></td>
<td>550</td>
<td>2100</td>
<td>U/L</td>
</tr>
<tr>
<td>1-3 months</td>
<td>Female</td>
<td></td>
<td>460</td>
<td>1150</td>
<td>U/L</td>
</tr>
<tr>
<td>1-3 months</td>
<td>Male</td>
<td></td>
<td>480</td>
<td>1220</td>
<td>U/L</td>
</tr>
<tr>
<td>4-6 months</td>
<td>Female</td>
<td></td>
<td>480</td>
<td>1150</td>
<td>U/L</td>
</tr>
<tr>
<td>4-6 months</td>
<td>Male</td>
<td></td>
<td>400</td>
<td>1230</td>
<td>U/L</td>
</tr>
<tr>
<td>7-12 months</td>
<td>Female</td>
<td></td>
<td>460</td>
<td>1060</td>
<td>U/L</td>
</tr>
<tr>
<td>7-12 months</td>
<td>Male</td>
<td></td>
<td>380</td>
<td>1200</td>
<td>U/L</td>
</tr>
<tr>
<td>1-3 years</td>
<td>All</td>
<td></td>
<td>500</td>
<td>920</td>
<td>U/L</td>
</tr>
<tr>
<td>4-6 years</td>
<td>All</td>
<td></td>
<td>470</td>
<td>900</td>
<td>U/L</td>
</tr>
<tr>
<td>7-9 years</td>
<td>All</td>
<td></td>
<td>420</td>
<td>750</td>
<td>U/L</td>
</tr>
<tr>
<td>10-11 years</td>
<td>Female</td>
<td></td>
<td>380</td>
<td>700</td>
<td>U/L</td>
</tr>
<tr>
<td>10-11 years</td>
<td>Male</td>
<td></td>
<td>432</td>
<td>700</td>
<td>U/L</td>
</tr>
<tr>
<td>12-13 years</td>
<td>Female</td>
<td></td>
<td>380</td>
<td>640</td>
<td>U/L</td>
</tr>
<tr>
<td>12-13 years</td>
<td>Male</td>
<td></td>
<td>470</td>
<td>750</td>
<td>U/L</td>
</tr>
<tr>
<td>14-15 years</td>
<td>Female</td>
<td></td>
<td>390</td>
<td>580</td>
<td>U/L</td>
</tr>
<tr>
<td>14-15 years</td>
<td>Male</td>
<td></td>
<td>360</td>
<td>730</td>
<td>U/L</td>
</tr>
<tr>
<td>16-17 years</td>
<td>All</td>
<td></td>
<td>340</td>
<td>670</td>
<td>U/L</td>
</tr>
<tr>
<td>18 and &gt;</td>
<td>All</td>
<td></td>
<td>313</td>
<td>618</td>
<td>U/L</td>
</tr>
</tbody>
</table>
**LDH, FLUID**

*University of Vermont Medical Center*

**Important Note**
Protein, Fluid will also be performed when a Fluid LDH is ordered.
CSF LDH must be sent to Mayo Clinic Laboratories for analysis.

**Test Schedule / Analytical Time / Test Priority**
Daily / 24 Hours / Available STAT

**Method**
Rate Reflectance Spectrophotometry

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDH, Fluid</td>
<td>83615</td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros

**Reference Range**

- **Pleural Fluid**
  Suggestive of exudate if fluid cholesterol is > 45 mg/dl or fluid LDH is greater than 0.45 times the upper limit of normal serum LDH levels.

- **Peritoneal Fluid**
  No reference range available

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes

**Specimen Information — LDH, FLUID**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Pleural or Peritoneal Fluid only</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
</tr>
</tbody>
</table>
**LDL  LDL CALCULATED**

*University of Vermont Medical Center*

**Important Note**
This test is NOT ORDERABLE as a stand alone test; See Lipid Profile (Test Code: LPR) for information.

**Reference Range**

**Adult:**
- Optimal: <100 mg/dL
- Near Optimal: 100-129 mg/dL
- Borderline High: 130-159 mg/dL
- High: 160-189 mg/dL
- Very High: ≥ 190 mg/dL

**Pediatric: (<18 yr)**
- Acceptable: <110 mg/dL
- Borderline: 110-129 mg/dL
- High: >130 mg/dL

**Section**
Chemistry-1

---

**LEAD  LEAD**

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**
Monday – Friday / 1 day / Not available STAT

**Method**
Atomic Absorption/Graphite Furnace

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>83655</td>
</tr>
</tbody>
</table>

**Instrumentation**
Analyst 600 Atomic Absorption Spectrophotometer

**Reference Range**

0 - 4 ug/dL

**Section**
Chemistry-2

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes
Specimen Information — LEAD

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td></td>
</tr>
<tr>
<td>*Lavender Microtainer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
LEGUAG  LEGIONELLA ANTIGEN DETECTION, URINE

University of Vermont Medical Center

Important Note
Sample must be received within 24 hours.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
Immunochromatographic Membrane Assay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legionella Antigen Detection, Urine</td>
<td>87899</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No legionella antigen detected

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — LEGIONELLA ANTIGEN DETECTION, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>10 mL</td>
<td>10 mL</td>
</tr>
</tbody>
</table>

Clean catch specimen preferred. First morning voided urine preferred.
**LH**  

University of Vermont Medical Center

**Test Schedule / Analytical Time / Test Priority**  
Monday – Friday / 1 day / Not available STAT

**Method**  
Chemiluminescent Immunoassay

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>LH (Luteinizing Hormone)</td>
<td>83002</td>
</tr>
</tbody>
</table>

**Instrumentation**  
ADVIA  
Centaur

**Section**  
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No

Yes

Page 522
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
**Reference Range — LH**

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Folicular</td>
<td>1.9</td>
<td>12.5</td>
<td>mIU/mL</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>Mid Cycle</td>
<td>8.7</td>
<td>76.3</td>
<td>mIU/mL</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>Luteal</td>
<td>0.5</td>
<td>16.9</td>
<td>mIU/mL</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>Post menopausal</td>
<td>15.9</td>
<td>54.0</td>
<td>mIU/mL</td>
<td></td>
</tr>
<tr>
<td>20-70 years</td>
<td>Male</td>
<td>1.5</td>
<td>9.3</td>
<td>mIU/mL</td>
<td></td>
</tr>
<tr>
<td>&gt;70 years</td>
<td>Male</td>
<td>3.1</td>
<td>34.6</td>
<td>mIU/mL</td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td></td>
<td>&lt;0.1</td>
<td>6.0</td>
<td>mIU/mL</td>
<td></td>
</tr>
</tbody>
</table>
LIPA  LIPASE

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Available STAT

Method
Rate Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lipase</td>
<td>83690</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho vitros

Specimen Information — LIPASE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
</tr>
</tbody>
</table>

Lithium heparin (green top) tube is acceptable.
*While a microtainer is an optional tube type in rare circumstances, it is not recommended.

Reference Range — LIPASE

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-90 days</td>
<td>All</td>
<td></td>
<td>&lt;86</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>3-12 months</td>
<td>Female</td>
<td></td>
<td>&lt;129</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>3-12 months</td>
<td>Male</td>
<td></td>
<td>&lt;95</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>1-&lt;2 years</td>
<td>Female</td>
<td></td>
<td>15</td>
<td>150</td>
<td>U/L</td>
</tr>
<tr>
<td>1-&lt;2 years</td>
<td>Male</td>
<td></td>
<td>15</td>
<td>135</td>
<td>U/L</td>
</tr>
<tr>
<td>2-&lt;7 years</td>
<td>Female</td>
<td></td>
<td>&lt;151</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>2-&lt;7 years</td>
<td>Male</td>
<td></td>
<td>15</td>
<td>175</td>
<td>U/L</td>
</tr>
<tr>
<td>7-&lt;11 years</td>
<td>Female</td>
<td></td>
<td>&lt;151</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>7-&lt;11 years</td>
<td>Male</td>
<td></td>
<td>&lt;176</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>11-&lt;15 years</td>
<td>Female</td>
<td></td>
<td>&lt;181</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>11-&lt;15 years</td>
<td>Male</td>
<td></td>
<td>&lt;196</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>15-17 years</td>
<td>Female</td>
<td></td>
<td>&lt;221</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>15-17 years</td>
<td>Male</td>
<td></td>
<td>&lt;196</td>
<td>U/L</td>
<td></td>
</tr>
<tr>
<td>&gt;18 years</td>
<td>All</td>
<td></td>
<td>&lt;251</td>
<td>U/L</td>
<td></td>
</tr>
</tbody>
</table>
FLIPA  LIPASE, FLUID

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Rate Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>In process</td>
<td></td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
Pleural Fluid
No reference range available

Peritoneal Fluid
No reference range available

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — LIPASE, FLUID

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Pleural or Peritoneal Fluid only</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
</tr>
</tbody>
</table>

Samples that are hemolyzed or lipemic will be rejected.
Important Note
Tests included are: Cholesterol, Triglycerides, HDL, LDL (calculated), Cholesterol/HDL ratio and non-HDL Cholesterol.
Test subject to Medicare National Coverage Determination (NCD) Cardiovascular Screening Blood Tests and 190.23 Lipids Testing.
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. If the triglyceride is greater than 400 mg/dL or the calculated LDL is deemed invalid a measured LDL will be performed.
Fasting specimen preferred

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
See individual tests.

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lipid Profile</td>
<td>80061</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho vitros

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — LIPID PANEL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1.5 mL</td>
<td>0.8 mL</td>
</tr>
</tbody>
</table>

Fasting specimen preferred.
LITH

LITHIUM

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium</td>
<td>80178</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
Therapeutic Range: 0.6 – 1.2 mEq/L
Potentially Toxic: >1.5 mEq/L

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — LITHIUM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.2 mL</td>
<td>0.1 mL</td>
</tr>
<tr>
<td>*Yellow Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Lithium heparin (green top) tubes are not acceptable.
*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
Important Note

Patient should not be on anticoagulation or acute phase/current clot at the time of collection.
Please specify if the patient is having an acute thrombosis.
This test includes DVV, Dilute Viper Venom, SCT, Silica Clotting Time, and LACINT. LA Cascade Summary, which is a pathology interpretation.
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary.

<table>
<thead>
<tr>
<th>SQ Code</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>LACONF</td>
<td>LA Confirm Test</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>SCONF</td>
<td>Silica Confirm Test</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>DVV50</td>
<td>50/50 Mix DVV</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>SCT50</td>
<td>50/50 Mix for SCT</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>THT</td>
<td>Thrombin Time</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>FIB</td>
<td>Fibrinogen</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>THTHEP</td>
<td>THT Hepzyme</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>DVVHEP</td>
<td>DVV Heparin Removed</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>SCTHEP</td>
<td>SCT Hep Removed</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>LCONFH</td>
<td>DVV Confirm Hepzymed</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>SCONFH</td>
<td>SCT Confirm Hepzymed</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>ANTXAQ</td>
<td>Qualitative Anti Xa</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Test Schedule / Analytical Time / Test Priority

Monday and Thursday / Reported next day / Not available STAT

Method

Clot Based

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dilute Viper Venom</td>
<td>85613</td>
</tr>
<tr>
<td>Silica Clotting Time</td>
<td>85732</td>
</tr>
<tr>
<td>LA Cascade Summary</td>
<td>85390.26</td>
</tr>
</tbody>
</table>

Instrumentation

ACL TOP 500

Reference Range

See report.

Section

Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No

Yes
**Specimen Information — LUPUS ANTICOAGULANT CASCADE**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Min Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td><em>Platelet Poor Plasma</em></td>
<td>Frozen</td>
<td>10.5 mL (*3 tubes)</td>
<td><strong>3 mL</strong></td>
<td><strong>3 mL</strong></td>
<td>6 months</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>10.5 mL (*3 tubes)</td>
<td>10.5 mL (3 tubes)</td>
<td>10.5 mL (3 tubes)</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

*Tubes must be filled to fill line see below.*

**Deliver capped whole blood sample at ambient temperature within 4 hours. For delayed delivery send platelet poor plasma in three separate frozen plasma aliquots of 1mL each for this testing. Refer to Coagulation Specimen Handling for process instructions prior to collection. Submit separate frozen plasma aliquot for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at ≤-30° C if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.*
LYMAB  LYME ANTIBODY

University of Vermont Medical Center

Important Note
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. CDC guidelines state that Western Blot should only be ordered on specimens that are positive or equivocal by a FDA-licensed antibody screening test. Samples with a result of positive or equivocal will reflex Lyme Disease Antibody Western Blot Analysis (CPT 86617 × 2).

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Indirect Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lyme Antibody</td>
<td>86618</td>
</tr>
</tbody>
</table>

Instrumentation
DiaSorin Liaison XL

Reference Range
Negative

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — LYME ANTIBODY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4.0 mL</td>
<td>0.8 mL</td>
<td>0.8 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Samples that are markedly lipemic, markedly hemolyzed or markedly icteric are not acceptable.
LYME ANTIBODY CONFIRMATION

University of Vermont Medical Center

Important Note
This is a reflex test for Lyme Antibody when Lyme Antibody is positive or equivocal, for lab use and referring hospitals only.

Test Schedule / Analytical Time / Test Priority
Tuesday and Friday, April to November / 1 day / not available STAT
Wednesday, November to April / 1 day / not available STAT
Schedule can change without notice.

Method
Line Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lyme Antibody Confirmation</td>
<td>86617 x 2</td>
</tr>
</tbody>
</table>

Instrumentation
Gold Standard Roboblot

Reference Range
IgG Immunoblot: Negative
IgM Immunoblot: Negative

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
Specimen Information — LYME ANTIBODY CONFIRMATION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.8 mL</td>
<td>0.8 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Markedly lipemic, icteric, or hemolyzed samples will not be accepted.
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium</td>
<td>83735</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
Specimen Information — MAGNESIUM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium heparin tube (green Top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>&quot;Green Microtainer&quot;</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hemolysis affects results. Please submit a non hemolyzed sample.

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
## Reference Range — MAGNESIUM

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;7 days</td>
<td>All</td>
<td></td>
<td>1.2</td>
<td>2.6</td>
<td>mg/dL</td>
</tr>
<tr>
<td>7-30 days</td>
<td>All</td>
<td></td>
<td>1.6</td>
<td>2.4</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1-12 months</td>
<td>All</td>
<td></td>
<td>1.6</td>
<td>2.6</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1-2 years</td>
<td>All</td>
<td></td>
<td>1.6</td>
<td>2.6</td>
<td>mg/dL</td>
</tr>
<tr>
<td>2-6 years</td>
<td>All</td>
<td></td>
<td>1.5</td>
<td>2.4</td>
<td>mg/dL</td>
</tr>
<tr>
<td>6-10 years</td>
<td>All</td>
<td></td>
<td>1.6</td>
<td>2.3</td>
<td>mg/dL</td>
</tr>
<tr>
<td>10-14 years</td>
<td>All</td>
<td></td>
<td>1.6</td>
<td>2.2</td>
<td>mg/dL</td>
</tr>
<tr>
<td>14-17 years</td>
<td>All</td>
<td></td>
<td>1.5</td>
<td>2.3</td>
<td>mg/dL</td>
</tr>
<tr>
<td>18 and &gt;</td>
<td>All</td>
<td></td>
<td>1.7</td>
<td>2.8</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
UMAG24  MAGNESIUM, URINE, 24 HOUR

University of Vermont Medical Center

Important Note
The 24 hour urine sample should be delivered to the lab within 12 hours of collection completion.

Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / Same day / Not available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium, Urine</td>
<td>83735</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — MAGNESIUM, URINE, 24 HOUR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jug A</td>
<td>24-Hour Urine</td>
<td>Refrigerate</td>
<td>24-Hour</td>
<td>10 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
### Reference Range — MAGNESIUM, URINE, 24 HOUR

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>All</td>
<td></td>
<td>73</td>
<td>122</td>
<td>mg/24-Hours</td>
</tr>
</tbody>
</table>
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / Same day / Not available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium, Urine</td>
<td>83735</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
No reference ranges available for spot samples.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — MAGNESIUM, URINE, RANDOM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
MEASL  MEASLES IgG ANTIBODY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday through Friday, run starts at 9 am / Same day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubeola IgG Antibody</td>
<td>86765</td>
</tr>
</tbody>
</table>

Instrumentation
DiaSorin Liaison XL

Reference Range
Negative – Absence of detectable measles virus IgG antibodies. A negative result generally indicated that the patient is susceptible to measles.
Equivocal – Recommend collecting a second sample for testing in no less than one to two weeks.
Positive – Presence of detectable measles virus IgG antibodies.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — MEASLES IgG ANTIBODY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Samples that are markedly lipemic, markedly hemolyzed or markedly icteric are not acceptable.
Important Note
Confirmation only, cannot be ordered as a stand alone test.

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 3 days / Not available STAT

Specimen Information — METHADONE CONFIRMATION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
</tr>
</tbody>
</table>
VMEDDP  Methadone Metabolite EDDP Screen, Urine

Aspenti Health Laboratory

Important Note
Routine drug screen for inpatients and ambulatory clinics.
Methadone Metabolite EDDP Screen, Urine, test information.

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 24 Hours / Not Available STAT

UMTD2  METHADONE SCREEN, URINE

University of Vermont Medical Center

Important Note
For the Emergency Department and Labor and Delivery only.
This screen is for medical purposes only.
This test is subject to Medicare National Coverage Determination (LCD) L36037-Urine Drug Testing.

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Available STAT

Method
Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methadone Screen</td>
<td>80306</td>
</tr>
</tbody>
</table>

Instrumentation
MedTox Systems

Reference Range
This screen is for medical purposes only. Samples from individuals not prescribed Methadone should produce a negative result.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — METHADONE SCREEN, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
</tr>
</tbody>
</table>
**VMTH  Methadone Screen, Urine**

*Aspenti Health Laboratory*

**Important Note**
Routine drug screen for inpatients and ambulatory clinics. Methadone Screen, Urine, test information.

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT

---

**MAMP  METHAMPHETAMINE SCREEN, URINE**

*University of Vermont Medical Center*

**Important Note**
For the Emergency Department and Labor and Delivery only. This test is for medical purposes only. This test is subject to Medicare National Coverage Determination (LCD) L36037-Urine Drug Testing.

**Test Schedule / Analytical Time / Test Priority**
Daily / Same day / Available STAT

**Method**
Immunoassay

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methamphetamine Screen</td>
<td>80306</td>
</tr>
</tbody>
</table>

**Instrumentation**
MedTox Systems

**Reference Range**
Negative Screen

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes

---

**Specimen Information — METHAMPHETAMINE SCREEN, URINE**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
</tr>
</tbody>
</table>
MET  METHEMOGLOBIN

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / immediately / Available STAT

Method
Co-Oximetry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methemoglobin</td>
<td>83050</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Rapid Point 500

Reference Range
<1.5%

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — METHEMOGLOBIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Green Top Tube</strong></td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>3 mL</td>
<td>3 mL</td>
<td>0.8 mL</td>
<td>4 hours</td>
</tr>
<tr>
<td><em>Syringe</em></td>
<td>Heparinized Whole Blood</td>
<td>Refrigerate</td>
<td>1 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>4 hours</td>
</tr>
<tr>
<td><em>Syringe</em></td>
<td>Heparinized Whole Blood</td>
<td>Refrigerate</td>
<td>3 mL</td>
<td>3 mL</td>
<td>0.8 mL</td>
<td>4 hours</td>
</tr>
<tr>
<td><em>Syringe</em></td>
<td>Heparinized Whole Blood</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>5 mL</td>
<td>1.2 mL</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

*Remove Needle from syringe and cap sample immediately.*

Green microtainers are not ideal for this assay and should be used when a vacutainer cannot be obtained and will only be accepted from NICU, NUR, B5 and PICU patients.

**Sodium heparin and lithium heparin are both acceptable. Plasma separator tubes are acceptable.**
Important Note
Sample MUST be protected from light; wrap tube in foil.
Methotrexate assay must have its own vial.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Enzyme Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methotrexate Quant</td>
<td>80299</td>
</tr>
</tbody>
</table>

Instrumentation
Vitros 5600

Reference Range
Therapy dependent

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — METHOTREXATE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plain Red Top Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>14 days</td>
</tr>
</tbody>
</table>

Do NOT use a serum gel tube. Plain plastic red top tube is acceptable. Sample MUST be protected from light; wrap tube in foil.
## METHYLPHENIDATE CONFIRMATION PANEL

**Aspenti Health Laboratory**

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 3 days / Not available STAT

### Specimen Information — METHYLPHENIDATE CONFIRMATION PANEL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
</tr>
</tbody>
</table>
**CSPORA  MODIFIED ACID FAST PARASITOLOGY**

University of Vermont Medical Center

**Important Note**
Fecal samples submitted in Total Fix or Unifix Transport Vials will be accepted for testing at UVMMC. Fecal samples submitted in EcoFix or Formalin/PVA will be forwarded to Mayo Clinic Laboratories for testing. All other transport vials will be rejected.

This test looks for Cryptosporidium, Cyclospora, and Isospora.

**Test Schedule / Analytical Time / Test Priority**
Monday – Friday / 1 day / Not available STAT

**Method**
Modified Acid Fast Stain

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclospora Detection</td>
<td>87206</td>
</tr>
</tbody>
</table>

**Instrumentation**
Manual Method

**Reference Range**
No Cryptosporidium, Cyclospora or Isospora seen by Modified Kinyoun Carbol Fuschin stain. Physician will be notified of positive results.

**Section**
Microbiology-2

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes
Specimen Information — MODIFIED ACID FAST PARASITOLOGY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fix Vial</td>
<td>Feces</td>
<td>Ambient</td>
<td>5 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>72 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Feces</td>
<td>Ambient</td>
<td>5 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>&lt;2 hours</td>
</tr>
</tbody>
</table>

If unable to transport specimen to the lab within 2 hours of collection, use Total Fix Vial. Kits are available from Lab Customer Service 847-5121.

Collection and Transport of Sample for Fecal Ova and Parasites

- Collect sample in a bedpan, avoiding contamination with urine.
- If patient is at home, collect specimen in Stool Collection Commode or have the patient put plastic wrap over the toilet bowl.
- At least 0.5 mL (size of a walnut) of sample is needed. Do not fill stool above the fill line on the transport vial.
- If the specimen cannot be transported to the lab within two hours, inoculate stool into a transport Vial (Total Fix) which can be obtained from Customer Service (802)847-5121. Transport to the lab within 72 hours.
- All vials should be inverted several times so the sample and preservative are well mixed.
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 3-7 days / Not available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mold Identification</td>
<td>87107</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
Mold identified to genus/species level

Section
Microbiology-2

Specimen Information — MOLD IDENTIFICATION, PLATE SUBMITTED

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate/Slant</td>
<td>Isolated Colony</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Important Note
Test includes Immunotyping/Electrophoresis and Free Light Chains.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests. Immunotyping/Electrophoresis, Immunofixation and Free Light Chains.

Reference Range
See individual tests.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — MONOCLONAL PROTEIN DIAGNOSTIC PANEL, SERUM,

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1.5 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Important Note
Test includes Electrophoresis-Serum, Free Light Chains and Immunoglobulins IgA, IgG, IgM. See individual tests.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests. Electrophoresis-Serum, Free Light Chains and Immunoglobulins IgA, IgG, IgM.

Reference Range
See individual tests.

Section
Chemistry-2
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1.5 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Important Note
Monoclonal Protein, 24-Hour includes a Monoclonal Study Urine, 24-Hour, Urine Total Protein and Urine Immunofixation. The 24 hour urine sample should be delivered to the lab within 12 hours of collection completion.

Test Schedule / Analytical Time / Test Priority
Monday – Friday, run starts at 8 am / Same day / Not available STAT

Method
Capillary electrophoresis, immunotyping and coloimetric reflectance spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immunofixation</td>
<td>86335</td>
</tr>
<tr>
<td>Immunofixation Part B</td>
<td>86335.26</td>
</tr>
<tr>
<td>Protein</td>
<td>84156</td>
</tr>
<tr>
<td>Protein Electrophoresis</td>
<td>84166</td>
</tr>
</tbody>
</table>

Instrumentation
Sebia Capillaries 2 Flex

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — MONOCLONAL STUDY URINE, 24-HOUR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-Hour Urine Jug A</td>
<td>24-Hour Urine Collection</td>
<td>Refrigerate</td>
<td>24-Hour</td>
<td>10 mL</td>
<td>3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Refrigerate sample during collection.
**Important Note**
Monoclonal Study Urine, Random includes urine electrophoresis, urine total protein and a urine immunotyping is performed.

**Test Schedule / Analytical Time / Test Priority**
Monday – Friday, run starts at 8 am / Same day / Not available STAT

**Method**
Capillary electrophoresis, immunotyping and colorimetric reflectance spectrophotometry.

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immunofixation</td>
<td>86335</td>
</tr>
<tr>
<td>Immunofixation Part B</td>
<td>86335.26</td>
</tr>
<tr>
<td>Protein</td>
<td>84156</td>
</tr>
<tr>
<td>Protein Electrophoresis</td>
<td>84166</td>
</tr>
</tbody>
</table>

**Instrumentation**
Sebia Capillarys 2 Flex

**Reference Range**
Negative for free monoclonal light chains.

**Section**
Chemistry-2

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes
### Specimen Information — MONOCLONAL STUDY URINE, RANDOM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>100 mL</td>
<td>10 mL</td>
<td>3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Immunochromatographic

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monospot</td>
<td>86308</td>
</tr>
</tbody>
</table>

Instrumentation
OSOM Mono Test

Reference Range
Negative

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — MONOSPOT

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>2 days</td>
</tr>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Frozen</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>3 Months</td>
</tr>
<tr>
<td>*Yellow Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Serum needs to be frozen at minus 20°C if testing is delayed.
While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.
Important Note
Sample must be received in lab within 24 hours. MRSA PCR swabs can be collected at any of UVMCC phlebotomy locations.

Specimen Information

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect</th>
<th>Submit</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial/Yeast</td>
<td>Nares</td>
<td>Refrigerate</td>
<td>Swab</td>
<td>Swab in collection vial</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

Protect from freezing or excessive heat.

Specimen Collection
- Insert swab 1-2 cm into the nostril and rotate against the inside of the nostril for 3 seconds while applying pressure with a finger on the outside of the nose. Hold the swab by the cap in which they are embedded.
- Repeat the process in the other nostril using the same swab.
- Place the swab back in the tube.
- It is important that the swab contains material from both nostrils.
Test Schedule / Analytical Time / Test Priority
Daily, run times 8 am. 11 am, 2 pm, 5 pm, 8 pm / 24-hours / Not available STAT

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRSA Molecular Detection</td>
<td>87641</td>
</tr>
<tr>
<td>Staph aureus Molecular Detection</td>
<td>87640</td>
</tr>
</tbody>
</table>

Instrumentation
BD Max

Reference Range
No Staphylococcus aureus DNA detected by PCR

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

---

MUMG  MUMPS ANTIBODY IgG

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday through Friday, run starts at 9 am / Same day / Not available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mumps Antibody IgG</td>
<td>86735</td>
</tr>
</tbody>
</table>

Instrumentation
DiaSorin Liaison XL

Reference Range
Negative – Absence of detectable mumps virus IgG antibodies. A negative result generally indicates that the patient is susceptible to mumps.
Equivocal – Recommend collecting a second sample for testing in no less than one to two weeks.
Positive – Presence of detectable mumps virus IgG antibodies.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — MUMPS ANTIBODY IgG

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Samples that are markedly lipemic, markedly hemolyzed or markedly icteric are not acceptable.
MUMPCR

MUMPS PCR

Vermont Department of Health Laboratory

Important Note
Mumps PCR Vermont Department of Health Laboratory
Outside clients submit a manual order.

Mumps PCR Testing at Vermont State Lab 2-15-2018:
Serology testing in acute disease is not indicated.
The Vermont Department of Health Laboratory performs this testing at no charge.
If Mumps is suspected, collect and send a buccal swab as detailed below.
The provider should call the Health Department at least 24 hours before they plan to send a swab for testing at 863-7240 (not for permission, just notification)
The provider should complete the Department of Health Test Requisition and fax it to UVMMC Lab Specimen Receiving at 847-4763. Link to VHDL Clinical Test Form.

SPECIMEN INFORMATION
Specimen source: Buccal Mucosa
Collection Container: Buccal swab in Universal Transport Media
Laboratory Examination Requested: Under Virology choose Mumps PCR
If swab will not be tested within 24 hours it must be submitted frozen. This test is not routinely performed on weekends and holidays. The test can be performed on weekends and holidays only after consultation with VDH Epidemiology (802) 863 7240.

1. For Epic Users: Provider should place Misc. order in PRISM or complete a paper VHDL Clinical Test Form.
2. The provider should collect with a Buccal Swab in Universal VDHL Transport media – the outpatient labs at UVMMC do not collect this sample type.
3. UVMMC Viral Collection Kit (FloqSwab in M6 Media) has not been validated at the VDHL. If you submit this container the result will contain a disclaimer.
4. The Health Department has supplied us with some collection kits, available through Lab Customer Service (refrigerated), limit 3 at a time (for more kits contact the Vermont State Lab – 1-800-660-9997 or 1-802-338-4724).
5. Serology testing is not recommended for the diagnosis of mumps. If mumps is suspected, send a buccal swab for PCR testing. If Mumps IGG and/or a Mumps IGM are ordered, the VDHL will not perform serology testing, the serology tests will be performed through the UVMMC lab.
6. Mumps PCR testing has a one day turn-around time on weekdays if received before 10:30 am.

Section
Sent to the Vermont Department of Health Laboratory

SUTBB
MYCOBACTERIUM TUBERCULOSIS, PCR

University of Vermont Medical Center

Important Note
This test requires pathology approval on AFB smear negative samples.
This test is not orderable as a stand alone test, it is a reflex test for AFB SMEAR ONLY, OTHER And AFB CULTURE, RESPIRATORY & SMEAR

Test Schedule / Analytical Time / Test Priority
Test is run when AFB Smear is positive / Result is available the same day / AFB Smear NOT available STAT

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mycobacterium tuberculosis, amplified</td>
<td>87556</td>
</tr>
</tbody>
</table>

Instrumentation
GenXpert

Reference Range
No Mycobacterium tuberculosis complex DNA detected by PCR.
A single negative result has a high negative predictive value and can be used in conjunction with other clinical findings to decide whether to remove suspected tuberculosis patients from isolation.

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
No
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Sputum</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>5 mL</td>
<td>3 mL</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

Sample must be received within 48 hours of specimen collection.
NCSM  NOCARDIA CULTURE AND SMEAR

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / Smear 1 day, Culture 14 days / Not Available STAT

Method
Culture & Smear

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nocardia Culture</td>
<td>87081</td>
</tr>
<tr>
<td>Smear for Nocardia</td>
<td>87206</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No aerobic actinomycetes isolated

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Page 573
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Sputum</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>5 mL</td>
<td>1 mL</td>
<td>48 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Respiratory Fluids</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>48 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Tissue/Bone</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>48 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Other Fluids</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>48 hours</td>
</tr>
</tbody>
</table>
NTNP  NT-proBNP

University of Vermont Medical Center

Important Note
Test subject to Medicare National Coverage Determination (NCD) B-type Natriuretic Peptide (BNP) Testing (L26375). The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Immunometric Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>NT-BNP</td>
<td>83880</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
NT-proBNP values less than 300 pg/ml have a 99% negative predictive value for excluding acute congestive heart failure. A diagnostic NT-proBNP cutoff of 900 pg/ml has been sug-gested in adults over 50 years of age in the absence of renal failure. A cutoff of 1200 pg/ml for patients with an eGFR less than 60 yields a diagnostic sensitivity and specificity of 89% and 72% for acute congestive failure. The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
**Specimen Information — NT-proBNP**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Heparin (Green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>3 days</td>
</tr>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>3 days</td>
</tr>
<tr>
<td><em>Green Microtainer</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
</tr>
</tbody>
</table>

EDTA (lavender Top) tube is NOT acceptable.

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
**OCCB  OCCULT BLOOD, FECES, DIAGNOSTIC**

*University of Vermont Medical Center*

**Important Note**
Test subject to Medicare National Coverage Determination (NCD) Colorectal Cancer Screening (L29796) and 190.34 - Occult Blood Screening.

**Test Schedule / Analytical Time / Test Priority**
Daily / 24 Hours / Not available STAT

**Method**
Guiac Test

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occult Blood, Other</td>
<td>82272</td>
</tr>
</tbody>
</table>

**Instrumentation**
Manual Method

**Reference Range**
Negative

**Section**
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No

Yes

**Specimen Information — OCCULT BLOOD, FECES, DIAGNOSTIC**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile container</td>
<td>Feces</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Inoculated cards at ambient temperature must be received within 2 weeks of collection.
Important Note
This test is subject to Medicare Local Coverage Determination and Frequency limitations for Colorectal Cancer Screening (L29796).

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
Guiac Test

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occult Blood Screen, Feces</td>
<td>82270</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
Negative

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — OCCULT BLOOD, FECES, SCREENING

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Feces</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
VOPIUR  OPIATE CONFIRMATION

Aspenti Health Laboratory

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 3 days / Not available STAT

---

Specimen Information — OPIATE CONFIRMATION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
</tr>
</tbody>
</table>
Important Note
For the Emergency Department and Labor and Delivery only.
This screen is for medical purposes only.
This test will not detect all drugs within its class. This test does NOT detect oxycodone, oxycontin, or methadone.
This test is subject to Medicare National Coverage Determination (LCD) L36037-Urine Drug Testing.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opiate Screen</td>
<td>80306</td>
</tr>
</tbody>
</table>

Instrumentation
MedTox

Reference Range
Negative screen

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — OPIATE SCREEN, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
</tr>
</tbody>
</table>
**VOPDEP  Opioid and Depressant Co-use Panel, Urine**

*Aspenti Health Laboratory*

**Important Note**
Routine drug screen for inpatients and ambulatory clinics.
Test includes the following tests:
- Alcohol Metabolite (EtG) Screen-Urine
- Benzodiazepines Screen-Urine
- Buprenorphine Screen-Urine
- Fentanyl Screen-Urine
- Heroin Metabolite (6-AM) Screen-Urine
- Methadone Metabolite EDDP Screen-Urine
- Opioid Screen-Urine
- Oxycodone Screen-Urine
- Zolpidem Screen-Urine.

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT

---

**VOP9  Opioids Panel Extended, Urine**

*Aspenti Health Laboratory*

**Important Note**
Routine drug screen for inpatients and ambulatory clinics.
Test includes the following tests:
- Buprenorphine Screen-Urine
- Fentanyl Screen-Urine
- Heroin Metabolite (6-AM) Screen-Urine
- Methadone Metabolite EDDP Screen-Urine
- Opioid Screen-Urine
- Oxycodone Screen-Urine
- Propoxyphene Screen-Urine
- Tapentadol Screen-Urine
- Tramadol Screen-Urine

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT

---

**VOP6  Opioids Panel, Urine**

*Aspenti Health Laboratory*

**Important Note**
Routine drug screen for inpatients and ambulatory clinics.
Test includes the following tests:
- Buprenorphine Screen-Urine
- Fentanyl Screen-Urine
- Heroin Metabolite (6-AM) Screen-Urine
- Methadone Metabolite EDDP Screen-Urine
- Opioid Screen-Urine
- Oxycodone Screen-Urine

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT

---

**VOPIAS  Opioids Screen, Urine**

*Aspenti Health Laboratory*

**Important Note**
Routine drug screen for inpatients and ambulatory clinics.
Opioids Screen, Urine, test information.

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT
IOSUSC  ORGANISM IDENTIFICATION & SUSCEPTIBILITY

University of Vermont Medical Center

Important Note
Please provide source and antibiotics requested. There is a fee for each organism isolated.

Specimen Information
Submit isolated organism on a plate or slant.

Test Schedule / Analytical Time / Test Priority
Daily / 2-3 days / Not available STAT

Method
Culture & MIC

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organism ID and Susceptibility</td>
<td>87077</td>
</tr>
</tbody>
</table>

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

OSM  OSMOLALITY, SERUM

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Freezing Point Depression

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osmolality, Serum</td>
<td>83930</td>
</tr>
</tbody>
</table>

Instrumentation
Osmometer

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — OSMOLALITY, SERUM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Lithium heparin tube (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.*
<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 and &gt;</td>
<td>All</td>
<td>N/A</td>
<td>275</td>
<td>295</td>
<td>mosm/kg</td>
</tr>
</tbody>
</table>
OSMOLALITY, URINE

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Freezing Point Depression

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osmolality, Urine</td>
<td>83935</td>
</tr>
</tbody>
</table>

Instrumentation
Osmometer

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — OSMOLALITY, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>2 mL</td>
<td>0.5 mL</td>
</tr>
</tbody>
</table>

Reference Range — OSMOLALITY, URINE

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-11 months</td>
<td>All</td>
<td>N/A</td>
<td>50</td>
<td>750</td>
<td>mosm/kg</td>
</tr>
<tr>
<td>&gt;or= 12 months</td>
<td>All</td>
<td>N/A</td>
<td>150</td>
<td>1,150</td>
<td>mosm/kg</td>
</tr>
</tbody>
</table>
Important Note
Ova/Parasite Exam does not detect Cyclospora, Isospora, Cryptosporidium, and Microsporidium. For Cyclospora and Isospora, order CSPORA (Modified Acid Fast Parasitology). For Cryptosporidium, order CROP (Cryptosporidium Exam). For Microsporidium, order MSPOR (Microsporidia PCR Detection) performed at Mayo Medical Laboratory. Fecal samples submitted in Total Fix or Unifix Transport Vials are required for testing at UVMMC. Fecal samples submitted in EcoFix or Formalin/PVA will be forwarded to Mayo Clinic Laboratories for testing. All other transport vials will be rejected. The most sensitive and cost effective tests for the detection of parasites for patients who haven’t traveled outside the United States are Giardia and Cryptosporidium Antigen Tests.
Ova and Parasite stool specimens collected on inpatients that have been in the hospital for more than 3 days will have that sample rejected with the following reason: "The only infectious cause of nosocomially acquired gastroenteritis is Clostridium difficile. Please contact the Microbiology resident to discuss unique clinical situations."

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Trichrome Stain and Microscopic Exam on concentrate.

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ova &amp; Parasite Exam</td>
<td>87177</td>
</tr>
<tr>
<td>Trichrome Stain</td>
<td>87209</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No ova and parasites seen

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Deliver specimen to the laboratory as soon as collected. All stool samples for ova & parasite should be collected in Total Fix Vial (supply #032040). Three samples may be necessary to detect certain parasites. These specimens should be collected every 24 to 48 hours during a time frame of no more than 10 days to detect intermittent shedding of parasites. If the patient has been hospitalized for more than 3 days, testing should not be performed. If the patient has not traveled outside of the U.S., order Cryptosporidium/Giardia antigen test.

*Submit sterile container within 2 hours of collection.

Collection and Transport of Sample for Fecal Ova and Parasites
- Collect sample in a bedpan, avoiding contamination with urine.
- If the patient is at home, collect specimen in Stool Collection Commode or have the patient put plastic wrap over the toilet bowl.
- At least 1 mL (size of a walnut) of the sample is needed. **Do not fill stool above the fill line on the transport vial**
- If the specimen cannot be transported to the lab within two hours, inoculate stool into a transport vial (Total Fix) which can be obtained from Customer Service (802) 847-5121. Transport to the lab within 72 hours.
- All vials should be inverted several times so the sample and preservative are well mixed.

---

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fix Vial</td>
<td>Feces</td>
<td>Ambient</td>
<td>10 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>72 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Duodenal Aspirate*</td>
<td>Ambient</td>
<td>10 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>2 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Respiratory*</td>
<td>Ambient</td>
<td>5 mL</td>
<td>5 mL</td>
<td>1 mL</td>
<td>2 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Other*</td>
<td>Ambient</td>
<td>5 mL</td>
<td>5 mL</td>
<td>1 mL</td>
<td>2 hours</td>
</tr>
</tbody>
</table>

*Submit sterile container within 2 hours of collection.
Important Note
For the Emergency Department and Labor and Delivery only.
This screen is for medical purposes only.
This test is subject to Medicare National Coverage Determination (LCD) L36037-Urine Drug Testing.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Immunonassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxycodone Screen</td>
<td>80306</td>
</tr>
</tbody>
</table>

Instrumentation
MedTox

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — OXYCODONE SCREEN, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>15 mL</td>
</tr>
</tbody>
</table>
**VOXY  Oxycodone Screen, Urine**

*Aspenti Health Laboratory*

**Important Note**
Routine drug screen for inpatients and ambulatory clinics. Oxycodone Screen, Urine, test information.

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT

**OSAT  OXYGEN SATURATION**

*University of Vermont Medical Center*

**Important Note**
Hemoglobin is reported, test subject to Medicare Local Medical Review Policy 190.15-Blood counts. Must be collected at the UVMMC Ambulatory Care Center Main Campus. Place sample on ice and deliver immediately to the lab, see Special Test Considerations. Test includes: Hemoglobin, Carboxyhemoglobin, Methemoglobin, Deoxyhemoglobin, and Oxygen Saturation.

**Test Schedule / Analytical Time / Test Priority**
Daily / Immediately / Available STAT

**Method**
Co-Oximetry

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carboxyhemoglobin</td>
<td>82375</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td>85018</td>
</tr>
<tr>
<td>Methemoglobin</td>
<td>83050</td>
</tr>
<tr>
<td>O2 Saturation</td>
<td>82803</td>
</tr>
</tbody>
</table>

**Instrumentation**
Siemens Rapid Point 500

**Reference Range**
- Oxyhemoglobin: 89 - 96%
- Carboxyhemoglobin: Non-smoker: <5%
- Smoker: <10%
- Deoxyhemoglobin: <5%
- Methemoglobin: <1.5%
- O2 Saturation: 95 - 98%

**Section**
Chemistry-1

*Is the UVMMC lab NY State Certified to perform this testing? Yes/No*
Yes
## Specimen Information — OXYGEN SATURATION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syringe</td>
<td>Heparinized Whole Blood</td>
<td>Ice</td>
<td>1 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>1 hour</td>
</tr>
<tr>
<td>Syringe</td>
<td>Heparinized Whole Blood</td>
<td>Ice</td>
<td>3 mL</td>
<td>3 mL</td>
<td>0.8 mL</td>
<td>1 hour</td>
</tr>
<tr>
<td>Syringe</td>
<td>Heparinized Whole Blood</td>
<td>Ice</td>
<td>5 mL</td>
<td>5 mL</td>
<td>1.2 mL</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

*Remove the needle and cap syringe submit sample on ice to the laboratory immediately. Unspun lithium heparin (green top) tube is also acceptable.*
FPAN1   Pancreatic Elastase-1

Quest Diagnostics Nichols Institute

CPRA   PANEL REACTIVE ANTIBODY, CALCULATED

University of Vermont Medical Center

Important Note
The cPRA represents the percentage of the general population to which a potential organ recipient (kidney or pancreas), has HLA antibodies, and therefore, would not be potential donors for this patient. It is calculated by both the number of HLA antibodies and the frequency each HLA antigen is found in the population for each of the antibodies. The higher the number (percentage), the more difficult it is to find a donor with HLA antigens that the recipient does not have antibodies to. This test must be ordered in conjunction with Kidney Patient PRA Screening.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Varies / Not available STAT

Section
HLA

BPEX   PARASITE EXAM, BLOOD

University of Vermont Medical Center

Important Note
Blood Parasite examination consists of examining a thin and thick smear microscopically in conjunction with the BinaxNOW Malaria Immunochromographic Assay: Please specify if malaria is in the differential diagnosis indicated in the order. BinaxNow Malaria is a Rapid method for determining circulating Plasmodium antigen in a patient's blood. The Microbiology Laboratory performs BinaxNOW Assay 24 hours a day as a Stat exam. Three orders/specimens are necessary to rule out a parasite infection.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Microscopic Examination, Antigen testing for Plasmodium

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Stain for Parasites</td>
<td>87207</td>
</tr>
<tr>
<td>Thick Smear Prep</td>
<td>87015</td>
</tr>
<tr>
<td>BinaxNOW, if indicated</td>
<td>87899</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No blood parasite seen. Positives are reported by phone immediately.

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
**Specimen Information — PARASITE EXAM, BLOOD**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>1.5 mL</td>
<td>*</td>
</tr>
<tr>
<td><strong>Lavender Microtainer</strong></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Fresh Specimen is critical. If blood is not expected to arrive in lab within 2-4 hours of collection then prepare 3 thin film slides and 2 thick smears from specimen. Send slides along with original specimen. Include patient’s travel history when available. Blood films are examined for Malaria, Trypanosomes, Microfilaria, and Babesia.

**While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
PARATHYROID HORMONE, INTACT

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parathyroid Hormone</td>
<td>83970</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Advia Centaur

Reference Range
19 - 88 pg/mL with a normal calcium

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PARATHYROID HORMONE, INTACT

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>*Frozen</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.6 mL</td>
</tr>
</tbody>
</table>

Collect 5 mL serum gel tube (red top tube is also acceptable). Allow specimen to clot at ambient temperature. Spin and separate sample within 4-hours of collection. Submit 1.0 mL in a plastic vial. Submit specimen frozen. Serum removed from the gel is stable 24 hours refrigerated.
Important Note
Please notify the chemistry laboratory at 847-5121 prior to collection.
Label specimens with the Pre-Removal PTH or Post Removal PTH. Each specimen should be sent to Specimen Receiving immediately after it is collected.

Test Schedule / Analytical Time / Test Priority
Upon request only (M-F), 24 hour notice required / Same day / Available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parathyroid Hormone</td>
<td>83970</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Advia Centaur

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PARATHYROID HORMONE, INTACT, INTRAOPERATIVE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>4 mL</td>
<td>1.5 mL</td>
<td>1 mL</td>
</tr>
</tbody>
</table>
University of Vermont Medical Center

Important Note
Must be collected at the UVMMC Ambulatory Care Center Main Campus. Place sample on ice and deliver immediately to the lab, see Special Test Considerations.

Test Schedule / Analytical Time / Test Priority
Daily / Immediately / Available STAT

Method
Ion Selective Electrode

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT code</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>82800</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Rapis Point 500

Reference Range
All ages Male and Female: pH: 7.31 - 7.41

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syringe</td>
<td>Heparinized Whole Blood</td>
<td>Ice</td>
<td>1 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
<td>1 hour</td>
</tr>
<tr>
<td>Syringe</td>
<td>Heparinized Whole Blood</td>
<td>Ice</td>
<td>3 mL</td>
<td>3 mL</td>
<td>0.8 mL</td>
<td>1 hour</td>
</tr>
<tr>
<td>Syringe</td>
<td>Heparinize Whole Blood</td>
<td>Ice</td>
<td>5 mL</td>
<td>5 mL</td>
<td>1.2 mL</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

Remove the needle and cap the syringe, deliver on ice immediately to the laboratory. Syringe must be free of air bubbles. The presence of air bubbles will be noted in the laboratory report. Samples received in any other container are not acceptable for testing and the test will NOT be performed.
Test Schedule / Analytical Time / Test Priority

Daily / 24 Hours / Not available STAT

Method
Litmus Paper

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH, Stool</td>
<td>83986</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
Stool pH: 6.0-7.0.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — PH, FECES

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Feces</td>
<td>Refrigerate</td>
<td>1 gram</td>
<td>0.5 gram</td>
<td>0.5 gram</td>
<td>4 hours</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Feces</td>
<td>Ambient</td>
<td>1 gram</td>
<td>0.5 gram</td>
<td>0.5 gram</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

**Testing CANNOT be performed on formed stool.**
Submit soft or liquid fresh random sample. Sample is stable 1 hour at ambient temperature and 4-hours refrigerated.
UPH  pH, URINE

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Ion Selective Electrode

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH, Urine</td>
<td>83986</td>
</tr>
</tbody>
</table>

Instrumentation
Accumet XL150 pH Meter

Reference Range
Urine pH: 4.6 - 8.0

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — pH, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>1 mL</td>
<td>1 mL</td>
<td>1 mL</td>
</tr>
</tbody>
</table>
Important Note
Samples must be received in lab within 24 hours.
For the recovery of pharyngitis pathogens, including Group A Strep, Group C Strep, Group G Strep, and Arcanobacterium.

Specimen Information

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial/Yeast Collection Kit</td>
<td>Throat</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>24 hours</td>
</tr>
</tbody>
</table>
Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive. Negative final at 48 hours / Not available STAT

Method
Culture

CPT(s)
<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharyngitis Culture</td>
<td>87070</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
No Group A Streptococci

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

---

**PCP  PHENCYCLIDINE SCREEN (PCP), URINE**

*University of Vermont Medical Center*

**Important Note**
For the Emergency Department and Labor and Delivery only.
This screen is for medical purposes only.
This test is subject to Medicare National Coverage Determination (LCD) L36037-Urine Drug Testing.

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Available STAT

Method
Immunoassay

CPT(s)
<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phencyclidine Screen</td>
<td>80306</td>
</tr>
</tbody>
</table>

Instrumentation
MedTox Systems

Reference Range
Negative Screen

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

---

**Specimen Information — PHENCYCLIDINE SCREEN (PCP), URINE**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
</tr>
</tbody>
</table>
**VPCP**  Phencyclidine Screen (PCP), Urine

**Important Note**
Routine drug screen for inpatients and ambulatory clinics.
Phencyclidine Screen (PCP), Urine, test information.

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT

---

**PHNOB2  PHENOBARBITAL**

**University of Vermont Medical Center**

**Test Schedule / Analytical Time / Test Priority**
Daily / Same day / Available STAT

**Method**
Chemiluminescent Microparticle Immunoassay

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenobarbital</td>
<td>80184</td>
</tr>
</tbody>
</table>

**Instrumentation**
Abbott Architect i1000

**Reference Range**
Therapeutic Range: 15 – 40 ug/mL

**Section**
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
## Specimen Information — PHENOBARBITAL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>8 days</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>8 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
PHENY2  PHENYTOIN

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Chemiluminescent Microparticle Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenytoin</td>
<td>80185</td>
</tr>
</tbody>
</table>

Instrumentation
Abbott Architect i1000

Reference Range
Therapeutic Range: 10 – 20 ug/mL

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
Specimen Information — PHENYTOIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)
<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphorus</td>
<td>84100</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
### Specimen Information — PHOSPHORUS

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hemolysis can affect the results. Please submit non-hemolyzed samples.

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤30 days</td>
<td>Female</td>
<td></td>
<td>3.0</td>
<td>8.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>≤30 days</td>
<td>Male</td>
<td></td>
<td>2.7</td>
<td>7.2</td>
<td>mg/dL</td>
</tr>
<tr>
<td>31-90 days</td>
<td>Female</td>
<td></td>
<td>3.0</td>
<td>7.5</td>
<td>mg/dL</td>
</tr>
<tr>
<td>31-90 days</td>
<td>Male</td>
<td></td>
<td>3.0</td>
<td>6.8</td>
<td>mg/dL</td>
</tr>
<tr>
<td>3-12 months</td>
<td>Female</td>
<td></td>
<td>2.5</td>
<td>7.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>3-12 months</td>
<td>Male</td>
<td></td>
<td>3.0</td>
<td>6.9</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1-3 years</td>
<td>All</td>
<td></td>
<td>3.9</td>
<td>6.5</td>
<td>mg/dL</td>
</tr>
<tr>
<td>4-6 years</td>
<td>All</td>
<td></td>
<td>4.0</td>
<td>5.4</td>
<td>mg/dL</td>
</tr>
<tr>
<td>7-9 years</td>
<td>All</td>
<td></td>
<td>3.7</td>
<td>5.6</td>
<td>mg/dL</td>
</tr>
<tr>
<td>10-11 years</td>
<td>All</td>
<td></td>
<td>3.7</td>
<td>5.6</td>
<td>mg/dL</td>
</tr>
<tr>
<td>12-13 years</td>
<td>All</td>
<td></td>
<td>3.3</td>
<td>5.4</td>
<td>mg/dL</td>
</tr>
<tr>
<td>14-15 years</td>
<td>All</td>
<td></td>
<td>2.9</td>
<td>5.4</td>
<td>mg/dL</td>
</tr>
<tr>
<td>16-17 years</td>
<td>All</td>
<td></td>
<td>2.8</td>
<td>4.6</td>
<td>mg/dL</td>
</tr>
<tr>
<td>18 &gt; years</td>
<td>All</td>
<td></td>
<td>2.5</td>
<td>4.5</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
UPHO24   PHOSPHORUS, URINE, 24 HOUR

University of Vermont Medical Center

Important Note
The 24 hour urine sample should be delivered to the lab within 12 hours of collection completion.

Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / Same day / Not available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphorus, Urine 24-hour</td>
<td>84102</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
0.4 - 1.3 g/24 Hours

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — PHOSPHORUS, URINE, 24 HOUR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-Hour Urine Jug A</td>
<td>24-Hour Urine</td>
<td>Refrigerate</td>
<td>24-Hour</td>
<td>10 mL</td>
<td>1 mL</td>
<td>2 days</td>
</tr>
</tbody>
</table>
PHOSPHORUS, URINE, RANDOM

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / Same day / Not available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphorus, Urine Random</td>
<td>84105</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
No reference ranges are available for spot samples.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>2 days</td>
</tr>
</tbody>
</table>
**PINWORM EXAM**

University of Vermont Medical Center

**Specimen Information**

Collection and Transport for Enterobius vermicularis:

1. **Pinworm Paddles:**
   Optimal Collection time is first thing in the morning. Remove the paddle from the collection vial and place the sticky side of the paddle to the perianal region and then place the paddle back into the collection vial. Write the patient name, date of birth, and date collected on the vial and submit the vial to the laboratory for examination within 72 hours. Pinworm paddle collection vials are available from Lab Customer Service, (802) 847-5121.

2. **Cellulose Scotch Tape preparations:**
   Optimal collection time is first thing in the morning. Adult female worms usually migrate from the anus at night and lay their eggs in the perianal region. To collect the specimen, clear scotch tape should be applied (sticky side down) to the perianal region and then the scotch tape should be transferred to a glass slide. Write the name, date of birth, and date on the label on the slide and the slide should be submitted to the laboratory for examination. Since the female worms emerge on a sporadic basis, a series (4-6) of consecutive tapes should be collected to rule out an infection. NOTE: If clear regular cellulose tape (do not use Magic tape) is not available, Pinworm collection paddles are available through Lab Customer Service (802) 847-5121.

3. **Adult worms:**
   If an adult worm is found in the perianal region, the worm should be placed in a clean container. If 70% alcohol is available, add enough 70% alcohol to cover the worm in the container. Submit the container to the laboratory for identification.

**Test Schedule / Analytical Time / Test Priority**

Monday – Friday / 1 day / Not available STAT

**Method**

Microscopic Exam

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinworm Exam</td>
<td>87172</td>
</tr>
</tbody>
</table>

**Instrumentation**

Manual Method

**Reference Range**

No Enterobius vermicularis (pinworm) ova or adults seen.

**Section**

Microbiology-2

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No

Yes

---

**PLTAGG  PLATELET AGGREGATION AND SECRETION ASSAY**

University of Vermont Medical Center

**Important Note**

Special collection required, test must be scheduled in advance, see Special Test Considerations. This test can only be collected at the Main Campus 111 Colchester Avenue Burlington Vermont.

**Specimen Information**

Special collection required, test must be scheduled in advance. This test can only be collected at the Main Campus 111 Colchester Avenue Burlington Vermont. Call Coagulation at 847-5121 to schedule testing.

**Test Schedule / Analytical Time / Test Priority**

Monday – Friday / 1 day / Not available STAT

**Method**

Whole Blood Impedence Lumiaggregation

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secretion Chemiluminescent</td>
<td>82397 x 6</td>
</tr>
<tr>
<td>Platelet Aggregation</td>
<td>85576 x 7</td>
</tr>
<tr>
<td>Interpretation and Report</td>
<td>85576.26</td>
</tr>
</tbody>
</table>
**PLTC  PLATELET COUNT**

*University of Vermont Medical Center*

**Important Note**
Test subject to Medicare National Coverage Decision 190.15 - Blood Counts.

**Test Schedule / Analytical Time / Test Priority**
Daily / 24 Hours / Available STAT

**Method**
Automated Cell Counter

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platelet Count</td>
<td>85049</td>
</tr>
</tbody>
</table>

**Instrumentation**
Sysmex XN 9000

**Reference Range**
Age and gender dependent. See report.

**Section**
Hematology

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes

---

**Specimen Information — PLATELET COUNT**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>1.5 mL</td>
</tr>
<tr>
<td><em>Lavender Microtainer</em></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is *not recommended.*
Important Note
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. If platelet function is above normal limit, a COL/ADP cartridge will be performed (CPT: 85576).

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
PFA-100

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platelet Function Analysis</td>
<td>85576</td>
</tr>
</tbody>
</table>

Instrumentation
PFA-100

Reference Range
COL/EPI: 94 – 193 Seconds
COL/ADP: 71 – 118 Seconds

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Testing must be performed within 4 hours of sample collection. Requires a separate aliquot if other coagulation tests are requested.

Platelet Function Analysis (PFA) is strongly dependent on the correct method of blood collection requiring venipuncture through a 19-21G needle drawn directly into a full size evacuated sodium citrate tube. Do not draw through a line or port, which may cause platelet clumping and result in specimen rejection. Ensure proper specimen mixing by gently inverting by hand 4 times. Must remain unspun at ambient temp. Testing must be performed within 4 hours of sample collection. PFA requires separate tube; additional samples must be collected if other coagulation tests are requested.
Important Note
This test requires a separate blue top collected just for this test.

Test Schedule / Analytical Time / Test Priority
Daily 7 am-9 pm / Same day / Not available STAT

Method
Thrombelastograph

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activated Coagulation Time</td>
<td>85347</td>
</tr>
<tr>
<td>Fibrinogen activity</td>
<td>85384 × 2</td>
</tr>
<tr>
<td>Fibrinolysins or Coagulopathy Screen</td>
<td>85390</td>
</tr>
<tr>
<td>Platelet Aspirin Aggregation</td>
<td>85576</td>
</tr>
<tr>
<td>Platelet TEG Aggregation</td>
<td>85576</td>
</tr>
</tbody>
</table>

85347, 85384 × 2, 85390, 85576 × 2, 85390.26, 85576.26

Instrumentation
TEG 5000

Reference Range
Normal platelet function without evidence of significant inhibition using the arachidonic acid agonist.

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PLATELET MAPPING FOR ASPIRIN (ARACHIDONIC ACID)

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>3.5 mL To fill line</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
</tr>
<tr>
<td>Green Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
</tr>
</tbody>
</table>

Samples must be collected at the Main campus (ACC) only and tested within 2 hours of collection. This test requires a separate blue top collected just for this test. Collect blood through a 19-21 gauge butterfly needle into a blue top tube (supply #031975), discard this tube and collect a second blue top tube and collect 6 mL into a green top (lithium heparin supply #031977), submit whole blood to the lab immediately. Tube must be full. Keep sample at ambient temperature. Gel tubes are NOT acceptable.
Important Note
This test requires a separate blue top collected just for this test.

Test Schedule / Analytical Time / Test Priority
Daily 7 am-9 pm / Same day / Not available STAT

Method
Thrombelastograph

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activated Coagulation Time</td>
<td>85347</td>
</tr>
<tr>
<td>Fibrinogen Activity</td>
<td>85384 × 2</td>
</tr>
<tr>
<td>Fibrinolysis or Coagulopathy Screen</td>
<td>85390</td>
</tr>
<tr>
<td>Platelet Aspirin Aggregation</td>
<td>85576</td>
</tr>
<tr>
<td>Platelet Plavix Aggregation</td>
<td>85576</td>
</tr>
<tr>
<td>Platelet TEG Aggregation</td>
<td>85576</td>
</tr>
</tbody>
</table>

Instrumentation
TEG 5000

Reference Range
Normal platelet function without evidence of significant inhibition using the ADP and arachidonic acid.

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PLATELET MAPPING FOR ASPIRIN & PLAVIX

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>3.5 mL To fill line</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
</tr>
<tr>
<td>Green Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
</tr>
</tbody>
</table>

Samples must be collected at the Main Campus (ACC) only and tested within 2 hours of collection. This test requires a separate blue top collected just for this test. Collect blood through a 19-21 gauge butterfly needle into a blue top tube (supply #031975), discard this tube and collect a second blue top tube and collect 6 mL into a green top (lithium heparin supply #031977), submit whole blood to the lab immediately. Tube must be full. Keep sample at ambient temperature. Gel tubes are NOT acceptable.
Important Note
This test requires a separate blue top collected just for this test.

Test Schedule / Analytical Time / Test Priority
Daily 7 am-9 pm / Same day / Not available STAT

Method
Thrombelastograph

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activated Coagulation Time</td>
<td>85347</td>
</tr>
<tr>
<td>Fibrinogen Activity</td>
<td>85384 x 2</td>
</tr>
<tr>
<td>Fibrinolysis or Coagulopathy Screen</td>
<td>85390</td>
</tr>
<tr>
<td>Platelet Plavix Aggregation</td>
<td>85576</td>
</tr>
<tr>
<td>Plt TEG Aggregation</td>
<td>85576</td>
</tr>
</tbody>
</table>

Instrumentation
TEG 5000

Reference Range
Normal platelet function without evidence of significant inhibition using the ADP agonist.

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PLATELET MAPPING FOR PLAVIX (ADP)

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>3.5 mL To fill line</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
</tr>
<tr>
<td>Green Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
</tr>
</tbody>
</table>

Samples must be collected at the Main Campus (ACC) only and tested within 2 hours of collection. This test requires a separate blue top collected just for this test. Collect blood through a 19-21 gauge butterfly needle into a blue top tube (supply #031975), discard this tube and collect a second blue top tube and collect 6 mL into a green top (lithium heparin supply #031977), submit whole blood to the lab immediately. Tube must be full. Keep sample at ambient temperature. Gel tubes are NOT acceptable.
PLEURAL FLUID pH

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
pH Electrode

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH; Body Fluid, not otherwise specified</td>
<td>83986</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens RapidPoint 500

Reference Range
Reference Range not available.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — PLEURAL FLUID pH

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Syringe</em></td>
<td>Heparinized Pleural Fluid</td>
<td><strong>Ice</strong></td>
<td>3 mL</td>
<td>3 mL</td>
<td>0.8 mL</td>
<td>1 hour</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Pleural Fluid</td>
<td>Refrigerate</td>
<td>3 mL</td>
<td>3 mL</td>
<td>0.8 mL</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

*Remove the needle from the syringe and cap sample.
**Deliver sample on ice immediately to the laboratory.
Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
Amperometry
Conductometry
Potentiometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Gas</td>
<td>82803</td>
</tr>
<tr>
<td>Sodium</td>
<td>84295</td>
</tr>
<tr>
<td>Potassium</td>
<td>84132</td>
</tr>
<tr>
<td>Calcium, Ionized</td>
<td>82330</td>
</tr>
<tr>
<td>Glucose</td>
<td>82947</td>
</tr>
<tr>
<td>Hematocrit</td>
<td>85014</td>
</tr>
</tbody>
</table>

Instrumentation
Abbott iSTAT

Section
Point of Care Testing

Specimen Information — POCT BLOOD GAS, CG8, iSTAT

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe wrap collection tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>95 uL</td>
<td>Must be tested immediately</td>
</tr>
<tr>
<td>Heparinized Syringe</td>
<td>Whole Blood (Arterial or Venous)</td>
<td>Ambient</td>
<td>95 uL</td>
<td>Must be tested within 10 minutes</td>
</tr>
<tr>
<td>Non-Heparinized Syringe</td>
<td>Whole Blood (Arterial or Venous)</td>
<td>Ambient</td>
<td>95 uL</td>
<td>Must be tested within 10 minutes</td>
</tr>
<tr>
<td>Analyte</td>
<td>Reference Range</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>Age</td>
<td>Arterial</td>
<td>Venous</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0-1 day</td>
<td>7.26 - 7.49</td>
<td>7.26 - 7.49</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-7 days</td>
<td>7.29 - 7.45</td>
<td>7.31 - 7.41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;7 days</td>
<td>7.35 - 7.45</td>
<td>7.35 - 7.45</td>
<td></td>
</tr>
<tr>
<td>pCO2</td>
<td>0 - 1 day</td>
<td>27 - 40 mm/Hg</td>
<td>27 - 40 mm/Hg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-7 days</td>
<td>27 - 41 mm/Hg</td>
<td>27 - 41 mm/Hg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;7 days</td>
<td>35 - 45 mm/Hg</td>
<td>41 - 51 mm/Hg</td>
<td></td>
</tr>
<tr>
<td>pO2</td>
<td>1 - 7 days</td>
<td>54 - 95 mm/Hg</td>
<td>54 - 95 mm/Hg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;7 days</td>
<td>80 - 105 mm/Hg</td>
<td>80 - 105 mm/Hg</td>
<td></td>
</tr>
<tr>
<td>HCO3, Calculated</td>
<td>Arterial</td>
<td>22 - 26 mmol/L</td>
<td>23 - 28 mmol/L</td>
<td></td>
</tr>
<tr>
<td>TCO2, Calculated</td>
<td>Venous</td>
<td>23 - 27 mmol/L</td>
<td>24 - 29 mmol/L</td>
<td></td>
</tr>
<tr>
<td>BE, Calculated</td>
<td>Minus 2 - 3 mmol/L</td>
<td>Minus 2 - 3 mmol/L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sO2, Calculated</td>
<td>95 - 98 %</td>
<td>95 - 98 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>0 - 1 day old</td>
<td>136 - 145 mmol/L</td>
<td>136 - 145 mmol/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-7 days</td>
<td>136 - 145 mmol/L</td>
<td>136 - 145 mmol/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;7 days</td>
<td>136 - 145 mmol/L</td>
<td>136 - 145 mmol/L</td>
<td></td>
</tr>
<tr>
<td>Potassium</td>
<td>0 - 7 days</td>
<td>3.2 - 5.5 mmol/L</td>
<td>3.2 - 5.5 mmol/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 Week - 1 Month</td>
<td>3.4 - 6.0 mmol/L</td>
<td>3.4 - 6.0 mmol/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 - 6 Months</td>
<td>3.5 - 5.6 mmol/L</td>
<td>3.5 - 5.6 mmol/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 Months - 1 Year</td>
<td>3.5 - 6.1 mmol/L</td>
<td>3.5 - 6.1 mmol/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 - 17 years</td>
<td>3.3 - 4.6 mmol/L</td>
<td>3.3 - 4.6 mmol/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Greater than 17 years</td>
<td>3.5 - 5.0 mmol/L</td>
<td>3.5 - 5.0 mmol/L</td>
<td></td>
</tr>
<tr>
<td>Glucose</td>
<td>0 - 1 day old</td>
<td>40 - 100 mg/dL</td>
<td>40 - 100 mg/dL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 - 7 days</td>
<td>50 - 100 mg/dL</td>
<td>50 - 100 mg/dL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 days - Adult</td>
<td>70 - 100 mg/dL</td>
<td>70 - 100 mg/dL</td>
<td></td>
</tr>
<tr>
<td>Calcium, Ionized</td>
<td>Equal to or greater than 6 Months*</td>
<td>1.12 - 1.32 mmol/L</td>
<td>1.12 - 1.32 mmol/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Pediatric ranges not defined</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
University of Vermont Medical Center

Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
Amperometry
Potentiometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Gas</td>
<td>82803</td>
</tr>
</tbody>
</table>

Instrumentation
Abbott iSTAT

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td></td>
</tr>
<tr>
<td>0-1 day</td>
<td>Arterial: 7.26 - 7.49</td>
</tr>
<tr>
<td>1-7 days</td>
<td>Arterial: 7.29 - 7.45</td>
</tr>
<tr>
<td>&gt;7 days</td>
<td>Arterial: 7.35 - 7.45</td>
</tr>
<tr>
<td>pCO2</td>
<td></td>
</tr>
<tr>
<td>0 - 1 day</td>
<td>Arterial: 27 - 40 mm/Hg</td>
</tr>
<tr>
<td>1-7 days</td>
<td>Arterial: 27 - 41 mm/Hg</td>
</tr>
<tr>
<td>&gt;7 days</td>
<td>Arterial: 35 - 45 mm/Hg</td>
</tr>
<tr>
<td>pO2</td>
<td></td>
</tr>
<tr>
<td>1 - 7 days</td>
<td>Arterial: 54 - 95 mm/Hg</td>
</tr>
<tr>
<td>&gt;7 days</td>
<td>Arterial: 80 - 105 mm/Hg</td>
</tr>
<tr>
<td>HCO3, Calculated</td>
<td>Arterial: 22 - 26 mmol/L</td>
</tr>
<tr>
<td>TCO2, Calculated</td>
<td>Arterial: 23 - 27 mmol/L</td>
</tr>
<tr>
<td>BE, Calculated</td>
<td>Arterial: Minus 2 - 3 mmol/L</td>
</tr>
<tr>
<td>sO2, Calculated</td>
<td>Arterial: 95 - 98 %</td>
</tr>
</tbody>
</table>

Section
Point of Care Testing

Specimen Information — POCT BLOOD GAS, G3 iSTAT

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe wrap collection tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>95 uL</td>
<td>Must be tested immediately</td>
</tr>
<tr>
<td>Heparinized Syringe</td>
<td>Whole Blood (Arterial or Venous)</td>
<td>Ambient</td>
<td>95 uL</td>
<td>Must be tested within 10 minutes</td>
</tr>
<tr>
<td>Non-Heparinized Syringe</td>
<td>Whole Blood (Arterial or Venous)</td>
<td>Ambient</td>
<td>95 uL</td>
<td>Must be tested within 10 minutes</td>
</tr>
</tbody>
</table>
POC506 POCT CHEM8, iSTAT

University of Vermont Medical Center

Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
Amperometry
Conductometry
Potentiometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 8</td>
<td>80047</td>
</tr>
</tbody>
</table>

Instrumentation
Abbott iSTAT

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Arterial Reference Range</th>
<th>Venous Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium</td>
<td>136 - 145 mmol/L</td>
<td>136 - 145 mmol/L</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 - 7 days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 week - 1 month</td>
<td>3.2 - 5.5 mmol/L</td>
<td>3.2 - 5.5 mmol/L</td>
</tr>
<tr>
<td>1 - 6 months</td>
<td>3.4 - 6.0 mmol/L</td>
<td>3.4 - 6.0 mmol/L</td>
</tr>
<tr>
<td>6 months - 1 year</td>
<td>3.5 - 6.1 mmol/L</td>
<td>3.5 - 6.1 mmol/L</td>
</tr>
<tr>
<td>1 - 17 years</td>
<td>3.3 - 4.6 mmol/L</td>
<td>3.3 - 4.6 mmol/L</td>
</tr>
<tr>
<td>Greater than 17 years</td>
<td>3.5 - 5.0 mmol/L</td>
<td>3.5 - 5.0 mmol/L</td>
</tr>
<tr>
<td>Potassium</td>
<td>0 - 7 days</td>
<td>3.2 - 5.5 mmol/L</td>
</tr>
<tr>
<td></td>
<td>1 week - 1 month</td>
<td>3.4 - 6.0 mmol/L</td>
</tr>
<tr>
<td></td>
<td>1 - 6 months</td>
<td>3.5 - 5.6 mmol/L</td>
</tr>
<tr>
<td></td>
<td>6 months - 1 year</td>
<td>3.5 - 6.1 mmol/L</td>
</tr>
<tr>
<td></td>
<td>1 - 17 years</td>
<td>3.3 - 4.6 mmol/L</td>
</tr>
<tr>
<td></td>
<td>Greater than 17 years</td>
<td>3.5 - 5.0 mmol/L</td>
</tr>
<tr>
<td>Creatinine</td>
<td>0 - 7 days</td>
<td>0.3 - 1.0 mg/dL</td>
</tr>
<tr>
<td></td>
<td>1 - 4 years</td>
<td>0.1 - 0.6 mg/dL</td>
</tr>
<tr>
<td></td>
<td>4 - 7 years</td>
<td>0.1 - 0.7 mg/dL</td>
</tr>
<tr>
<td></td>
<td>7 - 10 years</td>
<td>0.3 - 0.7 mg/dL</td>
</tr>
<tr>
<td></td>
<td>10 - 14 years</td>
<td>0.4 - 1.0 mg/dL</td>
</tr>
<tr>
<td></td>
<td>14 - 18 years</td>
<td>0.6 - 1.2 mg/dL</td>
</tr>
<tr>
<td></td>
<td>Greater than 18 years</td>
<td>0.6 - 1.3 mg/dL</td>
</tr>
<tr>
<td>Glucose</td>
<td>0 - 1 day old</td>
<td>40 - 100 mg/dL</td>
</tr>
<tr>
<td></td>
<td>1 - 7 days</td>
<td>50 - 100 mg/dL</td>
</tr>
<tr>
<td></td>
<td>7 days - Adult</td>
<td>70 - 100 mg/dL</td>
</tr>
<tr>
<td>Calcium, Ionized</td>
<td>Equal to or greater than 6 Months*</td>
<td>1.12 - 1.32 mmol/L</td>
</tr>
<tr>
<td></td>
<td>*Pediatric ranges not defined</td>
<td>1.12 - 1.32 mmol/L</td>
</tr>
<tr>
<td>Analyte</td>
<td>Age</td>
<td>Sex</td>
</tr>
<tr>
<td>---------</td>
<td>--------------</td>
<td>-------</td>
</tr>
<tr>
<td>BUN</td>
<td>1 - 7 days</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>8 days - 1 month</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>1 - 3 months</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>4 months - 1 year</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>1 - 3 years</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>4 - 13 years</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>14 - 18 years</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Greater than 18 years</td>
<td>Male</td>
</tr>
<tr>
<td>BUN</td>
<td>1 - 7 days</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>8 days - 1 month</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>1 - 3 months</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>4 months - 1 year</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>1 - 3 years</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>4 - 13 years</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>14 - 18 years</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>Greater than 18 years</td>
<td>Female</td>
</tr>
<tr>
<td>Hematocrit</td>
<td>1 - 3 months*</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>3 - 6 months</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>6 months - 2 years</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>2 - 6 years</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>6 - 12 years</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>12 - 18 years</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Greater than 18 years</td>
<td>Male</td>
</tr>
<tr>
<td>Hematocrit</td>
<td>1 - 3 months*</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>3 - 6 months</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>6 months - 2 years</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>2 - 6 years</td>
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</tr>
<tr>
<td></td>
<td>6 - 12 years</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>12 - 18 years</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>Greater than 18 years</td>
<td>Female</td>
</tr>
</tbody>
</table>

*Less than 1 month old not established

---

### Specimen Information — POCT CHEM8, iSTAT

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe wrap collection tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>95 uL</td>
<td>Must be tested immediately</td>
</tr>
<tr>
<td>Heparinized Syringe</td>
<td>Whole Blood (Arterial or Venous)</td>
<td>Ambient</td>
<td>95 uL</td>
<td>Must be tested within 30 minutes; tested within 10 minutes</td>
</tr>
<tr>
<td>Non-Heparinized Syringe</td>
<td>Whole Blood (Arterial or Venous)</td>
<td>Ambient</td>
<td>95 uL</td>
<td>Must be tested within 10 minutes</td>
</tr>
</tbody>
</table>
Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
Amperometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>82565</td>
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</tbody>
</table>

Instrumentation
Abbott iSTAT

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age</td>
</tr>
<tr>
<td>Creatinine</td>
<td>0 - 7 days</td>
</tr>
<tr>
<td></td>
<td>1 - 4 years</td>
</tr>
<tr>
<td></td>
<td>4 - 7 years</td>
</tr>
<tr>
<td></td>
<td>7 - 10 years</td>
</tr>
<tr>
<td></td>
<td>10 - 14 years</td>
</tr>
<tr>
<td></td>
<td>14 - 18 years</td>
</tr>
<tr>
<td></td>
<td>Greater than 18 years</td>
</tr>
</tbody>
</table>

Specimen Information — POCT CREATININE, iSTAT

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heparinized Syringe</td>
<td>Whole Blood (Arterial or Venous)</td>
<td>Ambient</td>
<td>65 uL</td>
<td>Must be tested within 30 minutes of collection</td>
</tr>
<tr>
<td>Non-Heparinized Syringe</td>
<td>Whole Blood (Arterial or Venous)</td>
<td>Ambient</td>
<td>65 uL</td>
<td>Must be tested immediately</td>
</tr>
</tbody>
</table>
POC50  POCT FERN TEST

University of Vermont Medical Center

Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
Microscopy

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fern Test</td>
<td>89060</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
Negative (Absent)

Section
Point of Care Testing

Specimen Information — POCT FERN TEST

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass Slide</td>
<td>Vaginal Secretions</td>
<td>Ambient</td>
<td>65 uL</td>
<td>Allow 10 minutes to air dry</td>
</tr>
</tbody>
</table>
POC 10  POCT GLUCOSE

University of Vermont Medical Center

Important Note
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Method
In process

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>82962</td>
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</table>

Instrumentation
Abbott Free Style Precision Pro
Nova Xpress 2

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Age</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>0 - 24 hours</td>
<td>40 - 100 mg/dL</td>
</tr>
<tr>
<td></td>
<td>1 - 7 days</td>
<td>50 - 100 mg/dL</td>
</tr>
<tr>
<td></td>
<td>Greater than 7 days</td>
<td>70 - 100 mg/dL</td>
</tr>
</tbody>
</table>

Section
Point of Care Testing

Specimen Information — POCT GLUCOSE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capillary Tube (EDTA or Lithium Heparin)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>60 uL</td>
<td>See procedure</td>
</tr>
<tr>
<td>Lavender Top Tube (EDTA)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>60 uL</td>
<td>See procedure</td>
</tr>
<tr>
<td>Green Top Tube (Lithium Heparin)</td>
<td>Whole Blood (Arterial or Venous)</td>
<td>Ambient</td>
<td>60 uL</td>
<td>See procedure</td>
</tr>
</tbody>
</table>
POC505  POCT GLUCOSE, iSTAT

University of Vermont Medical Center

Important Note
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Method
Amperometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>82947</td>
</tr>
</tbody>
</table>

Instrumentation
Abbott iSTAT

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Age</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>0 - 1 day</td>
<td>40 - 100 mg/dL</td>
</tr>
<tr>
<td></td>
<td>1 - 7 days</td>
<td>50 - 100 mg/dL</td>
</tr>
<tr>
<td></td>
<td>Greater than 7 days</td>
<td>70 - 100 mg/dL</td>
</tr>
</tbody>
</table>

Specimen Information — POCT GLUCOSE, iSTAT

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe-wrap collection tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>65 uL</td>
<td>Must be tested immediately</td>
</tr>
<tr>
<td>Green Top Tube (Lithium Heparin)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>65 uL</td>
<td>Must be tested within 30 minutes</td>
</tr>
<tr>
<td>Heparinized Syringe</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>65 uL</td>
<td>Must be testing within 30 minutes</td>
</tr>
<tr>
<td>Non-heparinized syringe</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>65 uL</td>
<td>Must be tested within 10 minutes</td>
</tr>
</tbody>
</table>
Important Note
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Method
Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin</td>
<td>85018</td>
</tr>
</tbody>
</table>

Instrumentation
Hemocue 201DM

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Age</th>
<th>Sex</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin</td>
<td>1 - 3 months</td>
<td>Male</td>
<td>9.0 - 14.0 g/dL</td>
</tr>
<tr>
<td></td>
<td>3 - 6 months</td>
<td>Male</td>
<td>9.5 - 13.5 g/dL</td>
</tr>
<tr>
<td></td>
<td>6 months - 2 years</td>
<td>Male</td>
<td>10.5 - 13.5 g/dL</td>
</tr>
<tr>
<td></td>
<td>2 - 5 years</td>
<td>Male</td>
<td>11.5 - 13.5 g/dL</td>
</tr>
<tr>
<td></td>
<td>6 - 11 years</td>
<td>Male</td>
<td>11.5 - 15.5 g/dL</td>
</tr>
<tr>
<td></td>
<td>12 - 17 years</td>
<td>Male</td>
<td>13.0 - 16.0 g/dL</td>
</tr>
<tr>
<td></td>
<td>Greater than 18 years</td>
<td>Male</td>
<td>13.8 - 17.3 g/dL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Age</th>
<th>Sex</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin</td>
<td>1 - 3 months</td>
<td>Female</td>
<td>9.0 - 14.0 g/dL</td>
</tr>
<tr>
<td></td>
<td>3 - 6 months</td>
<td>Female</td>
<td>9.5 - 13.5 g/dL</td>
</tr>
<tr>
<td></td>
<td>6 months - 2 years</td>
<td>Female</td>
<td>10.5 - 13.5 g/dL</td>
</tr>
<tr>
<td></td>
<td>2 - 5 years</td>
<td>Female</td>
<td>11.5 - 13.5 g/dL</td>
</tr>
<tr>
<td></td>
<td>6 - 11 years</td>
<td>Female</td>
<td>11.5 - 15.5 g/dL</td>
</tr>
<tr>
<td></td>
<td>12 - 17 years</td>
<td>Female</td>
<td>12.0 - 16.0 g/dL</td>
</tr>
<tr>
<td></td>
<td>Greater than 18 years</td>
<td>Female</td>
<td>11.6 - 15.2 g/dL</td>
</tr>
</tbody>
</table>

Section
Point of Care Testing

Specimen Information — POCT HEMOGLOBIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemacue Cuvette</td>
<td>Capillary Whole Blood</td>
<td>Ambient</td>
<td>10 uL</td>
<td>10 minutes post collection</td>
</tr>
<tr>
<td>Green Top Tube (Lithium Heparin)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>10 uL</td>
<td>10 minutes post collection</td>
</tr>
<tr>
<td>Lavender Top Tube (EDTA)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>10 uL</td>
<td>10 minutes post collection</td>
</tr>
<tr>
<td>Gray Top Tube (Na Fluoride/K Oxalate)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>10 uL</td>
<td>10 minutes post collection</td>
</tr>
<tr>
<td>Blue Top Tube (Na citrate)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>10 uL</td>
<td>10 minutes post collection</td>
</tr>
</tbody>
</table>
POC507  POCT HEMOGLOBIN A1c

University of Vermont Medical Center

Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin a1C</td>
<td>83036</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens DCA Vantage

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin A1c</td>
<td>Less than 5.7%</td>
</tr>
</tbody>
</table>

Section
Point of Care Testing

Specimen Information — POCT HEMOGLOBIN A1c

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCA Capillary Holder</td>
<td>Capillary Whole Blood</td>
<td>Ambient</td>
<td>1 uL</td>
<td>5 minutes post collection</td>
</tr>
<tr>
<td>Green Top Tube (Lithium Heparin)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>1 uL</td>
<td>See procedure</td>
</tr>
<tr>
<td>Lavender Top Tube (EDTA)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>1 uL</td>
<td>See procedure</td>
</tr>
<tr>
<td>Gray Top Tube (Na Fluoride/K Oxalate)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>1 uL</td>
<td>See procedure</td>
</tr>
<tr>
<td>Blue Top Tube (Na citrate)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>1 uL</td>
<td>See procedure</td>
</tr>
</tbody>
</table>
Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
Immunochromatography

Instrumentation
OraSure Technologies

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Section
Point of Care Testing

Specimen Information — POCT HIV

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen Collection Loop</td>
<td>Capillary Whole Blood</td>
<td>Ambient</td>
<td>Full Loop</td>
<td>In process</td>
</tr>
<tr>
<td>Test Device Flat Pad</td>
<td>Oral Fluid</td>
<td>Ambient</td>
<td>See procedure</td>
<td>See Procedure</td>
</tr>
</tbody>
</table>
POCT KOH PREP (SKIN, HAIR, & NAILS)

University of Vermont Medical Center

Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
Microscopy

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>KOH Prep</td>
<td>87220</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>KOH Prep</td>
<td>Negative (Absent)</td>
</tr>
</tbody>
</table>

Section
Point of Care Testing

Specimen Information — POCT KOH PREP (SKIN, HAIR, & NAILS)

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass Slide or Sterile Container</td>
<td>Skin (Scraping), Hair</td>
<td>Ambient</td>
<td>See procedure</td>
<td>See procedure</td>
</tr>
<tr>
<td>Glass Slide or Sterile Container</td>
<td>Nail (Scraping or nail)</td>
<td>Ambient</td>
<td>See procedure</td>
<td>See procedure</td>
</tr>
</tbody>
</table>
**POC251  POCT LEAD TEST**

*University of Vermont Medical Center*

**Important Note**
This test is only available to the University of Vermont Health Care clinics and hospital.

**Method**
Voltammetry

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>83655</td>
</tr>
</tbody>
</table>

**Instrumentation**
Lead Care II

**Reference Range**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>0 - 4.9 ug/dL</td>
</tr>
</tbody>
</table>

**Section**
Point of Care Testing

---

**Specimen Information — POCT LEAD TEST**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Room Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capillary Tube Heparin</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>50 uL</td>
<td>See procedure</td>
</tr>
</tbody>
</table>
POC504  
**POCT OCCULT BLOOD SLIDE TEST x1**

*University of Vermont Medical Center*

**Important Note**
This test is only available to the University of Vermont Health Care clinics and hospital.

**Specimen Information**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Feces</td>
<td>In process</td>
<td>In process</td>
</tr>
</tbody>
</table>

**Method**
In process

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occult Blood</td>
<td>82272 x1</td>
</tr>
</tbody>
</table>

**Instrumentation**
Hemoccult Sensa

**Reference Range**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occult Blood</td>
<td>Negative</td>
</tr>
</tbody>
</table>

**Section**
Point of Care Testing

---

POC13  
**POCT OCCULT BLOOD SLIDE TEST x3**

*University of Vermont Medical Center*

**Important Note**
This test is only available to the University of Vermont Health Care clinics and hospital.

**Method**
In process

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occult Blood</td>
<td>82272 x3</td>
</tr>
</tbody>
</table>

**Instrumentation**
Hemoccult Sensa

**Reference Range**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occult Blood</td>
<td>Negative</td>
</tr>
</tbody>
</table>

**Section**
Point of Care Testing

---

**Specimen Information — POCT OCCULT BLOOD SLIDE TEST x3**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Feces</td>
<td>Ambient</td>
<td>In process</td>
<td>See procedure</td>
</tr>
</tbody>
</table>
University of Vermont Medical Center

Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
Colorimetric Indicator Paper

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>83986</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>See procedure</td>
</tr>
</tbody>
</table>

Section
Point of Care Testing

Specimen Information — POCT pH OTHER

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Varies</td>
<td>Ambient</td>
<td>In process</td>
<td>Immediately</td>
</tr>
</tbody>
</table>
POC112  POCT pH VAGINAL

University of Vermont Medical Center

Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
In process

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>83986</td>
</tr>
</tbody>
</table>

Instrumentation
Hydrogen pH Paper

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>3.8 - 4.2</td>
</tr>
</tbody>
</table>

Section
Point of Care Testing

Specimen Information — POCT pH VAGINAL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>In process</td>
<td>Vaginal Secretions</td>
<td>Ambient</td>
<td>In process</td>
<td>Immediately</td>
</tr>
</tbody>
</table>


### POC14  POCT RAPID STREP SCREEN

**University of Vermont Medical Center**

**Important Note**
This test is only available to the University of Vermont Health Care clinics and hospital.

**Specimen Information**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puritan Rayon-tipped Swab</td>
<td>Throat</td>
<td>Ambient</td>
<td>See procedure</td>
</tr>
</tbody>
</table>

**Method**
Immunochromatography

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid Strep Screen</td>
<td>87880</td>
</tr>
</tbody>
</table>

**Instrumentation**
Sekesui Osom Rapid Strep Kit

**Reference Range**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid Strep Screen</td>
<td>Negative</td>
</tr>
</tbody>
</table>

**Section**
Point of Care Testing

---

### POC6  POCT SCABIES

**University of Vermont Medical Center**

**Important Note**
This test is only available to the University of Vermont Health Care clinics and hospital.

**Specimen Information**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass Slide</td>
<td>Skin Scrappings</td>
<td>Ambient</td>
<td>See procedure</td>
</tr>
</tbody>
</table>

**Method**
Microscopy

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Scrapings</td>
<td>87220</td>
</tr>
</tbody>
</table>

**Instrumentation**
Manual Method

**Reference Range**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Scrapings</td>
<td>Negative (Absent)</td>
</tr>
</tbody>
</table>

**Section**
Point of Care Testing

---

### POC91  POCT SEMEN ANALYSIS QUALITATIVE

**University of Vermont Medical Center**

**Important Note**
This test is only available to the University of Vermont Health Care clinics and hospital.
Method
Microscopy

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>In process</td>
<td>In process</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
Post Vasectomy No Semen Present

Section
Point of Care Testing

---

**Specimen Information — POCT SEMEN ANALYSIS QUALITATIVE**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Semen</td>
<td>Ambient</td>
<td>Inprocess</td>
<td>8 Hours</td>
</tr>
</tbody>
</table>
POC5  POCT URINE DIPSTICK

University of Vermont Medical Center

Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
Colorimetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine dipstick</td>
<td>81003</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Clinitek Status+ with MultiStix 10SG

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>All Ages and Gender Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>Negative</td>
</tr>
<tr>
<td>Bilirubin</td>
<td>Negative</td>
</tr>
<tr>
<td>Ketone</td>
<td>Negative</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.001 - 1.035</td>
</tr>
<tr>
<td>Blood</td>
<td>Negative</td>
</tr>
<tr>
<td>pH</td>
<td>4.6 - 8.0</td>
</tr>
<tr>
<td>Protein</td>
<td>Negative</td>
</tr>
<tr>
<td>Urobilinogen</td>
<td>0.2 - 1.0 mg/dL</td>
</tr>
<tr>
<td>Nitrite</td>
<td>Negative</td>
</tr>
<tr>
<td>Leukocytes</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Section
Point of Care Testing
## Specimen Information — POCT URINE DIPSTICK

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Min Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Ambient</td>
<td>10 mL</td>
<td>10 mL</td>
<td>5 mL</td>
<td>Test Immediately</td>
</tr>
</tbody>
</table>
POC503  POCT URINE DRUG SCREEN

University of Vermont Medical Center

Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
Immunochromatography

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Drug Screen</td>
<td>80305</td>
</tr>
</tbody>
</table>

Instrumentation
National Test System

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Drug Screen</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Section
Point of Care Testing

Specimen Information — POCT URINE DRUG SCREEN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Ambient</td>
<td>30 mL</td>
<td>2 Hours</td>
</tr>
</tbody>
</table>
POC508  POCT URINE NICOTINE SCREEN

University of Vermont Medical Center

Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
Immunochromatography

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Nicotine Screen</td>
<td>80305</td>
</tr>
</tbody>
</table>

Instrumentation
NicCheck

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Nicotine Screen</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Section
Point of Care Testing

Specimen Information — POCT URINE NICOTINE SCREEN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Ambient</td>
<td>0.5 - 1.0 mL</td>
<td>4 Hours</td>
</tr>
</tbody>
</table>
Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
Immunochromatography

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Pregnancy Test</td>
<td>81025</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Clinitek Status+ and Clinitest UPT Cassettes

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Pregnancy Test</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Section
Point of Care Testing

Specimen Information — POC URINE PREGNANCY TEST, AUTOMATED

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Ambient</td>
<td>200 uL</td>
<td>In Process</td>
</tr>
</tbody>
</table>
Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
Immunochromatography

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Pregnancy Test</td>
<td>81025</td>
</tr>
</tbody>
</table>

Instrumentation
Sekesui Osom UPT Kit

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Pregnancy Test</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Section
Point of Care Testing

Specimen Information — POCT URINE PREGNANCY TEST, MANUAL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Ambient</td>
<td>135 uL</td>
<td>8 Hours</td>
</tr>
</tbody>
</table>
**Important Note**

This test is only available to the University of Vermont Health Care clinics and hospital.

**Method**

Microscopy

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Sediment</td>
<td>81015</td>
</tr>
</tbody>
</table>

**Instrumentation**

Manual Method

**Reference Range**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBC</td>
<td>0 - 3/HPF</td>
</tr>
<tr>
<td>RBC</td>
<td>0 - 2/HPF</td>
</tr>
<tr>
<td>Squamous Epithelial Cells</td>
<td>None seen</td>
</tr>
<tr>
<td>Renal Epithelial Cells</td>
<td>None seen</td>
</tr>
<tr>
<td>Hyaline Casts</td>
<td>None seen to Few seen</td>
</tr>
<tr>
<td>Bacteria</td>
<td>None seen</td>
</tr>
</tbody>
</table>

**Specimen Information — POCT URINE SEDIMENT**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Ambient</td>
<td>In process</td>
<td>2 Hours</td>
</tr>
</tbody>
</table>
Important Note
This test is only available to the University of Vermont Health Care clinics and hospital.

Method
Microscopy

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>We Mount</td>
<td>87210</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet Prep</td>
<td>Negative (Absent)</td>
</tr>
</tbody>
</table>

Section
Point of Care Testing

Specimen Information — POCT VAGINAL WET PREP (INCLUDES KOH)

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Testing Volume</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass Slide</td>
<td>Vaginal Secretions</td>
<td>Ambient</td>
<td>In process</td>
<td>Immediately</td>
</tr>
</tbody>
</table>
VPOLY  Polysubstance Use Panel, Urine

Aspenti Health Laboratory

Important Note
Routine drug screen for inpatients and ambulatory clinics. Test includes the following tests:
Alcohol Metabolite (EtG) Screen-Urine
Amphetamine Screen-Urine
Barbiturates Screen-Urine
Benzodiazepines Screen-Urine
Buprenorphine Screen-Urine
Cocaine Metabolite (Benzylicgonine) Screen-Urine
Ecstasy MDMA Screen-Urine
Fentanyl Screen-Urine
Heroin Metabolite (6-AM) Screen-Urine
Methamphetamine EDDP Screen-Urine
Opioid Screen-Urine
Oxycodone Screen-Urine
Zolpidem Screen-Urine

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 24 Hours / Not Available STAT

VPREG  Polysubstance Use Pregnancy Panel, Urine

Aspenti Health Laboratory

Important Note
Routine drug screen for inpatients and ambulatory clinics. Test includes the following tests:
Alcohol Metabolite (EtG) Screen-Urine
Amphetamine Screen-Urine
Barbiturates Screen-Urine
Benzodiazepines Screen-Urine
Buprenorphine Screen-Urine
Cocaine Metabolite (Benzylicgonine) Screen-Urine
Cotinine Screen-Urine
Ecstasy MDMA Screen-Urine
Fentanyl Screen-Urine
Heroin Metabolite (6-AM) Screen-Urine
Methadone Metabolite EDDP Screen-Urine
Opioid Screen-Urine
Oxycodone Screen-Urine
THC Metabolites (Cannabinoids) Screen, Urine
Zolpidem Screen-Urine

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 24 Hours / Not Available STAT

VKIDT  Polysubstance Use Transplant Panel, Urine

Aspenti Health Laboratory

Important Note
Routine drug screen for inpatients and ambulatory clinics. Test includes the following tests:
Alcohol Metabolite (EtG) Screen-Urine
Amphetamine Screen-Urine
Barbiturates Screen-Urine
Benzodiazepines Screen-Urine
Buprenorphine Screen-Urine
Cocaine Metabolite (Benzylicgonine) Screen-Urine
Cotinine Screen-Urine
Ecstasy MDMA Screen-Urine
Fentanyl Screen-Urine
Heroin Metabolite (6-AM) Screen-Urine
Methadone Metabolite EDDP Screen-Urine
Opioid Screen-Urine
Oxycodone Screen-Urine
THC Metabolites (Cannabinoids) Screen, Urine
Zolpidem Screen-Urine

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 24 Hours / Not Available STAT

K  POTASSIUM

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Ion- Specific Electrode

CPT(s)
84132

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
Specimen Information — POTASSIUM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
</tr>
</tbody>
</table>

Specimen must be not be hemolyzed.
*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-7 days</td>
<td>All</td>
<td></td>
<td>3.2</td>
<td>5.5</td>
<td>mEq/L</td>
</tr>
<tr>
<td>8 days - 1 month</td>
<td>All</td>
<td></td>
<td>3.4</td>
<td>6.0</td>
<td>mEq/L</td>
</tr>
<tr>
<td>1-6 months</td>
<td>All</td>
<td></td>
<td>3.5</td>
<td>6.0</td>
<td>mEq/L</td>
</tr>
<tr>
<td>6-12 months</td>
<td>All</td>
<td></td>
<td>3.5</td>
<td>6.1</td>
<td>mEq/L</td>
</tr>
<tr>
<td>1-17 years</td>
<td>All</td>
<td></td>
<td>3.3</td>
<td>4.6</td>
<td>mEq/L</td>
</tr>
<tr>
<td>&gt;17 years</td>
<td>All</td>
<td></td>
<td>3.5</td>
<td>5.0</td>
<td>mEq/L</td>
</tr>
</tbody>
</table>
Important Note
The 24 hour urine sample should be delivered to the lab within 12 hours of collection completion.

Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / Same day / Available STAT

Method
Ion – Specific Electrode

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>84133</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
25 – 125 mEq/24 Hour

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — POTASSIUM, URINE, 24 HOUR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-Hour Urine Jug A</td>
<td>24-Hour Urine</td>
<td>Refrigerate</td>
<td>24-hour Collection</td>
<td>10 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Must not have preservative.
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / Same day / Available STAT

Method
Ion – Specific Electrode

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>84133</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
No reference range available for spot samples.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
PALBS  PREALBUMIN

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday, final run starts at 2:00 pm / Same day / Not available STAT

Method
Turbidometric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prealbumin</td>
<td>84134</td>
</tr>
</tbody>
</table>

Instrumentation
Binding Site Optilite

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — PREALBUMIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>6 months</td>
</tr>
<tr>
<td><em>Yellow Microtainer</em></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Heparinized plasma is NOT acceptable. Markedly hemolyzed or lipemic samples are not acceptable. Samples that are collected during the evening and night hours will be run on the first run of the next day (M-F) and should be reported by 12 noon. Samples collected before 1:00 p.m. (M-F) will be run and reported the same day after the initial run is completed.

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
### Reference Range — PREALBUMIN

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;18 years</td>
<td>All</td>
<td>N/A</td>
<td>20</td>
<td>40</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
Important Note
Healthy men and non-pregnant women do not have HCG levels detectable by this device. In normal pregnancy, levels of 20 mIU/mL HCG can be reached 2 - 3 days before the first missed menstrual period. HCG levels peak about 8-weeks after the last menstrual period and then decline to lower values during the remainder of the pregnancy. Following delivery, HCG levels rapidly decrease and usually return to normal within days of parturition.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Immunochromatographic

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy Test, Urine</td>
<td>81025</td>
</tr>
</tbody>
</table>

Instrumentation
OSOM Urine Pregnancy Test

Reference Range
Reported as positive or negative

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — PREGNANCY TEST, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>5 mL</td>
<td>0.5 mL</td>
<td>72 Hours</td>
</tr>
</tbody>
</table>

First morning specimen preferred.
Important Note
Tests included are: Blood Type, Antibody Screen, Hepatitis B Surface Antigen, Syphilis Serology, Rubella IgG Antibody, and Hemogram with Differential (Includes: WBC, RBC, HGB, HCT, indices, PLT and differential (may be automated or manual). If blood will be refrigerated overnight, submit 2 smears. See Laboratory Service Directory, Section II, Specimen Handling for making smears.
Test subject to Medicare National Coverage Decision 190.27-Human chorionic Gonadotropin.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
See individual tests

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prenatal Panel</td>
<td>80055</td>
</tr>
</tbody>
</table>

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Blood Bank

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
No

Specimen Information — PRENATAL PANEL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>4 mL</td>
<td>2 mL</td>
</tr>
<tr>
<td>Pink Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>6 mL</td>
<td>6 mL</td>
<td>6 mL</td>
</tr>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>8 mL</td>
<td>4 mL</td>
<td>2 mL</td>
</tr>
</tbody>
</table>

All 3-sample types are required. Submit pink and lavender top unspun. Blood Bank samples must be labeled with the date collected. Specimens must be received in the laboratory within 24-hours of collection. If blood will be refrigerated overnight, submit two smears from the EDTA for a differential count.
Important Note
This test can only be ordered on M004 (Infectious Disease) patients or patients transferred from M004. Patients on M3 (Surgical Intensive Care Unit SICU) can have PCT testing performed if ordered by specific attending physicians. Consult with Special Chemistry to determine if the physician is approved to order this test.

Test Schedule / Analytical Time / Test Priority
Daily run 8:00 am -2:00 pm / 1 day / Not available STAT

Method
Chemiluminescent Microparticle Immunoassay (CMIA)

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procalcitonin</td>
<td>84145</td>
</tr>
</tbody>
</table>

Instrumentation
Abbott Architect i1000

Reference Range
Less than 0.5 ng/mL – low risk of severe sepsis
Greater than 2.0 ng/mL – high risk of severe sepsis

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — PROCALCITONIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td>48 hours</td>
</tr>
</tbody>
</table>
**Important Note**

Tests included are: AST, Cholesterol, Triglyceride, and Hemagram and Differential. See individual tests. Test subject to Medicare National Coverage Determination (NCD). May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Lab Outreach Specialist to obtain this form.

**Test Schedule / Analytical Time / Test Priority**

Daily / 24 hours / Not available STAT

**Method**

See individual tests.

**CPT(s)**

See individual tests.

**Instrumentation**

See individual tests.

**Reference Range**

See individual tests.

**Section**

Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No

Yes

---

**Specimen Information — PROFILE ACCUTANE FOUR SEASONS DERMATOLOGY**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
</tr>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>1.5 mL</td>
</tr>
</tbody>
</table>

Submit both serum gel tube and lavender top tube.
University of Vermont Medical Center

Important Note
Tests included are: ALT, AST, Triglyceride. See individual tests. Test subject to Medicare National Coverage Determination (NCD). May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Lab Outreach Specialist to obtain this form.

Test Schedule / Analytical Time / Test Priority
Daily / 24 hours / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROFILE ACCUTANE-NO RISK OF PREGNANCY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
</tr>
</tbody>
</table>
Important Note
Tests included are: ALT, AST, HCG, Triglyceride. See individual tests. Test subject to Medicare National Coverage Determination (NCD). May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Lab Outreach Specialist to obtain this form.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Not available STAT

Method
See individual tests: ALT, AST, HCG, Triglyceride

CPT(s)
See individual tests.

Instrumentation
See individual tests: ALT, AST, HCG, Triglyceride

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROFILE ACCUTANE-PREGNANCY RISK

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
</tr>
</tbody>
</table>
Important Note
Tests included are: Glucose, Lipid profile. Tests subject to Medicare Local Medical Review Policy, see individual tests. May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Lab Clinical Outreach Specialist to obtain this form.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROFILE ARMY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gray Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>2 mL</td>
<td>1 mL</td>
</tr>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1.5 mL</td>
<td>0.8 mL</td>
</tr>
</tbody>
</table>
Important Note
Tests included are: ANA IFA and Rheumatoid Factor. May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Laboratory Clinical Outreach Specialist to obtain this form.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 2 days / Not available STAT

Method
Tests included are: ANA IFA and Rheumatoid Factor see indivual tests.

CPT(s)
Tests included are: ANA IFA and Rheumatoid Factor see indivual tests.

Instrumentation
Tests included are: ANA IFA and Rheumatoid Factor see indivual tests.

Reference Range
Tests included are: ANA IFA and Rheumatoid Factor see indivual tests.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — PROFILE ARTHRITIS

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Important Note
Test includes Vitamin D (25, OH), Vitamin E, and Vitamin A. Test subject to Medicare Local Coverage Determination (NCD) Vitamin D Assay Testing (L32860).

Send specimen in amber vial to protect from light within 24 hours.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 2 days / Not available STAT

Method
See individual tests.

Instrumentation
See individual tests.

Section
Chemistry-2 and Mayo Clinic Laboratories

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROFILE CF VITAMIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>5.0 mL</td>
<td>2.0 mL</td>
<td>2.0 mL</td>
</tr>
</tbody>
</table>

Samples that are markedly lipemic, markedly hemolyzed or markedly icteric are not acceptable.
Important Note
Test subject to Medicare National Coverage Determination (NCD) Cardiovascular Screening Blood Tests. and 190.23 - Lipids Testing. Fasting specimen preferred. Test includes potassium, BUN, Creatinine, Total Bilirubin, AST, ALT, Uric Acid, Magnesium and Cholesterol.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Not Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triglyceride</td>
<td>84478</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — PROFILE CYCLOSPORINE DRUG SCREEN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>1 mL</td>
</tr>
</tbody>
</table>

Fasting specimen preferred. Lithium heparin (green top) plasma acceptable.
**Important Note**
Tests included are: Urea Nitrogen, Glucose, and Creatinine. May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Laboratory Outreach Specialist to obtain this form.

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday 8 am-4:30 pm / 1 day / Not available STAT

**CPT(s)**
See individual tests.

**Instrumentation**
Ortho Vitros

**Reference Range**
No reference range available.

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes

**Specimen Information — PROFILE DIALYSATE**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Dialysate</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>5 mL</td>
<td>5 mL</td>
</tr>
</tbody>
</table>
Important Note
Tests included are: Iron, IBC, Ferritin and Transferrin Saturation
May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Laboratory Clinical Outreach Specialist to obtain this form.
Test subject to Medicare National Coverage Determination (NCD), see individual tests.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROFILE DIALYSIS IRON

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1.2 mL</td>
<td>1 mL</td>
</tr>
</tbody>
</table>
Important Note
Tests included are: Albumin, Alkaline Phosphatase, AST, pre-dialysis BUN, Calcium, Chloride, CO2, Phosphorus, Sodium and Potassium. May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Laboratory Clinical Outreach Specialist to obtain this form.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1.5 mL</td>
<td>1 mL</td>
</tr>
</tbody>
</table>
Important Note
Tests included are: Albumin, Alkaline Phosphatase, AST, pre-dialysis BUN, Calcium, Chloride, CO2, Phosphorus, Sodium and Potassium. May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Laboratory Clinical Outreach Specialist to obtain this form.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROFILE DIALYSIS ROUTINE, HOME CARE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1.5 mL</td>
<td>1 mL</td>
</tr>
</tbody>
</table>
Important Note
Tests included are: Albumin, Alkaline Phosphatase, ALT, AST, and Creatinine. May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Lab Clinical Outreach Specialist to obtain this form.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
See individual test.

CPT(s)
See individual test.

Instrumentation
See individual test.

Reference Range
See individual test.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — PROFILE DMARD

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>0.5 mL</td>
</tr>
</tbody>
</table>
Important Note
Tests included are: ALT, AST, Glucose, Hepatitis B Surface AB, Hepatitis B Surface AG, Hepatitis B Core AB, Syphilis Serology (SYPH), Varicella IgG AB, Hemogram and differential, Hepatitis C AB with Reflex PCR, Rubeola IgG AB, Mumps IgG Screen, Rubella IgG AB, Hepatitis A AB, Schistoma IgG Antibody, and Strongyloides IgG antibody.

Test subject to Medicare National Coverage Determination (NCD). See individual tests.
May only be ordered if laboratory has signed "Physician Acknowledgement of Custom Profile" on file. Contact your Lab Clinical Outreach Specialist to obtain this form.
Hepatitis B Surface AG and Hepatitis C AB are subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary.

Test Schedule / Analytical Time / Test Priority
Varies / Varies / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROFILE DOMESTIC HEALTH

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>16 mL</td>
<td>10 mL</td>
<td>2.5 mL</td>
</tr>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
</tr>
</tbody>
</table>

Both samples are required.
Important Note
For emergency department use only.
Tests included are: CBC with differential, BUN, Creatinine, Electrolytes, Glucose Screening, Troponin I, Magnesium and a blue top to hold for possible testing.
May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Laboratory Outreach Specialist to obtain this form.
Tests subject to Medicare Local Medical Review Policy. See individual tests.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
See individual tests

CPT(s)
See individual tests.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROFILE ER CARDIAC PACK

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Ambient</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
<td>*</td>
</tr>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1.5 mL</td>
<td>1.5 mL</td>
</tr>
<tr>
<td>Green Top Tube</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1.5 mL</td>
<td>1.5 mL</td>
</tr>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood**</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>1.5 mL</td>
</tr>
</tbody>
</table>

All 4 sample containers are necessary for testing. * Blue top tube must be full to the line indicator. **Mix lavender top tube gently 5-10 times.
Important Note
Not FDA Approved.
Tests included are: Hep B Core Ab, Hep B Surf Ag, Hep C Ab, HIV, SYPH.
Test subject to Medicare National Coverage Determination (NCD). See individual tests.
May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Laboratory Outreach Specialist to obtain this form.

Test Schedule / Analytical Time / Test Priority
Monday – Friday (Scheduled) / Varies / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROFILE IVF NONDONOR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>15 mL</td>
<td>6 mL</td>
<td>4 mL</td>
</tr>
</tbody>
</table>
LIPRX  PROFILE LIPID RX 2

University of Vermont Medical Center

Important Note
Tests included in LIPRX are: ALT, AST, BUN, Creatinine, CK, Glucose, Uric Acid, Cholesterol, Triglycerides, HDL, LDL (calculated), Cholesterol/HDL ratio and non-HDL Cholesterol.
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary; If Triglycerides are greater than 400 mg.dL a measured LDL will be performed.
Test subject to Medicare National Coverage Determination (NCD) see individual tests.
May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Laboratory Outreach Specialist to obtain this form.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
See Individual Tests.

CPT(s)
See Individual Tests.

Instrumentation
See Individual Tests.

Reference Range
See Individual Tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — PROFILE LIPID RX 2

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
</tr>
</tbody>
</table>

Page 683
Important Note
Tests included are: Albumin, Alkaline Phosphatase, ALT, AST, Creatinine, Total and Direct Bilirubin, and Hemagram and differential.
Test subject to Medicare Local Medical Review Policy. See individual tests.
May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Laboratory outreach Specialist to obtain this form.
If a Methotrexate Level is needed, a red top tube will need to be submitted to perform this testing.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests. Albumin, Alkaline Phosphatase, ALT, AST, Creatinine, Total and Direct Bilirubin, and Hemagram and differential.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROFILE MTX

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>2 mL</td>
<td>1 mL</td>
</tr>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>1.5 mL</td>
</tr>
</tbody>
</table>

Both samples are required.
Important Note
Tests included are: Albumin, BUN, Calcium, Creatinine, Electrolytes, and Phosphorus.
May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Lab Outreach Specialist to obtain this form.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROFILE NEPHROLOGY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>0.5 mL</td>
</tr>
</tbody>
</table>
Important Note
Tests included are: CBC, Differential, Hepatitis B Antibody, Hepatitis B Surface Antigen, Hepatitis B Core Antibody, Hold SST Tube, Lead, Syphilis Serology, Varicella IgG Antibody and Hemoglobin and Thalassemia Evaluation.
Test subject to Medicare National Coverage Determination (NCD). See individual tests.
This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. If HBAG is positive a confirmation will be performed at an additional charge. Syphilis Serology is also subject to reflex testing. If the Treponemal AB is reactive or equivocal a Syphilis Ab (at MML) is performed if that is reactive an RPR. RPR titer or Syphilis TP-PA is performed. May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Lab Outreach Specialist to obtain this form.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Varies / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROFILE NEW AMERICAN ASSESSMENT

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>12 mL</td>
<td>6 mL</td>
<td>5 mL</td>
</tr>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>7 mL</td>
<td>7 mL</td>
<td>3.5 mL</td>
</tr>
</tbody>
</table>

Both containers are necessary for testing.
**PET PROFILE PERITONEAL DIALYSATE**

*University of Vermont Medical Center*

**Important Note**

Tests included are: BUN, glucose and creatinine on peritoneal dialysate. May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Lab Outreach Specialist to obtain this form.

**Test Schedule / Analytical Time / Test Priority**

Monday – Friday, 8 am-4:30 pm / 1 day / Not available STAT

**Method**

See Individual tests.

**CPT(s)**

See Individual tests.

**Instrumentation**

See Individual tests.

**Reference Range**

No reference range available.

**Section**

Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No

Yes

**Specimen Information — PROFILE PERITONEAL DIALYSATE**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Peritoneal Dialysate</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>5 mL</td>
<td>5 mL</td>
</tr>
</tbody>
</table>
**Important Note**
Early morning collection is desirable (6-10 a.m.).
Testing performed at UVM Medical Center and MML.
Test includes: FSH, Estrogens E1 & E2, LH, Prolactin, Free T4, T4, TSH, ACTH, Cortisol, Alpha Subunit, Insulin Like GF, Glucose, Growth Hormone.
May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Clinical Lab Outreach Specialist to obtain this form.
Test subject to Medicare National Coverage Determination (NCD). See individual tests.

**Test Schedule / Analytical Time / Test Priority**
Monday – Friday / 2 days / Not available STAT

**Method**
See individual tests.

**CPT(s)**
See individual tests.

**Reference Range**
See individual tests.

**Section**
Chemistry-2 and Mayo Medical Laboratory

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

**Specimen Information — PROFILE PITUITARY FEMALE**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>20 mL</td>
<td>10 mL</td>
<td>10 mL</td>
</tr>
<tr>
<td>Lavender Top tube</td>
<td>Whole Blood</td>
<td>*</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
</tr>
</tbody>
</table>

*Collect tube, place on ice, and deliver to laboratory immediately.*
Important Note
Early morning collection is desirable (6-10 a.m.).
Testing performed at UVM Medical Center and Mayo Clinic Laboratories.
Test includes: FSH, LH, Prolactin, Free T4, T4, TSH, ACTH, Cortisol, Alpha Subunit, Insulin Like GF, Glucose, Growth Hormone.
May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Clinical Lab Outreach Specialist to obtain this form.
Test subject to Medicare National Coverage Determination (NCD). See individual tests.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 2 days / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests.

Reference Range
See individual tests.

Section
Chemistry-2 and Mayo Medical Laboratory

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROFILE PITUITARY MALE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>20 mL</td>
<td>10 mL</td>
<td>10 mL</td>
</tr>
<tr>
<td>Lavender Top tube</td>
<td>Whole Blood*</td>
<td>*</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
</tr>
</tbody>
</table>

*Collect tube, place on ice, and deliver to laboratory immediately.
Important Note
Tests included are: AST, ALT, BUN, Creatinine, Uric Acid and Hemogram. Test subject to Medicare Local Medical Review Policy. See individual tests. May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Laboratory Clinical Outreach Specialist to obtain this form.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests: AST, ALT, BUN, Creatinine, Uric Acid and Hemogram.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROFILE PREECLAMPTIC

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>8 mL</td>
<td>5 mL</td>
<td>2.5 mL</td>
</tr>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>3.5 mL</td>
<td>2.5 mL</td>
<td>1.5 mL</td>
</tr>
</tbody>
</table>
Important Note
Tests included are: Blood bank Prenatal Study, Hepatitis B Surface Antigen, Syphilis Serology, Rubella IgG Antibody, and Hemagram with Differential (Includes: WBC, RBC, HGB, HCT, indices, PLT), AST, ALT, BUN, Creatinine, Uric Acid, and Varicella IgG Antibody.
Test subject to Medicare Local Medical Review Policy. See individual tests.
May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Laboratory Clinical Outreach Specialist to obtain this form.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
See individual Tests.

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALT</td>
<td>84460</td>
</tr>
<tr>
<td>AST</td>
<td>84450</td>
</tr>
<tr>
<td>BUN</td>
<td>84520</td>
</tr>
<tr>
<td>Creatinine</td>
<td>82565</td>
</tr>
<tr>
<td>Prenatal Profile</td>
<td>80055</td>
</tr>
<tr>
<td>Uric Acid</td>
<td>84550</td>
</tr>
<tr>
<td>Varicella IgG Antibody</td>
<td>86787</td>
</tr>
</tbody>
</table>

Instrumentation
See individual Tests.

Reference Range
See individual Tests.

Section
Chemistry-1

Specimen Information — PROFILE PREECLAMPTIC AND PRENATAL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>8 mL</td>
<td>4 mL</td>
<td>3 mL</td>
</tr>
<tr>
<td>Pink Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>6 mL</td>
<td>6 mL</td>
<td>6 mL</td>
</tr>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>1.5 mL</td>
</tr>
</tbody>
</table>

Collect all three samples
Important Note
Patient should not be on anticoagulation or acute phase/current clot at the time of collection.
This test must be processed within 4 hours of collection.
Test subject to Medicare National Coverage Determination (NCD) see individual tests.
May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Lab Clinical Outreach Specialist to obtain this form.
This test includes Prothrombin Time, Partial Thromboplastin Time, PTT 50/50 Mix, Factor 8, D-Dimer, Cardiolipin Antibodies, APC Resistance V, LA Cascade.

Test Schedule / Analytical Time / Test Priority
Tuesday and Thursday / Reported next day / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROFILE PREGNANT THROMBOSIS
Submit all sample types.
*After collection samples must be kept at ambient temperature until they are processed.
Samples must be processed within 3-hours of collection. If the samples cannot be processed within 3-hours call Laboratory Customer Service for a courier pickup or have the sample collected at the Main Campus.

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Platelet Poor Plasma</td>
<td>Frozen</td>
<td>9 mL (4 tubes - to fill line)</td>
<td>**5 mL plasma</td>
<td>**5 mL plasma</td>
</tr>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
<td>2 mL</td>
</tr>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.4 mL</td>
</tr>
</tbody>
</table>

*Submit four separate frozen plasma aliquots of 1mL each for this testing.
*Refer to Coagulation Specimen Handling for process instructions prior to collection. Submit separate frozen plasma aliquot for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at ≤-30° C if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.
Important Note
The presence of DHEA-S that is used in some in vitro fertilization (IVF) protocols can cause falsely elevated progesterone results. If you have questions please contact the Chemistry Lab 847-5121.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progesterone</td>
<td>84144</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Advia Centaur

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — PROGESTERONE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>2 days</td>
</tr>
</tbody>
</table>
### Reference Range — PROGESTERONE

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Female</td>
<td>Non-pregnant, Follicular Phase</td>
<td>&lt;0.2</td>
<td>1.4</td>
<td>ng/mL</td>
</tr>
<tr>
<td>N/A</td>
<td>Female</td>
<td>Non-pregnant, Luteal Phase</td>
<td>3.3</td>
<td>25.6</td>
<td>ng/mL</td>
</tr>
<tr>
<td>N/A</td>
<td>Female</td>
<td>Non-pregnant, Mid-luteal Phase</td>
<td>4.4</td>
<td>28</td>
<td>ng/mL</td>
</tr>
<tr>
<td>N/A</td>
<td>Female</td>
<td>Postmenopausal</td>
<td>&lt;0.2</td>
<td>0.7</td>
<td>ng/mL</td>
</tr>
<tr>
<td>N/A</td>
<td>Female</td>
<td>Pregnant, First Timester</td>
<td>11.2</td>
<td>90</td>
<td>ng/mL</td>
</tr>
<tr>
<td>N/A</td>
<td>Female</td>
<td>Pregnant, Second Trimester</td>
<td>25.6</td>
<td>89.4</td>
<td>ng/mL</td>
</tr>
<tr>
<td>N/A</td>
<td>Female</td>
<td>Pregnant, Third Trimester</td>
<td>48.4</td>
<td>422.5</td>
<td>ng/mL</td>
</tr>
<tr>
<td>N/A</td>
<td>Male</td>
<td>N/A</td>
<td>0.3</td>
<td>1.2</td>
<td>ng/mL</td>
</tr>
</tbody>
</table>

For ectopic pregnancy, consult a pathologist.
**PROLACTIN**

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**
Monday – Friday / 1 day / Not available STAT

**Method**
Chemiluminescent Immunoassay

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prolactin</td>
<td>84146</td>
</tr>
</tbody>
</table>

**Instrumentation**
Siemens Advia Centaur

**Section**
Chemistry-2

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes

Page 696
Specimen Information — PROLACTIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Age</td>
<td>Sex</td>
<td>Physiological Status</td>
<td>Low</td>
<td>High</td>
<td>Units</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------</td>
<td>----------------------</td>
<td>-----</td>
<td>------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>Female</td>
<td>Postmenopausal</td>
<td>1.8</td>
<td>20.3</td>
<td>ng/mL</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>Female</td>
<td>Pregnant</td>
<td>9.7</td>
<td>208.5</td>
<td>ng/mL</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>Female</td>
<td>Non-pregnant</td>
<td>2.8</td>
<td>29.2</td>
<td>ng/mL</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>Male</td>
<td>N/A</td>
<td>2.1</td>
<td>17.7</td>
<td>ng/mL</td>
<td></td>
</tr>
</tbody>
</table>
PPX  PROPOXYPHENE SCREEN, URINE

University of Vermont Medical Center

Important Note
For the Emergency Department and Labor and Delivery only.
This screen is for medical purposes only.
This test is subject to Medicare National Coverage Determination (LCD) L36037-Urine Drug Testing.

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Available STAT

Method
Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propoxyphene Screen</td>
<td>80306</td>
</tr>
</tbody>
</table>

Instrumentation
MedTox Systems

Reference Range
Negative Screen

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROPOXYPHENE SCREEN, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
</tr>
</tbody>
</table>
VPPX  Propoxyphene Screen, Urine

Aspenti Health Laboratory

Important Note
Routine drug screen for inpatients and ambulatory clinics.
Propoxyphene Screen, Urine, test information.

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 24 Hours / Not Available STAT

CCLOT  PROTEIN C, FUNCTIONAL (CLOT-BASED)

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Wednesday / Same day / Not available STAT

Method
Clot Based Assay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein C Functional</td>
<td>85303</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
Varies according to reagent lot, see report or call if needed.

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>*</td>
<td>To fill line</td>
<td>2. mL plasma</td>
<td>1 mL plasma</td>
<td>6 months</td>
</tr>
</tbody>
</table>

*Refer to Coagulation Specimen Handling before collection. Submit 1 x 1.0 mL frozen plasma aliquots for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at less than or equal to minus 40° C if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.
UTPCRR  PROTEIN CREATININE RATIO, URINE

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / Same day / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein, Urine Random</td>
<td>84156</td>
</tr>
<tr>
<td>Creatinine, Urine Random</td>
<td>82570</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes

Specimen Information — PROTEIN CREATININE RATIO, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>5 mL</td>
<td>0.2 mL</td>
</tr>
</tbody>
</table>

Reference Range — PROTEIN CREATININE RATIO, URINE

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 - 83</td>
<td>Male</td>
<td></td>
<td>&lt;0.11</td>
<td></td>
<td>mg/mg Creatinine</td>
</tr>
<tr>
<td>18 - 83</td>
<td>Female</td>
<td></td>
<td>&lt;0.16</td>
<td></td>
<td>mg/mg Creatinine</td>
</tr>
</tbody>
</table>

No reference values have been established for male or female patients <18 years or >83 years of age.
Test Schedule / Analytical Time / Test Priority
Wednesday / Same day / Not available STAT

Method
Clot Based Assay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein S Functional</td>
<td>85303</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
Varies according to reagent lot, see report or call if needed.

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — PROTEIN S, FUNCTIONAL (CLOT-BASED)

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>*</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>1 mL plasma</td>
<td>6 months</td>
</tr>
</tbody>
</table>

*Refer to Coagulation Specimen Handling before collection. Submit 1 × 1.0 mL frozen plasma aliquots for this test. Draw blood in light blue top tube(s). Spin down, remove plasma, spin plasma again and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at less than or equal to minus 40° C if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.
FTP PROTEIN TOTAL, FLUID

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein, Total Fluid</td>
<td>84157</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range

<table>
<thead>
<tr>
<th>Pleural Fluid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exudate &gt; 3.0 g/dl</td>
</tr>
<tr>
<td>Transudate &lt;3.0 g/dl</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Peritoneal Fluid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum ascites to albumin gradient (SAAG) superior to total protein content in differentiating causes of effusion.</td>
</tr>
</tbody>
</table>

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROTEIN TOTAL, FLUID

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Pleural or Peritoneal Fluid only</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
</tr>
</tbody>
</table>
TP  PROTEIN TOTAL, SERUM

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein, Total Serum</td>
<td>84155</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROTEIN TOTAL, SERUM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
</tr>
<tr>
<td>Lithium Heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.6 mL</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Lithium heparin (green top tube acceptable. Hemolysis may affect results. Please submit a non-hemolyzed specimen.

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.

Reference Range — PROTEIN TOTAL, SERUM

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-60 days</td>
<td>Female</td>
<td></td>
<td>3.4</td>
<td>7.0</td>
<td>g/dL</td>
</tr>
<tr>
<td>1-60 days</td>
<td>Male</td>
<td></td>
<td>3.9</td>
<td>7.6</td>
<td>g/dL</td>
</tr>
<tr>
<td>61-180 days</td>
<td>Female</td>
<td></td>
<td>3.9</td>
<td>7.6</td>
<td>g/dL</td>
</tr>
<tr>
<td>61-180 days</td>
<td>Male</td>
<td></td>
<td>4.1</td>
<td>7.9</td>
<td>g/dL</td>
</tr>
<tr>
<td>181 days to 1 year</td>
<td>Female</td>
<td></td>
<td>4.5</td>
<td>7.8</td>
<td>g/dL</td>
</tr>
<tr>
<td>181 days to 1 year</td>
<td>Male</td>
<td></td>
<td>3.9</td>
<td>7.9</td>
<td>g/dL</td>
</tr>
<tr>
<td>1-3 years</td>
<td>All</td>
<td></td>
<td>5.9</td>
<td>7.0</td>
<td>g/dL</td>
</tr>
<tr>
<td>4-6 years</td>
<td>All</td>
<td></td>
<td>5.9</td>
<td>7.8</td>
<td>g/dL</td>
</tr>
<tr>
<td>7-9 years</td>
<td>All</td>
<td></td>
<td>6.2</td>
<td>8.1</td>
<td>g/dL</td>
</tr>
<tr>
<td>10-17 years</td>
<td>All</td>
<td></td>
<td>6.3</td>
<td>8.6</td>
<td>g/dL</td>
</tr>
<tr>
<td>18 &gt;years</td>
<td>All</td>
<td></td>
<td>6.3</td>
<td>8.2</td>
<td>g/dL</td>
</tr>
</tbody>
</table>
CTP  PROTEIN, CSF

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein, CSF</td>
<td>84157</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
0 - 30 days: Less than 100 mg/dL
30 days - Less than 60 years: 12 - 45 mg/dL
Greater than or equal to 60 years: 12 - 60 mg/dL

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — PROTEIN, CSF

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF Tube</td>
<td>CSF</td>
<td>Refrigerate</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
</tr>
</tbody>
</table>
Important Note
The 24 hour urine sample should be delivered to the lab within 12 hours of collection completion.

Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / Same day / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein, Urine 24-Hour</td>
<td>84156</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
<150 mg/24-Hours

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — PROTEIN, URINE, 24 HOUR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jug A</td>
<td>24-Hour Urine</td>
<td>Refrigerate</td>
<td>24-Hour Urine</td>
<td>5 mL</td>
<td>0.5 mL</td>
<td>3 days</td>
</tr>
</tbody>
</table>

Submit 5 mL aliquot from a 24-hour urine collection. Record the total volume on the lab requisition if 24-hour collected. For those accounts unable to measure volume, submit 24-hour jug. Spot or 24-hour samples are acceptable.
UTPR  PROTEIN, URINE, RANDOM

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / Same day / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein, Urine Random</td>
<td>84156</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
No reference range for random specimens.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — PROTEIN, URINE, RANDOM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>5 mL</td>
<td>0.5 mL</td>
<td>3 Days</td>
</tr>
</tbody>
</table>
Important Note
Test is subject to Medicare National Coverage Determination 190.17 - Prothrombin Time (PT).
Please deliver to the lab within 24 hours.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Photo Optical Clot Detection

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prothrombin Time</td>
<td>85610</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top

Reference Range
Varies according to reagent lot, see report or call if needed.

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — PROTHROMBIN TIME

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line*</td>
<td>To fill line</td>
<td>To fill line</td>
<td>24 hours</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line*</td>
<td>2.0 mL plasma</td>
<td>0.5 mL plasma</td>
<td>6 months</td>
</tr>
</tbody>
</table>

*TUBE MUST BE FULL AT COLLECTION. Refer to Coagulation Specimen Handling before collecting.
Important Note
A Prothrombin Time must be performed first and billed. The Pro 50/50 mixing study will be credited and not performed if the initial Prothrombin Time is normal.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Photo Optical Clot Detection

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>50/50 Mixing Study-Protime Time</td>
<td>85611</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
Screen interpretation required

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — PROTHROMBIN TIME 50/50 MIXING STUDY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top tube</td>
<td>Plasma</td>
<td>Ambient</td>
<td>To fill line</td>
<td>1.8 mL plasma</td>
<td>1.8 mL plasma</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

*TUBE MUST BE FULL AT COLLECTION. Refer to [Coagulation Specimen Handling](#) before collecting. Submit frozen plasma if sample is delayed more than 24 hours.
Important Note
This code is used only for Medicare patients with a screening PSA. Medicare will pay for one per year.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Same day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSA (Prostatic Specific Antigen)</td>
<td>84153</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Advia Centaur

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
# Specimen Information — PSA (PROSTATE SPECIFIC ANTIGEN) SCREENING

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
## Reference Range — PSA (PROSTATE SPECIFIC ANTIGEN) SCREENING

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 50 years</td>
<td>Male</td>
<td>N/A</td>
<td>0</td>
<td>2.5</td>
<td>ng/mL</td>
</tr>
<tr>
<td>50-59 years</td>
<td>Male</td>
<td>N/A</td>
<td>0</td>
<td>3.5</td>
<td>ng/mL</td>
</tr>
<tr>
<td>60-69 years</td>
<td>Male</td>
<td>N/A</td>
<td>0</td>
<td>4.5</td>
<td>ng/mL</td>
</tr>
<tr>
<td>&gt;n 70 years</td>
<td>Male</td>
<td>N/A</td>
<td>0</td>
<td>6.5</td>
<td>ng/mL</td>
</tr>
</tbody>
</table>
**PSA  PSA (PROSTATE SPECIFIC ANTIGEN), DIAGNOSTIC**

*University of Vermont Medical Center*

**Important Note**
Test subject to Medicare Local Medical Review Policy 190.31 - Prostate Specific Antigen.

**Test Schedule / Analytical Time / Test Priority**
Monday – Friday / Same day / Not available STAT

**Method**
Chemiluminescent Immunoassay

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSA (Prostatic Specific Antigen)</td>
<td>84153</td>
</tr>
</tbody>
</table>

**Instrumentation**
Siemens Advia Centaur

**Section**
Chemistry-2

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
# Reference Range — PSA (PROSTATE SPECIFIC ANTIGEN), DIAGNOSTIC

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 50 years</td>
<td>Male</td>
<td>N/A</td>
<td>0</td>
<td>2.5</td>
<td>ng/mL</td>
</tr>
<tr>
<td>50-59 years</td>
<td>Male</td>
<td>N/A</td>
<td>0</td>
<td>3.5</td>
<td>ng/mL</td>
</tr>
<tr>
<td>60-69 years</td>
<td>Male</td>
<td>N/A</td>
<td>0</td>
<td>4.5</td>
<td>ng/mL</td>
</tr>
<tr>
<td>&gt;70 years</td>
<td>Male</td>
<td>N/A</td>
<td>0</td>
<td>6.5</td>
<td>ng/mL</td>
</tr>
</tbody>
</table>
PTT  PTT

University of Vermont Medical Center

Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.16 - Partial Thromboplastin Time (PTT).

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Photo Optical Clot Detection

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTT</td>
<td>85730</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
Varies according to reagent lot, see report or call if needed.

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>4 hours</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>0.5 mL plasma</td>
<td>6 months</td>
</tr>
</tbody>
</table>

TUBE MUST BE FULL AT COLLECTION. Whole blood should remain at ambient temperature until processed. If you are using the PTT result to monitor heparin therapy sample MUST be processed within **75 minutes of collection**. Refer to Coagulation Specimen Handling prior to collection. Submit frozen plasma if not received in the lab within 4 hours.
Important Note
A Partial Thromboplastin Time must be performed first and billed. The PTT 50/50 mixing study will be credited and not performed if the initial PTT is normal.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Photo Optical Clot Detection

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>50/50 Mixing Study-PTT</td>
<td>85732</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
Screen interpretation required.

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — PTT 50/50 MIXING STUDY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>4 hours</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>1 mL plasma</td>
<td>6 months</td>
</tr>
</tbody>
</table>

Tube must be filled to the fill line. Please note on the laboratory requisition if the patient is on heparin. Refer to Coagulation Specimen Handling before collecting. *Submit frozen plasma if the lab will not receive the sample within 4 hours.*
Important Note
Hematology/Oncology and pathology use only. Submit the Rapid Heme Panel Test Requisition available in the side panel. This testing is subject to the Molecular Pathology LCD (81450) however, PRISM would not set it up in Epic checker since that policy does not work in Epic. An ABN would most likely be needed since it is not specifically identified as a covered CPT code in the policy.

Test Schedule / Analytical Time / Test Priority
Monday - Thursday / Unknown / Not available STAT

Section
Reference Lab: Brigham and Womens Hospital

Specimen Information — RAPID HEME PANEL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTA Tube (Purple Top)</td>
<td>Bone Marrow</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>4 mL</td>
<td>2 mL</td>
</tr>
<tr>
<td>EDTA Tube (Purple Top)</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>4 mL</td>
<td>2 mL</td>
</tr>
</tbody>
</table>
University of Vermont Medical Center

Important Note
This test should only be used for immunocompromised patients or extremely ill inpatients in whom influenza and RSV testing is negative.

Viruses tested for are:
- Rhinovirus
- Adenovirus
- Parainfluenza Virus type 1 - 4
- Human Metapneumovirus

Specimen Information

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viral Collection Kit (M6)</td>
<td>Nasopharyngeal</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>4 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>Respiratory Fluid</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>4 days</td>
</tr>
</tbody>
</table>

This test can be ordered as an add on test up to four days after sample collection.
COLLECTION
1. Insert the tip of the floqswab swab into a nostril to obtain a specimen from the posterior nasopharynx.
2. Do not force the swab; resistance will be felt when the posterior nasopharynx is reached.
3. Rotate the swab and leave it in place for 10-30 seconds or until the patient coughs.
4. Repeat the process for the second nostril

Test Schedule / Analytical Time / Test Priority
Daily / One day / Not available STAT

Method
Nucleic Acid Amplification

CPT(s)

<table>
<thead>
<tr>
<th>Narrative</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory Virus</td>
<td>87632 x 1</td>
</tr>
</tbody>
</table>

Instrumentation
Hologic Panther Fusion

Reference Range
No virus detected

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
No

RET  RETICULOCYTE COUNT

University of Vermont Medical Center

Important Note
Retic count must be done within 48 hours of collection.

Test Schedule / Analytical Time / Test Priority
Daily / 24 hours / Available STAT

Method
Automated Cell Counter

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reticulocyte Count</td>
<td>85045</td>
</tr>
</tbody>
</table>

Instrumentation
Sysmex XN 9000

Reference Range
0.5 – 2.5%

Section
Hematology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
</tr>
<tr>
<td>*Lavender Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Invert tube gently 10 times.
*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
RFS  RHEUMATOID FACTOR

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday, run starts at 10 am / Same day / Not available STAT

Method
Turbidometric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rheumatoid Factor</td>
<td>86431</td>
</tr>
</tbody>
</table>

Instrumentation
Binding Site Optilite

Reference Range
<12.5 IU/mL

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Page 732
### Specimen Information — RHEUMATOID FACTOR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>5 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Heparinized plasma (green top) is NOT acceptable. Markedly hemolyzed or lipemic samples are not acceptable.
**RNPA  RNP ANTIBODY**

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**
Tuesday and Thursday / Same Day / Not available STAT

**Method**
ELISA

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>RNP Antibody</td>
<td>86235</td>
</tr>
</tbody>
</table>

**Instrumentation**
Inova Quantalyzer

**Reference Range**
Negative: <20 Units  
Weak Positive: 20-39 Units  
Moderate Positive: 40-80 Units  
Strong Positive: >80 Units

**Section**
Immunology

**Is the UVMMC lab NY State Certified to perform this testing?**  Yes/No
No

---

**Specimen Information — RNP ANTIBODY**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Frozen</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.4 mL</td>
</tr>
</tbody>
</table>

Serum should be separated from clotted blood and stored at 2 - 8 C within 4 hours of collection. If the assay will not be completed within 48 hours of collection or for shipment of the specimen, freeze at -20 C or lower.
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubella IgG Antibody</td>
<td>86762</td>
</tr>
</tbody>
</table>

Instrumentation
Diasorin Liaison XL

Reference Range
Negative: Absence of detectable Rubella virus IgG antibodies. A negative result indicated no detectable antibody, but does not rule out acute infection.
Equivocal: Recommend collecting a second sample for testing in no less than one to two weeks.
Positive: Presence of detectable Rubella virus IgG antibodies.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — RUBELLA IgG ANTIBODY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salicylate Qualitative</td>
<td>80329</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
Negative: <2 mg/dL
Therapeutic: <20 mg/dL
Toxic: >30 mg/dL

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
**Specimen Information — SALICYLATE**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.*
Important Note

*S. haemotobium* adults are found in the portal vein of the urinary bladder in the infected human. Laboratory recovery depends upon repeated daily examinations of *fresh urine specimens collected around noon.*

Test Schedule / Analytical Time / Test Priority

Monday – Friday / Same day / Not available STAT

Method

Urine Concentration Exam

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schistosome Exam, Urine</td>
<td>87177</td>
</tr>
</tbody>
</table>

Instrumentation

Manual Method

Reference Range

No parasites seen

Section

Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No

Yes
### Specimen Information — SCHISTOSOMA EXAM, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Ambient</td>
<td>5 mL</td>
<td>1 mL</td>
<td>1 mL</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

Repeat daily examination is optimal for recovery of parasites. Deliver specimen to laboratory as soon as possible. If sample cannot be delivered to the lab within 2 hours of sample collection, sample should be preserved with Total Fix. Use equal volume of Total Fix and urine collected. Contact Laboratory Customer Service for Total Fix Vials at 847-5121.
**Important Note**
This test is NOT ORDERABLE as a stand alone test it is a possible reflex test for the Lupus Anticoagulant Cascade.

**Test Schedule / Analytical Time / Test Priority**
Monday – Friday / Same day / Not available STAT

**Method**
Clot Based Assay

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica Clotting Time</td>
<td>85732</td>
</tr>
</tbody>
</table>

**Instrumentation**
ACL TOP500

**Reference Range**
Reported in seconds. Ranges are subject to change with subsequent reagent lot numbers.

**Section**
Coagulation

**Is the UVMMC lab NY State Certified to perform this testing?** Yes

---

**SWE  SED RATE, WESTERGREN**

**University of Vermont Medical Center**

**Test Schedule / Analytical Time / Test Priority**
Daily / 24 Hours / Available STAT

**Method**
Westergren

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sed. Rate Westergren</td>
<td>85662</td>
</tr>
</tbody>
</table>

**Instrumentation**
ISED

**Section**
Hematology

**Is the UVMMC lab NY State Certified to perform this testing?** Yes

Yes
Mix tube well. Specimen must be refrigerated and delivered to the laboratory within 11 hrs. Samples that are kept at ambient temperature must be delivered to the laboratory within 3 hours.
### Reference Range — SED RATE, WESTERGREN

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;49 years</td>
<td>Female</td>
<td>N/A</td>
<td>0</td>
<td>20</td>
<td>mm/hr</td>
</tr>
<tr>
<td>&gt;50 years</td>
<td>Female</td>
<td>N/A</td>
<td>0</td>
<td>30</td>
<td>mm/hr</td>
</tr>
<tr>
<td>&lt;49 years</td>
<td>Male</td>
<td>N/A</td>
<td>0</td>
<td>15</td>
<td>mm/hr</td>
</tr>
<tr>
<td>&gt;50 years</td>
<td>Male</td>
<td>N/A</td>
<td>0</td>
<td>20</td>
<td>mm/hr</td>
</tr>
</tbody>
</table>
Important Note
The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Same day / Not available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex Hormone Binding Globulin</td>
<td>84270</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Centaur XP

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — SEX HORMONE BINDING GLOBULIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td>6 days</td>
</tr>
<tr>
<td>Age</td>
<td>Sex</td>
<td>Physiological Status</td>
<td>Low</td>
<td>High</td>
<td>Units</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>---------</td>
<td>----------------------</td>
<td>-------</td>
<td>--------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>21-60 years</td>
<td>Female</td>
<td>Pre-menopausal</td>
<td>&gt;10.8</td>
<td></td>
<td>nmol/L</td>
<td></td>
</tr>
<tr>
<td>45-89 years</td>
<td>Female</td>
<td>Post-menopausal</td>
<td>23.2</td>
<td>159.1</td>
<td>nmol/L</td>
<td></td>
</tr>
<tr>
<td>21 - 49 Years</td>
<td>Male</td>
<td>N/A</td>
<td>14.6</td>
<td>94.6</td>
<td>nmol/L</td>
<td></td>
</tr>
<tr>
<td>≥50</td>
<td>Male</td>
<td>N/A</td>
<td>21.6</td>
<td>113.1</td>
<td>nmol/L</td>
<td></td>
</tr>
</tbody>
</table>

The results of this assay can be **falsely lowered** due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.
HGMON  SICKLING HEMOGLOBIN THERAPEUTIC MONITORING

University of Vermont Medical Center

Important Note
This test is not intended for diagnostic purposes, it is assumed the patient's diagnosis is established. If the patient has never had a hemoglobin/thalassemia evaluation (HBEVAL) then this should be done first.
Samples on newborns under the age of 28 days are not acceptable for analysis by this method.

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, and Friday, run starts at noon / Same Day / Not available STAT

Method
Capillary Electrophoresis

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sickling Hgb Therapeutic Monitoring</td>
<td>83020</td>
</tr>
</tbody>
</table>

Instrumentation
Sebia Capillaries 2 Flex

Reference Range
Hgb A = 96.7-97.8%
Hgb F = <2.0%
Hgb A2 = 2.2-3.2%
Other Hgb = 0%

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Page 747
## Specimen Information — SICKLING HEMOGLOBIN THERAPEUTIC MONITORING

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top (EDTA) Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Submit whole blood, do not freeze.
SCCONF  SILICA CLOTTING TIME CONFIRMATION TEST

University of Vermont Medical Center

Important Note
This test is NOT orderable as a stand alone test, it is a reflex test and will be performed if the Silica Clotting Time is greater than the upper limit. It is preferable the patient sample is obtained from a patient free of anticoagulation therapy, particularly warfarin, direct thrombin inhibitors, and anti-Xa medications.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Same day / Not available STAT

Method
Clot Based Assay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica Confirmation Test</td>
<td>85372</td>
</tr>
</tbody>
</table>

Instrumentation
ACL TOP500

Reference Range
Reported in seconds, ranges are subject to change with subsequent reagent lot numbers.

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
**Specimen Information — SILICA CLOTTING TIME CONFIRMATION TEST**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube *Platelet Poor Plasma</td>
<td>Frozen</td>
<td>3.5 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>6 Months</td>
<td></td>
</tr>
<tr>
<td>Blue Top Tube Whole Blood</td>
<td>Ambient</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
<td>3 hours</td>
<td></td>
</tr>
</tbody>
</table>

*Refer to Coagulation Specimen Handling. Spin down and remove plasma from cells, respin and remove plasma from cell button, place this platelet poor plasma into a plastic vial and freeze at -40°C.
**SIRO**  **SIROLIMUS**

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**

"**Monday, Wednesday, and Friday, run starts at 11 am / Same day / Not available STAT**

"**Tuesday and Thursday and weekends if there are inpatients, Stats, samples from pediatric nephrology or upon request from Transplant.**

**Method**

Chemiluminescent Immunoassay

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sirolimus</td>
<td>80195</td>
</tr>
</tbody>
</table>

**Instrumentation**

Abbott Architect i1000

**Reference Range**

Therapy dependent

**Section**

Chemistry-2

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**

Yes
### Specimen Information — SIROLIMUS

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
**SMAA  Sm (SMITH) ANTIBODY**

**University of Vermont Medical Center**

**Test Schedule / Analytical Time / Test Priority**
Tuesday and Thursday / Same Day / Not available STAT

**Method**
ELISA

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sm (Smith) Antibody</td>
<td>86235</td>
</tr>
</tbody>
</table>

**Instrumentation**
Inova Quantalyzer

**Reference Range**
Negative: <20 Units  
Weak Positive: 20-39 Units  
Moderate Positive: 40-80 Units  
Strong Positive: >80 Units

**Section**
Immunology

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes

**Specimen Information — Sm (SMITH) ANTIBODY**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Frozen</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.4 mL</td>
</tr>
</tbody>
</table>

Serum should be separated from clotted blood and stored at 2 - 8 C within 4 hours of collection. If the assay will not be completed within 48 hours of collection or for shipment of the specimen, freeze at -20 C or lower.
**SODIUM**

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**
Daily / 1 day / Available STAT

**Method**
Potentiometric

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium</td>
<td>84295</td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros

**Reference Range**
136 – 145 mEq/L

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?**
Yes

Yes
Specimen Information — SODIUM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
Important Note
The 24 hour urine sample should be delivered to the lab within 12 hours of collection completion.

Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / Same day / Available STAT

Method
Ion – Specific Electrode

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium, Urine</td>
<td>84300</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
Adult Female: 27 – 287 mEq/24 Hour
Adult Male: 40 - 220 mEq/24 Hour

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

---

Specimen Information — SODIUM, URINE, 24 HOUR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Hour Urine Jug A</td>
<td>24 Hour Urine</td>
<td>Refrigerate</td>
<td>24 Hour Urine</td>
<td>10 mL</td>
<td>1 mL</td>
</tr>
</tbody>
</table>
**UNAR**  
**SODIUM, URINE, RANDOM**

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**
Daily 8 am-4:30 pm / Same day / Available STAT

**Method**
Ion – Specific Electrode

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium, Urine</td>
<td>84300</td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros

**Reference Range**
No reference range available for random samples.

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes

---

**Specimen Information — SODIUM, URINE, RANDOM**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>10 mL</td>
<td>1 mL</td>
</tr>
</tbody>
</table>
Important Note
The Genomic Medicine Laboratory at the University of Vermont Medical Center offers a solid tumor profiling, next generation sequencing test that employs all-coding region target capture for 30 genes. The panel genes fall into 3 distinct classes, oncogenes, tumor suppressors and metabolic. Together they provide a broad spectrum of potential drivers of solid tumor formation and metastasis. The distinction between Gene Panel Solid Tumor and Gene Panel Solid Tumor Non-Small Cell Lung Cancer is the inclusion in the latter of RNA sequencing for the detection of fusion gene products from the oncogenes ALK, RET and ROS1. Extracted eluates may be accepted with Pathologist approval.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 10 - 14 days / Not available STAT

Method
Total nucleic acid, DNA plus RNA, extracted from cytology slide preparations and formalin-fixed paraffin embedded tissue are analyzed for Gene Panel Solid Tumor and Gene Panel Solid Tumor Non-Small Cell Lung Cancer. Our DNA test employs Agilent SureSelect library preparation and target capture and the RNA sequencing portion of Gene Panel Solid Tumor Non-Small Cell Lung Cancer utilizes ArcherDx FusionPlex amplicon library preparation. Sequencing is performed on Illumina MiSeq, MiSeqDx and NextSeq instrumentation.

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid Tumor Gene Panel</td>
<td>81445</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Extraction and Illumina miseq for Sequencing

Section
Genomic Medicine
## Specimen Information — SOLID TUMOR TESTING

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formalin fixed paraffin embedded tissue or cell block</td>
<td>Tissue</td>
<td>Ambient</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cytology Slide Preparation</td>
<td>Slide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cytology slide preparations. Please inquire about compatible staining for DNA and RNA sequencing.

All specimens must contain ≥ 10% tumor cells.

Extracted eluates may be accepted with Pathologist approval.

**Nucleic Acid Input Amounts**
- DNA, 100 ng
- RNA, 150 ng
SPECIFIC GRAVITY, URINE

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Refractometer

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refractometer Specific Gravity, Urine</td>
<td>81099</td>
</tr>
</tbody>
</table>

Instrumentation
Refractometer

Reference Range
1.001 – 1.035

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — SPECIFIC GRAVITY, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>12 mL</td>
<td>12 mL</td>
<td>12 mL</td>
</tr>
</tbody>
</table>
**VALSCN  Specimen Tampering/Validity Panel, Urine**

**Aspent Health Laboratory**

**Important Note**
Specimen Tampering/Validity Panel, Urine, test information.
This test is not orderable as a stand alone test.

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT

---

**SPSCN  SPERM SCREEN**

**University of Vermont Medical Center**

**Important Note**
The sample must be delivered to the laboratory within four hours.

**Test Schedule / Analytical Time / Test Priority**
Monday – Friday 8:00 am - 4:00 pm / 1 day / Not available STAT

**Method**
Microscope

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sperm Screen</td>
<td>89321</td>
</tr>
</tbody>
</table>

**Instrumentation**
Manual Method

**Reference Range**
- Vasovasostomy: Sperm present
- Post Vasectomy: No motile sperm.

**Section**
Hematology

**Is the UVMCC lab NY State Certified to perform this testing? Yes/No**
Yes
### Specimen Information — SPERM SCREEN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Semen</td>
<td>Ambient</td>
<td>2 mL</td>
<td>2 mL</td>
<td>0.3 mL</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

The sample should be collected after abstaining from ejaculation for 2 to 7 days. The use of lubricants should be avoided during collection. Collect the entire ejaculate in container, store at room temperature and deliver to the laboratory within four hours.
SSAA  SS-A ANTIBODY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Tuesday and Thursday / Same Day / Not available STAT

Method
ELISA

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSA Antibody</td>
<td>86235</td>
</tr>
</tbody>
</table>

Instrumentation
Inova Quantalyzer

Reference Range
Negative: <20 Units
Weak Positive: 20-39 Units
Moderate Positive: 40-80 Units
Strong Positive: >80 Units

Section
Immunology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
No

Specimen Information — SS-A ANTIBODY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Frozen</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.4 mL</td>
</tr>
</tbody>
</table>

Serum should be separated from clotted blood and stored at 2 - 8 C within 4 hours of collection. If the assay will not be completed within 48 hours of collection or for shipment of the specimen, freeze at -20 C or lower.
SSBA  SS-B ANTIBODY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Tuesday and Thursday / Same Day / Not available STAT

Method
ELISA

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSb Antibody</td>
<td>86235</td>
</tr>
</tbody>
</table>

Instrumentation
Inova Quantalyzer

Reference Range
Negative: <20 Units
Weak Positive: 20-39 Units
Moderate Positive: 40-80 Units
Strong Positive: >80 Units

Section
Immunology

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
No

Specimen Information — SS-B ANTIBODY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Frozen</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.4 mL</td>
</tr>
</tbody>
</table>

Serum should be separated from clotted blood and stored at 2 - 8 C within 4 hours of collection. If the assay will not be completed within 48 hours of collection or for shipment of the specimen, freeze at -20 C or lower.
SSABPL  SSA/SSB ANTIBODY PANEL

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Tuesday and Thursday / Same Day / Not available

Method
ELISA

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSA Antibody</td>
<td>86235</td>
</tr>
<tr>
<td>SSB Antibody</td>
<td>86235</td>
</tr>
</tbody>
</table>

Instrumentation
Inova Quantalyzer

Reference Range
Negative: <20 Units
Weak Positive: 20-39 Units
Moderate Positive: 40-80 Units
Strong Positive: >80 Units

Section
Immunology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
No

Specimen Information — SSA/SSB ANTIBODY PANEL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Frozen</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.4 mL</td>
</tr>
</tbody>
</table>

Serum should be separated from clotted blood and stored at 2 - 8 C within 4 hours of collection. If the assay will not be completed within 48 hours of collection or for shipment of the specimen, freeze at -20 C or lower.
Important Note
Samples must be received in the lab within 24 hours of collection.
Please specify site of collection.
Testing includes culture, identification of Staphylococcus aureus (additional charges/CPT codes may apply) and if present, susceptibility testing (at additional charge).

Test Schedule / Analytical Time / Test Priority
Daily / Reported when positive, negative final at 48 hours / Not available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture for Staphylococcus Coagulase Positive</td>
<td>87081</td>
</tr>
</tbody>
</table>

Reference Range
No Staphylococcus aureus Isolated.

Section
Microbiology-1

Is the UVMCC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial/Yeast Collection Kit</td>
<td>Nares</td>
<td>Refrigerate</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

Please specify site. Samples must be received in lab within 24 hours of collection.
SCCPB  STEM CELL CD34 BLOOD

University of Vermont Medical Center

Important Note
A hemogram and differential (CBCDF) must be ordered on the same tube as the SCCPB.

Test Schedule / Analytical Time / Test Priority
Monday – Saturday / 24-Hours / Not available STAT

Method
Flow Cytometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stem Cell CD34 Blood</td>
<td>86367</td>
</tr>
</tbody>
</table>

Instrumentation
Beckman Coulter FC500

Section
Flow Cytometry

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — STEM CELL CD34 BLOOD

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top (EDTA)</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>4 mL</td>
<td>4 mL</td>
<td>2 mL</td>
</tr>
</tbody>
</table>
Important Note
This test is used for testing autoclave temperature. In addition to test ampule, send ampule that has not been autoclaved to serve as a control, label as such. Ampules can be ordered from Customer Service 847-5121

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 48 hours / Not available STAT

Method
Biological Indicator to Monitor Steam Sterilization Methods.

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterility Test</td>
<td>87070</td>
</tr>
</tbody>
</table>

Reference Range
Reported as negative or positive.

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Autoclave Monitoring

**Purpose:** The ATTEST is used as a biological indicator for saturated steam sterilization cycles. The spore phase of the chosen microorganism is resistant to moist heat sterilization and is used to validate the lethality of steam sterilization. You must have a UVM Medical Center Account Number to order this test. Call Laboratory Customer Service if you have questions.

**Precautions:** ATTEST Ampules contain live cultures and should be handled with care to prevent breakage. Use ampule only once.

**Storage:** Store at ambient temperature, between 59 – 86°F. Do not store near sterilants or other chemicals. ATTESTs are good for two years after manufacture date, which is printed on the box.

**Procedure:**
1. Place unopened ATTEST in the autoclave. Vial may be included with a normal load or they may be tested alone.
2. Follow usual procedures for running a load for sterilization.
3. Remove vial when cool.
4. Check the chemical indicator on the label for a color change from rose to brown.
5. Each time an ATTEST is submitted, a control must be included. Use one ATTEST that has NOT been autoclaved and with a sharpie mark “Control” on it.
6. Complete laboratory requisition. In the name field on the requisition put “SPORE TESTING”. Each specimen should also be uniquely identified for your office’s record keeping. Check off your 96 account number.
7. Take ATTEST and wrap them in a paper towel. Place in specimen bag. Place bag in REFRIGERATOR. Send with next shipment of specimens. Specimens must remain refrigerated in transport.
8. Test vials must be sent to lab within 24 hours of sterilization.
9. Results will be returned within two weeks.

**Interpretation:** Spore growth indicates autoclave is not functioning properly. Consult manufacturer before using autoclave.

### Specimen Information — STERILIZER TEST

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autoclave Check</td>
<td>N/A</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>24 hours</td>
</tr>
</tbody>
</table>


VSTIM  Stimulants Panel, Urine

Aspenti Health Laboratory

Important Note
Routine drug screen for inpatients and ambulatory clinics. Test includes the following tests:
Amphetamine Screen-Urine
Cocaine Metabolite (Benzylecgonine) Screen-Urine
Ecstasy MDMA Screen-Urine

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 24 Hours / Not Available STAT

SXPNAG  STREP PNEUMONIAE URINE ANTIGEN DETECTION

University of Vermont Medical Center

Important Note
Sample must be received within 24 hours.
A negative result does not exclude infection with S.pneumoniae. Use urine antigen test in conjunction with culture, other tests and clinical findings to make an accurate diagnosis. Recently administered Strep. pneumoniae vaccine may cause false positive results. Colonization with Strep pneumo can cause false positive.

Test Schedule / Analytical Time / Test Priority
Daily / 24 hours / Not available STAT

Method
Immunochromatographic Membrane Assay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strp pneumoniae Urine Antigen Detection</td>
<td>87899</td>
</tr>
</tbody>
</table>

Reference Range
Negative

Section
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
### Specimen Information — STREP PNEUMONIAE URINE ANTIGEN DETECTION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>10 mL</td>
<td>10 mL</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

Sample must be received within 24 hours.
SWEAT  SWEAT TEST

University of Vermont Medical Center

Important Note
Sample collection for sweat testing is performed by Dr. Lahiri's office and must be scheduled through them at 847-8600. Samples must be received in the lab by 2 pm.

Specimen Information
Sample collection for sweat testing is performed by Dr. Lahiri's office and must be scheduled through them at 847-8600. Samples must be received in the lab by 2 pm.

Test Schedule / Analytical Time / Test Priority
Monday, Tuesday, Thursday / Same day / Not available STAT

Method
Chlorochek

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloride</td>
<td>82438</td>
</tr>
</tbody>
</table>

Instrumentation
Labconco Digital 926s Chloridometer

Reference Range
All ages
≤29 mmol/L Unlikely for CF
30-59 mmol/L Intermediate
≥60 mmol/L Indicative of CF

Section
Chemistry-2

Is the UVMCC lab NY State Certified to perform this testing? Yes/No
Yes

SYNCAN  Synthetic Cannabinoids Screen, Urine

Aspenti Health Laboratory

Important Note
Routine drug screen for inpatients and ambulatory clinics. Synthetic Cannabinoids Screen, Urine, test information.

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 24 Hours / Not Available STAT

SYPH  SYPHILIS SEROLOGY

University of Vermont Medical Center

Important Note
This test is subject to reflex testing, see Laboratory Reflex Testing Policy. You have the option to decline reflex testing if you believe it is not medically necessary. Samples that are reactive will reflex an Syphilis Ab IgG (Mayo Test Code SYPGR) and will be sent to Mayo Clinic Laboratories for testing. You have the option to decline reflex testing if you believe it is not medically necessary. This test is subject to Medicare Preventive Service Coverage policy for Screening for Sexually Transmitted Infections (STI's) and High Intensity Behavioral Counseling (HIBC) to Prevent STI's.

Test Schedule / Analytical Time / Test Priority
Monday - Friday, run starts at 9 am / 1 day / Not available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syphilis Serology</td>
<td>86780</td>
</tr>
</tbody>
</table>
Instrumentation
Diasorin Liaison XL

Reference Range
Negative

Section
Chemistry-2

Is the UVMCC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>0.8 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Samples that are markedly lipemic, markedly hemolyzed or markedly icteric are not acceptable.


**FREET3  ** T₃, FREE

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**

Daily / Same day / Available STAT

**Method**

Competitive Immunoassay

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>T₃, Free</td>
<td>84481</td>
</tr>
</tbody>
</table>

**Instrumentation**

Ortho Vitros 5600

**Section**

Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes

Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Lithium Heparin (Green Top) Tube</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
## Reference Range — T3, FREE

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>No pediatric ranges</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>pg/mL</td>
</tr>
<tr>
<td>≥18 Years</td>
<td>All</td>
<td></td>
<td>2.8</td>
<td>5.3</td>
<td>pg/mL</td>
</tr>
</tbody>
</table>
TT3  T3, TOTAL

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Available STAT

Method
Competitive Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>T3, Total</td>
<td>84480</td>
</tr>
</tbody>
</table>

Instrumentation
Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
## Specimen Information — T3, TOTAL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Lithium Heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td></td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
### Reference Range — T3, TOTAL

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 3 days</td>
<td>All</td>
<td></td>
<td>60</td>
<td>300</td>
<td>ng/dL</td>
</tr>
<tr>
<td>4 - 365 days</td>
<td>All</td>
<td></td>
<td>90</td>
<td>260</td>
<td>ng/dL</td>
</tr>
<tr>
<td>1 - 6 years</td>
<td>All</td>
<td></td>
<td>90</td>
<td>240</td>
<td>ng/dL</td>
</tr>
<tr>
<td>7 - 11 years</td>
<td>All</td>
<td></td>
<td>90</td>
<td>230</td>
<td>ng/dL</td>
</tr>
<tr>
<td>12 - 18 years</td>
<td>All</td>
<td></td>
<td>100</td>
<td>210</td>
<td>ng/dL</td>
</tr>
<tr>
<td>≥18 years</td>
<td>All</td>
<td></td>
<td>97</td>
<td>169</td>
<td>ng/dL</td>
</tr>
</tbody>
</table>
Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.22 - Thyroid Testing.

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Available STAT

Method
Competitive Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>T4, Free</td>
<td>84439</td>
</tr>
</tbody>
</table>

Instrumentation
Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — T4, FREE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*Yellow Microtainer</td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
### Reference Range — T4, FREE

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 3 days</td>
<td>All</td>
<td></td>
<td>2.0</td>
<td>5.0</td>
<td>ng/dL</td>
</tr>
<tr>
<td>4 - 30 days</td>
<td>All</td>
<td></td>
<td>0.9</td>
<td>2.2</td>
<td>ng/dL</td>
</tr>
<tr>
<td>30 days - 18 years</td>
<td>All</td>
<td></td>
<td>0.8</td>
<td>2.0</td>
<td>ng/dL</td>
</tr>
<tr>
<td>≥18 years</td>
<td>All</td>
<td></td>
<td>0.8</td>
<td>2.2</td>
<td>ng/dL</td>
</tr>
</tbody>
</table>
Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.22 - Thyroid Testing.

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Available STAT

Method
Competitive Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>T4</td>
<td>84436</td>
</tr>
</tbody>
</table>

Instrumentation
Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
**Specimen Information — T4, TOTAL**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium Heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td></td>
</tr>
<tr>
<td><em>Green Microtainer</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
### Reference Range — T4, TOTAL

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 3 days</td>
<td>All</td>
<td></td>
<td>8.0</td>
<td>20.0</td>
<td>ug/dL</td>
</tr>
<tr>
<td>4 - 30 days</td>
<td>All</td>
<td></td>
<td>5.0</td>
<td>15.0</td>
<td>ug/dL</td>
</tr>
<tr>
<td>31 - 365 days</td>
<td>All</td>
<td></td>
<td>6.0</td>
<td>14.0</td>
<td>ug/dL</td>
</tr>
<tr>
<td>1 - 5 years</td>
<td>All</td>
<td></td>
<td>4.5</td>
<td>11.0</td>
<td>ug/dL</td>
</tr>
<tr>
<td>6 - 18 years</td>
<td>All</td>
<td></td>
<td>4.5</td>
<td>10.0</td>
<td>ug/dL</td>
</tr>
<tr>
<td>≥18</td>
<td>All</td>
<td></td>
<td>5.5</td>
<td>11.0</td>
<td>ug/dL</td>
</tr>
</tbody>
</table>
FK506  TACROLIMUS

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday*, run starts at 12 pm / Same day / Not available STAT *Available weekends for inpatients and Transplant.

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tacrolimus</td>
<td>80197</td>
</tr>
</tbody>
</table>

Instrumentation
Abbott Architect i1000

Reference Range
Therapy dependent

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — TACROLIMUS

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>1 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Lavender Microtainer</td>
<td></td>
<td></td>
<td>0.5 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Do not spin.
*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
**VTAP  Tapentadol Screen, Urine**

Aspenti Health Laboratory

**Important Note**
Routine drug screen for inpatients and ambulatory clinics.
Tapentadol Screen, Urine, test information.

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not Available STAT

---

**QFTB4  TB BY QUANTIFERON GOLD PLUS**

University of Vermont Medical Center

**Important Note**
TB by Quantiferon Testing has special collection and processing. This test must be scheduled in advance by contacting Laboratory Customer Service at 847-5121 or 1-800-991-2799. This test can only be collected Monday through Friday 8 am - 5 pm. Collection and testing schedule may be subject to change, please contact Laboratory Customer Service if you have questions (847-5121). Please review Special Test Consideration for more information.

**Specimen Information**
TB by Quantiferon Testing has special collection and processing. This test must be scheduled in advance by contacting Laboratory Customer Service at 847-5121 or 1-800-991-2799. This test can only be collected Monday through Friday 8 am - 5 pm. Collection and testing schedule may be subject to change, please contact Laboratory Customer Service if you have questions (847-5121).

**Test Schedule / Analytical Time / Test Priority**
Monday, Wednesday and Friday run starts at 8 a.m. / Same day / Not available STAT

**Method**
ELISA

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB by Quantiferon</td>
<td>86480</td>
</tr>
</tbody>
</table>

**Instrumentation**
Dynex DSX

**Reference Range**
Negative

**Section**
Immunology

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes

---

**TESTO2  TESTOSTERONE**

University of Vermont Medical Center

**Important Note**
The results of this assay can be falsely elevated due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood draw.

**Test Schedule / Analytical Time / Test Priority**
Monday – Friday / Same day / Not available STAT

**Method**
Chemiluminescent Immunoassay

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testosterone</td>
<td>84403</td>
</tr>
</tbody>
</table>
Instrumentation
Siemens Centaur XP

Section
Chemistry-2

Is the UVMCC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — TESTOSTERONE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Age</td>
<td>Sex</td>
<td>Physiological Status</td>
<td>Low</td>
<td>High</td>
<td>Units</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>----------------------</td>
<td>-------</td>
<td>--------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>2 - 10 Years</td>
<td>Male</td>
<td>&lt;29 ng/dL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Years</td>
<td>Male</td>
<td>&lt;353 ng/dL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Years</td>
<td>Male</td>
<td>&lt;562 ng/dL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 Years</td>
<td>Male</td>
<td>8 - 583 ng/dL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Years</td>
<td>Male</td>
<td>20 - 777 ng/dL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 Years</td>
<td>Male</td>
<td>127 - 849 ng/dL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 - 18 Years</td>
<td>Male</td>
<td>113 - 882 ng/dL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥19 Years</td>
<td>Male</td>
<td>N/A</td>
<td>229</td>
<td>902</td>
<td>ng/dL</td>
<td></td>
</tr>
<tr>
<td>2 - 10 Years</td>
<td>Female</td>
<td>&lt;118 ng/dL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 - 15 Years</td>
<td>Female</td>
<td>&lt;39 ng/dL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 - 21 Years</td>
<td>Female</td>
<td>15 - 42 ng/dL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 - 60 Years</td>
<td>Female</td>
<td>Premenopause 9 - 48 ng/dL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 - 89 Years</td>
<td>Female</td>
<td>Postmenopause &lt;46 ng/dL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of this assay can be falsely elevated due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood draw.
Important Note
Test includes testosterone (total and free) and sex hormone binding globulin.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Same day / Not available STAT

Method
Chemiluminescent immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testosterone, Total</td>
<td>84403</td>
</tr>
<tr>
<td>Sex Hormone Binding Globulin</td>
<td>84270</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Centaur xp

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — TESTOSTERONE, TOTAL AND FREE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>0.8 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Age</td>
<td>Sex</td>
<td>Low</td>
<td>High</td>
<td>Units</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 - &lt;25</td>
<td>Male</td>
<td>4.7</td>
<td>18.3</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 - &lt;30</td>
<td>Male</td>
<td>4.6</td>
<td>17.5</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 - &lt;35</td>
<td>Male</td>
<td>4.4</td>
<td>16.8</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35 - &lt;40</td>
<td>Male</td>
<td>4.2</td>
<td>16.0</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40 - &lt;45</td>
<td>Male</td>
<td>4.1</td>
<td>15.2</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 - &lt;50</td>
<td>Male</td>
<td>4.0</td>
<td>14.5</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 - &lt;55</td>
<td>Male</td>
<td>3.8</td>
<td>13.8</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 - &lt;60</td>
<td>Male</td>
<td>3.6</td>
<td>13.1</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 - &lt;65</td>
<td>Male</td>
<td>6.1</td>
<td>12.4</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 - &lt;70</td>
<td>Male</td>
<td>3.3</td>
<td>11.6</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70 - &lt;75</td>
<td>Male</td>
<td>3.1</td>
<td>10.9</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75 - &lt;80</td>
<td>Male</td>
<td>2.9</td>
<td>10.1</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80 - &lt;85</td>
<td>Male</td>
<td>2.7</td>
<td>9.4</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>85 - &lt;90</td>
<td>Male</td>
<td>2.5</td>
<td>8.6</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90 - &lt;95</td>
<td>Male</td>
<td>2.4</td>
<td>7.9</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95 - &lt;100</td>
<td>Male</td>
<td>2.2</td>
<td>7.1</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 - &lt;30</td>
<td>Female</td>
<td>0.1</td>
<td>1.2</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 - &lt;50</td>
<td>Female</td>
<td>0.1</td>
<td>1.1</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 - &lt;65</td>
<td>Female</td>
<td>0.1</td>
<td>1.0</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 - &lt;85</td>
<td>Female</td>
<td>0.1</td>
<td>0.9</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>85 - &lt;100</td>
<td>Female</td>
<td>0.1</td>
<td>0.8</td>
<td>ng/dL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See Testosterone TESTO2 and Sex Hormone Binding Globulin SHBG2 for Reference Ranges.
**VCAN**  *THC Metabolites (Cannabinoids) Screen, Urine*

*Aspenti Health Laboratory*

**Important Note**

THC Metabolites (Cannabinoids) Screen, Urine, test information.

**Test Schedule / Analytical Time / Test Priority**

Monday - Friday / 24 Hours / Not Available STAT

---

**THEOP**  *THEOPHYLLINE*

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**

Daily / Same day / Available STAT

**Method**

Chemiluminescent Microparticle Immunoassay

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theophylline</td>
<td>80198</td>
</tr>
</tbody>
</table>

**Instrumentation**

Abbott Architect i1000

**Reference Range**

Trough: 10.0 – 20.0 ug/mL

**Section**

Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?**  Yes/No

Yes
**Specimen Information — THEOPHYLLINE**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>8 days</td>
</tr>
<tr>
<td><em>Green Microtainer</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Photo Optical Clot Detection

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thrombin Time</td>
<td>85670</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
Units: Seconds.
Range varies according to reagent lot, see report or call if needed.

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — THROMBIN TIME

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>4 hours</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>1 mL</td>
<td>1 mL</td>
<td>6 months</td>
</tr>
</tbody>
</table>

*Refer to Coagulation Specimen Handling prior to collection. Submit frozen plasma if the lab will not receive the sample within 3 hours.*
Important Note
This test requires a separate blue top collected just for this test. This test is subject to reflex testing, see Laboratory Reflex Testing Policy, you have the option to decline reflex testing if you believe it is not medically necessary. If the thrombelastograph assay has an R-value of >10 seconds TEG Heparinase (Additional CPT's billed: 85347, 85384 × 2, 85390, 85576) will be performed.

Phlebotomy or Operating Room collections require a separate blue top tube for testing. This test must be collected at the Main Campus only. The testing must begin within 2 hours. Samples are drawn through a 19-21 gauge butterfly needle. Collect a discard tube of 3 mL of blood prior to collection of the blue top tube. Keep blue top tube capped and at ambient temperature, do not spin. Collection time must be documented on the tube.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Not available STAT

Method
Thromboelastograph

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activated Coagulation time</td>
<td>85347</td>
</tr>
<tr>
<td>Fibrinogen Activity</td>
<td>85384 × 2</td>
</tr>
<tr>
<td>Fibrinolysis or Coagulopathy Screen</td>
<td>85390</td>
</tr>
<tr>
<td>Platelet Aggregation</td>
<td>85576</td>
</tr>
<tr>
<td>Interpretation</td>
<td>85390.26 or 85396</td>
</tr>
</tbody>
</table>

Instrumentation
Thromboelastograph

Reference Range
See report

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
The sample must be collected at the Main Campus. This test requires a separate blue top collected just for this test. Testing must begin within 2-hours. Samples are drawn through a 19-21 gauge butterfly needle. Collect a discard tube of 3 mL of blood prior to collection of the blue top tube. Keep Blue Top tube capped and at ambient temperature, do not spin. Collection time must be documented on the tube.

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>3.5 mL To fill line</td>
<td>3.5 mL</td>
<td>3.5 mL</td>
<td>2 hours</td>
</tr>
</tbody>
</table>
ATGL  THYROGLOBIN ANTIBODY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 1 day / Not available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti Thyroglobulin</td>
<td>86800</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Advia Centaur

Reference Range
<61 U/mL

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — THYROGLOBIN ANTIBODY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Important Note
Test includes Thyroperoxidase Antibody (TPO) and Thyroglobin Antibody (ATGL).

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Chemiluminescence Immunoassay

CPT(s)
See individual tests.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — THYROID ANTIBODIES

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
**THCAS**  THYROID CASCADE

*University of Vermont Medical Center*

**Important Note**

The Thyroid cascade is a reflex test where the reflex is part of the order and there is no option to decline the testing. TSH is done first. If the TSH is outside normal range a Free-T4 is ordered automatically (CPT: 84439). If the TSH is low and the Free-T4 is normal based on the appropriate reference range for the age/sex of the patient a Total -T3 is ordered (CPT: 84480).

Test subject to Medicare National Coverage Determination (NCD) 190.22 - Thyroid Testing.

Test is designed for ambulatory adults only.

**Test Schedule / Analytical Time / Test Priority**

Daily / 1 day / Available STAT

**Method**

See individual tests

**CPT(s)**

See individual tests

**Instrumentation**

Ortho Vitros 5600

**Reference Range**

See Individual Tests

**Section**

Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**

Yes

---

**Specimen Information — THYROID CASCADE**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>0.6 mL</td>
</tr>
</tbody>
</table>
Important Note
Test subject to Medicare National Coverage Determination (NCD) 190.22 - Thyroid Testing.
The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Immunometric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSH</td>
<td>84443</td>
</tr>
</tbody>
</table>

Instrumentation
Vitros 5600

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — THYROID STIMULATING HORMONE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
## Reference Range — THYROID STIMULATING HORMONE

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 3 days</td>
<td>All</td>
<td></td>
<td>1.00</td>
<td>20.00</td>
<td>uIU/mL</td>
</tr>
<tr>
<td>4 - 30 days</td>
<td>All</td>
<td></td>
<td>0.50</td>
<td>6.50</td>
<td>uIU/mL</td>
</tr>
<tr>
<td>31 days - 5 months</td>
<td>All</td>
<td></td>
<td>0.50</td>
<td>6.00</td>
<td>uIU/mL</td>
</tr>
<tr>
<td>6 months - 18 years</td>
<td>All</td>
<td></td>
<td>0.50</td>
<td>4.50</td>
<td>uIU/mL</td>
</tr>
<tr>
<td>≥18 years</td>
<td>All</td>
<td></td>
<td>0.47</td>
<td>4.68</td>
<td>uIU/mL</td>
</tr>
</tbody>
</table>

The results of this assay can be **falsely lowered** due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.
Test Schedule / Analytical Time / Test Priority
Monday - Friday / 1 day / Not available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thyroperoxidase Antibody</td>
<td>86376</td>
</tr>
</tbody>
</table>

Instrumentation
Siemens Advia Centaur

Reference Range
<61 U/mL

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — THYROPEROXIDASE ANTIBODY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
TTAB  TISSUE TRANSGLUTAMINASE ANTIBODY IgA

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday, Wednesday, and Friday / 1 day / Not available STAT

Method
ELISA

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tissue Transglutaminase Ab, IgA</td>
<td>83516</td>
</tr>
</tbody>
</table>

Instrumentation
Dynex DSX

Reference Range
<4 U/mL

Section
Immunology

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Frozen</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.4 mL</td>
<td></td>
</tr>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.4 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Serum should be separated from clotted blood and stored at 2 - 8 °C within 4 hours of collection. If the assay will not be completed within 7 days of collection or for shipment of the specimen, freeze at -20 °C or lower.
Important Note
Peak levels should be collected 30 minutes after completion of the infusion.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Two-point Rate

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobramycin</td>
<td>80200</td>
</tr>
</tbody>
</table>

Instrumentation
Vitros 5600

Reference Range
Peak: 5 – 12 ug/mL
Call Value: >12 ug/mL

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — TOBRAMYCIN, PEAK

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.4 mL</td>
<td>0.2 mL</td>
<td>72 hours</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.4 mL</td>
<td>0.2 mL</td>
<td>*</td>
</tr>
<tr>
<td><strong>Green Microtainer</strong></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Samples must be spun within one hour of collection.

When collected in a gel barrier tube (SST) sample is stable for 72-hours on the gel and 5 days removed from gel and refrigerated.

*When collected in a Green Top Tube, plasma must be removed within one hour. It is then stable 5 days refrigerated.

**While a microtainer is an optional tube type in rare circumstances, it is not recommended.
TOBRA  TOBRAMYCIN, RANDOM

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Two-point Rate

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobramycin</td>
<td>80200</td>
</tr>
</tbody>
</table>

Instrumentation
Vitros 5600

Reference Range
Trough: <1.5 ug/mL
Peak: 5-12 ug/mL

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — TOBRAMYCIN, RANDOM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.4 mL</td>
<td>0.2 mL</td>
<td>72 hours</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.4 mL</td>
<td>0.2 mL</td>
<td>*</td>
</tr>
<tr>
<td><strong>Green Microtainer</strong></td>
<td>**</td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Samples must be spun within one hour of collection.

When collected in a gel barrier tube (SST) sample is stable for 72-hours on the gel and 5 days removed from gel and refrigerated.
*When collected in a Green Top Tube, plasma must be removed within one hour. It is then stable 5 days refrigerated.
**While a microtainer is an optional tube type in rare circumstances, it is not recommended.
TOBRT  TOBRAMYCIN, TROUGH

University of Vermont Medical Center

Important Note
Trough levels should be collected 30 minutes before the next dose.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Two-point Rate

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobramycin</td>
<td>80200</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
Trough: <1.5 ug/mL
Call Value: >1.5 ug/mL

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
### Specimen Information — TOBRAMYCIN, TROUGH

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.4 mL</td>
<td>0.2 mL</td>
<td>72 hours</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.4 mL</td>
<td>0.2 mL</td>
<td>*</td>
</tr>
<tr>
<td><strong>Green Microtainer</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
</tr>
</tbody>
</table>

Samples must be spun within one hour of collection.

When collected in a gel barrier tube (SST) sample is stable for 72-hours on the gel and 7 days removed from gel and refrigerated.

*When collected in a Green Top Tube, plasma must be removed within one hour. It is then stable 7 days refrigerated.

**While a microtainer is an optional tube type in rare circumstances, it is not recommended.
**VTRAM  Tramadol Screen, Urine**

**Aspenti Health Laboratory**

**Important Note**
Routine drug screen for inpatients and ambulatory clinics.
Tramadol Screen, Urine, test information.

**Test Schedule / Analytical Time / Test Priority**
Monday - Friday / 24 Hours / Not available STAT

---

**TRFS  TRANSFERRIN**

**University of Vermont Medical Center**

**Important Note**
Test subject to Medicare National Coverage Determination 190.18 - Serum Iron Studies.

**Test Schedule / Analytical Time / Test Priority**
Monday – Friday / Same day / Not available STAT

**Method**
Turbidometric

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transferrin</td>
<td>84466</td>
</tr>
</tbody>
</table>

**Instrumentation**
Binding Site Optilite

**Section**
Chemistry-2

**Is the UVMCC lab NY State Certified to perform this testing?**  Yes/No
Yes
Specimen Information — TRANSFERRIN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*Yellow Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Heparinized plasma (green top) is NOT acceptable. Markedly hemolyzed or lipemic samples are not acceptable.
*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
### Reference Range — TRANSFERRIN

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;18 years</td>
<td>N/A</td>
<td>N/A</td>
<td>201</td>
<td>352</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
Important Note
Testing includes testing for Iron and Iron Binding Capacity. Test subject to Medicare National Coverage Determination (NCD) 190.18 - Serum Iron Studies.

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Not available STAT

Method
Calculated from Iron and Iron Binding

CPT(s)
See individual tests.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — TRANSFERRIN SATURATION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
</tr>
</tbody>
</table>
Important Note
If Cryptosporidium, Cyclospora or Microsporidium are suspected, specific tests must be requested.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / Same day / Not available STAT

Method
Microscopic Exam

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trichrome Stain for Parasites</td>
<td>87209</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Methods

Reference Range
No ova or parasites seen

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — TRICHROME STAIN FOR PARASITES

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Gastric Brushings</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Deliver specimen to laboratory as soon as collected.
TRICYCLIC ANTIDEPRESSANT SCREEN, URINE

University of Vermont Medical Center

Important Note
For the Emergency Department and Labor and Delivery only.
This screen is for medical purposes only. This test is subject to Medicare National Coverage Determination (LCD) L36037-Urine Drug Testing.

Test Schedule / Analytical Time / Test Priority
Daily / Same day / Available STAT

Method
Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tricyclic Antidepressant Screen</td>
<td>80306</td>
</tr>
</tbody>
</table>

Instrumentation
MedTox Systems

Reference Range
Negative Screen

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — TRICYCLIC ANTIDEPRESSANT SCREEN, URINE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>50 mL</td>
<td>30 mL</td>
</tr>
</tbody>
</table>
TRIG  TRIGLYCERIDE

University of Vermont Medical Center

Important Note
Test subject to Medicare National Coverage Determination (NCD) Cardiovascular Screening Blood Tests. and 190.23 - Lipids Testing
Fasting specimen preferred.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triglyceride</td>
<td>84478</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range

<table>
<thead>
<tr>
<th></th>
<th>Normal: &lt;150 mg/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Borderline High: 150 - 199 mg/dL</td>
</tr>
<tr>
<td></td>
<td>High: 200 - 499 mg/dL</td>
</tr>
<tr>
<td></td>
<td>Very High: &gt;or= 500 mg/dL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10 - 17 Years</th>
<th>Acceptable: &lt;90 mg/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Borderline: 90 - 129 mg/dL</td>
</tr>
<tr>
<td></td>
<td>High: &gt;or= 130 mg/dL</td>
</tr>
<tr>
<td></td>
<td>These ranges do not apply to critically ill pediatric patients on TPN.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>0 - 9 Years</th>
<th>Acceptable: &lt;75 mg/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Borderline: 75 - 99 mg/dL</td>
</tr>
<tr>
<td></td>
<td>High: &gt;or= 100 mg/dL</td>
</tr>
<tr>
<td></td>
<td>These ranges do not apply to critically ill pediatric patients on TPN.</td>
</tr>
</tbody>
</table>

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — TRIGLYCERIDE

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
</tr>
</tbody>
</table>

Fasting specimen preferred.

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
Important Note
The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Immunometric Luminescence

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Troponin l</td>
<td>84484</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
<0.034 ng/mL
The results of this assay can be falsely lowered due to the consumption of Biotin. Please instruct patients to discontinue the use of vitamins or supplements that contain Biotin 12 hours before blood collection.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
**Specimen Information — TROPONIN I**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>1 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
<tr>
<td><em>Green Microtainer</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Plasma may be stored up to 7 days refrigerated. Serum samples **will not** be accepted.
*While a microtainer is an optional tube type in rare circumstances, it is **not recommended**.*
**University of Vermont Medical Center**

**Test Schedule / Analytical Time / Test Priority**
Daily / 24 Hours / Available STAT

**Method**
Colorimetric Reflectance Spectrophotometry

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>In process</td>
<td></td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros

**Reference Range**

- **Pleural Fluid**
  - >110 mg/dl = Supports chylous effusion.
  - 60 – 110 mg/dl = Indeterminate suggest lipoprotein analysis.
  - <50 mg/dl = Likely nonchylous and pseudocyclous

- **Peritoneal Fluid**
  No reference range available

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes

---

**Specimen Information — TRYGLYCERIDE, FLUID**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Pleural or Peritoneal only</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>1 mL</td>
<td>0.2 mL</td>
</tr>
</tbody>
</table>
**Important Note**

The 24 hour urine sample should be delivered to the lab within 12 hours of collection completion.

**Test Schedule / Analytical Time / Test Priority**

Daily 8 am-4:30 pm / Same day / Not available STAT

**Method**

Colorimetric reflectance spectrophotometry

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea Nitrogen, Urine</td>
<td>84540</td>
</tr>
</tbody>
</table>

**Instrumentation**

Ortho Vitros

**Reference Range**

12 – 20 g/24 Hours

**Section**

Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No

Yes

**Specimen Information — UREA NITROGEN, URINE, 24 HOUR**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Hour Urine Jug A</td>
<td>24 Hour Urine</td>
<td>Refrigerate</td>
<td>24 Hour Urine</td>
<td>5 mL</td>
<td>2 mL</td>
</tr>
</tbody>
</table>
**Test Schedule / Analytical Time / Test Priority**
Daily 8 am-4:30 pm / Same day / Not available STAT

**Method**
Colorimetric Reflectance Spectrophotometry

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea Nitrogen, Urine</td>
<td>84540</td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros

**Reference Range**
No reference ranges available for random samples.

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes

---

**Specimen Information — UREA NITROGEN, URINE, RANDOM**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 ml</td>
<td>50 mL</td>
<td>2 mL</td>
</tr>
</tbody>
</table>
**URR  UREA REDUCTION RATE**

*University of Vermont Medical Center*

**Important Note**
Postdialysis BUN with URR calculation.

**Test Schedule / Analytical Time / Test Priority**
Daily / 24 hours / Not available STAT

**Method**
Colorimetric Reflectance Specrophotometry with calculation

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUN Post Dialysis</td>
<td>84520.91</td>
</tr>
</tbody>
</table>

**Instrumentation**
Ortho Vitros

**Reference Range**
No reference range available.

**Section**
Chemistry-1

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes

**Specimen Information — UREA REDUCTION RATE**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma Separator Tube (PST)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>3 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A plain lithium heparin with no gel is acceptable but a PST is preferred.
URIC  URIC ACID

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric Reflectance Spectrophotometry.

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uric Acid</td>
<td>84550</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
## Specimen Information — URIC ACID

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>5 days</td>
</tr>
<tr>
<td>*Green Microtainer</td>
<td></td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
## Reference Range — URIC ACID

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-30 days</td>
<td>Female</td>
<td>1.4</td>
<td>6.2</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>1-30 days</td>
<td>Male</td>
<td>1.3</td>
<td>4.9</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>1-3 months</td>
<td>Female</td>
<td>1.4</td>
<td>5.8</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>1-3 months</td>
<td>Male</td>
<td>1.4</td>
<td>5.3</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>4-6 months</td>
<td>Female</td>
<td>1.5</td>
<td>6.2</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>4-6 months</td>
<td>Male</td>
<td>1.5</td>
<td>6.3</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>7-12 months</td>
<td>Female</td>
<td>1.5</td>
<td>6.2</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>7-12 months</td>
<td>Male</td>
<td>1.5</td>
<td>6.6</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>1-3 years</td>
<td>All</td>
<td>1.8</td>
<td>5.0</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>4-6 years</td>
<td>All</td>
<td>2.2</td>
<td>4.7</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>7-9 years</td>
<td>All</td>
<td>2.0</td>
<td>5.0</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>10-11 years</td>
<td>Female</td>
<td>3.0</td>
<td>4.7</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>10-11 years</td>
<td>Male</td>
<td>2.3</td>
<td>5.4</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>12-13 years</td>
<td>Female</td>
<td>3.0</td>
<td>5.8</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>12-13 years</td>
<td>Male</td>
<td>2.7</td>
<td>6.7</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>14-15 years</td>
<td>Female</td>
<td>3.0</td>
<td>5.8</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>14-15 years</td>
<td>Male</td>
<td>2.4</td>
<td>7.8</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>16-17 years</td>
<td>Female</td>
<td>3.0</td>
<td>5.9</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>16-17 years</td>
<td>Male</td>
<td>4.0</td>
<td>8.6</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>18 and &gt; years</td>
<td>Female</td>
<td>2.2</td>
<td>7.7</td>
<td>mg/dL</td>
<td></td>
</tr>
<tr>
<td>18 and &gt; years</td>
<td>Male</td>
<td>3.9</td>
<td>9.0</td>
<td>mg/dL</td>
<td></td>
</tr>
</tbody>
</table>
EURIC  URIC ACID, ELITEK

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Colorimetric reflectance spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uric Acid Elitek</td>
<td>84550</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
### Specimen Information — URIC ACID, ELITEK

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Top (lithium heparin)</td>
<td>Plasma</td>
<td>Ice</td>
<td>2.5 mL</td>
<td>1 mL</td>
<td>0.3 mL</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

*Collect blood in prechilled green top tube (lithium heparin) label tube first (PST is acceptable), sample must be maintained in an ice bath on route to the lab. Plasma samples must be assayed within 4 hours of collection.*
<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Physiological Status</th>
<th>Low</th>
<th>High</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-30 days</td>
<td>Female</td>
<td></td>
<td>1.4</td>
<td>6.2</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1-30 days</td>
<td>Male</td>
<td></td>
<td>1.3</td>
<td>4.9</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1-3 months</td>
<td>Female</td>
<td></td>
<td>1.4</td>
<td>5.8</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1-3 months</td>
<td>Male</td>
<td></td>
<td>1.4</td>
<td>5.3</td>
<td>mg/dL</td>
</tr>
<tr>
<td>4-6 months</td>
<td>Female</td>
<td></td>
<td>1.5</td>
<td>6.2</td>
<td>mg/dL</td>
</tr>
<tr>
<td>4-6 months</td>
<td>Male</td>
<td></td>
<td>1.5</td>
<td>6.3</td>
<td>mg/dl</td>
</tr>
<tr>
<td>7-12 months</td>
<td>Female</td>
<td></td>
<td>1.5</td>
<td>6.2</td>
<td>mg/dL</td>
</tr>
<tr>
<td>7-12 months</td>
<td>Male</td>
<td></td>
<td>1.5</td>
<td>6.6</td>
<td>mg/dL</td>
</tr>
<tr>
<td>1-3 years</td>
<td>All</td>
<td></td>
<td>1.8</td>
<td>5.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>4-6 years</td>
<td>All</td>
<td></td>
<td>2.2</td>
<td>4.7</td>
<td>mg/dL</td>
</tr>
<tr>
<td>7-9 years</td>
<td>All</td>
<td></td>
<td>2.0</td>
<td>5.0</td>
<td>mg/dL</td>
</tr>
<tr>
<td>10-11 years</td>
<td>Female</td>
<td></td>
<td>3.0</td>
<td>4.7</td>
<td>mg/dL</td>
</tr>
<tr>
<td>10-11 years</td>
<td>Male</td>
<td></td>
<td>2.3</td>
<td>5.4</td>
<td>mg/dL</td>
</tr>
<tr>
<td>12-13 years</td>
<td>Female</td>
<td></td>
<td>3.0</td>
<td>5.8</td>
<td>mg/dL</td>
</tr>
<tr>
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<td></td>
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<td>3.0</td>
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<td>mg/dL</td>
</tr>
<tr>
<td>14-15 years</td>
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<td></td>
<td>2.4</td>
<td>7.8</td>
<td>mg/dL</td>
</tr>
<tr>
<td>16-17 years</td>
<td>Female</td>
<td></td>
<td>3.0</td>
<td>5.9</td>
<td>mg/dL</td>
</tr>
<tr>
<td>16-17 years</td>
<td>Male</td>
<td></td>
<td>4.0</td>
<td>8.6</td>
<td>mg/dL</td>
</tr>
<tr>
<td>18 and &gt; years</td>
<td>Female</td>
<td></td>
<td>2.2</td>
<td>7.7</td>
<td>mg/dL</td>
</tr>
<tr>
<td>18 and &gt; years</td>
<td>Male</td>
<td></td>
<td>3.9</td>
<td>9.0</td>
<td>mg/dL</td>
</tr>
</tbody>
</table>
Important Note
The 24 hour urine sample should be delivered to the lab within 12 hours of collection completion.

Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / Same day / Not available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)
<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uric Acid, Urine</td>
<td>84560</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
250 – 750 mg/24hours

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — URIC ACID, URINE, 24 HOUR

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Hour Urine jug A</td>
<td>24 Hour Urine</td>
<td>Refrigerate</td>
<td>24 hour Urine</td>
<td>10 mL</td>
<td>2 mL</td>
</tr>
</tbody>
</table>
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily 8 am-4:30 pm / Same day / Not available STAT

Method
Colorimetric Reflectance Spectrophotometry

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uric Acid, Urine</td>
<td>84560</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros

Reference Range
No reference ranges available for random samples.

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — URIC ACID, URINE, RANDOM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Random Urine</td>
<td>Refrigerate</td>
<td>50 mL</td>
<td>10 mL</td>
<td>2 mL</td>
</tr>
</tbody>
</table>
Important Note
Samples greater than 8 hours old may be unreliable.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Arkay UA Chem Strip

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urinalysis</td>
<td>81003</td>
</tr>
</tbody>
</table>

Instrumentation
Arkay Auton Hybrid AU-4050

Reference Range
Chemical:
Specific Gravity: 1.001 – 1.035
Bilirubin: Negative
Blood: Negative
Glucose: Negative
Ketones: Negative
Leukocyte Esterase: Negative
Nitrite: Negative
Protein: Negative
Urobilinogen: Normal
pH: 4.6 – 8.0

Section
Chemistry 1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
No
Specimen Information — URINALYSIS CHEMICAL, AUTOMATED

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>10 mL</td>
<td>5 mL</td>
<td>24 Hours</td>
</tr>
</tbody>
</table>

Sterile container needed when culture also ordered. Clean catch specimen preferred. First morning voided urine preferred.
Important Note
Samples greater than 8 hours old may be unreliable. Microscopic is always performed.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Arkay UA Chem Strip and Flow Cytometry Sediment Analysis

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urinalysis with Microscopic</td>
<td>81001</td>
</tr>
</tbody>
</table>

Instrumentation
Arkay Auton Hybrid AU-4050

Reference Range
Chemical:
Specific Gravity: 1.001 – 1.035
Bilirubin: Negative
Blood: Negative
Glucose: Negative
Ketones: Negative
Leukocyte Esterase: Negative
Nitrite: Negative
Protein: Negative
Urobilinogen: Normal
pH: 4.6 – 8.0

Sediment:
WBC = 0-3/HPF
RBC = 0-2/HPF
Squamous Epithelial Cells = None Seen
Hyaline Casts = ≤10/LPF
Bacteria = None Seen

Section
Chemistry 1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
No
Sterile container needed when culture also ordered. Clean catch specimen preferred. First morning voided urine preferred.

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>10 mL</td>
<td>5 mL</td>
<td>24 Hours</td>
</tr>
</tbody>
</table>
UMIO  URINE MICROSCOPIC ONLY

University of Vermont Medical Center

Important Note
To be used when the provider has performed the urine dipstick and wants only the microscopic.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Microscopy

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Microscopy</td>
<td>81015</td>
</tr>
</tbody>
</table>

Instrumentation
Microscopy

Reference Range
WBC: 0 - 3/hpf
RBC: 0 - 2/hpf
Squamous Epithelial Cells: None seen
Hyaline Casts: ≤10/lpf
Bacteria: None seen

Section
Chemistry 1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
No
### Specimen Information — URINE MICROSCOPIC ONLY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>24 Hours</td>
</tr>
</tbody>
</table>

Sterile container needed when culture also ordered. Clean catch specimen preferred. First morning voided urine preferred.
Important Note
Samples greater than 8 hours old may be unreliable.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Arkay UA Flow Cytometry Sediment Analysis

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urinalysis Sediment, Automated</td>
<td>81015</td>
</tr>
</tbody>
</table>

Instrumentation
Arkay Aution Hybrid AU-4050

Reference Range
WBC = 0-3/HPF
RBC = 0-2/HPF
Squamous Epithelial Cells = None Seen
Hyaline Casts = ≤10/LPF
Bacteria = None Seen

Section
Chemistry 1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
No
Specimen Information — URINE SEDIMENT ANALYSIS, AUTOMATED

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Urine</td>
<td>Refrigerate</td>
<td>10 mL</td>
<td>10 mL</td>
<td>1 mL</td>
<td>24 Hours</td>
</tr>
</tbody>
</table>

Sterile container needed when culture also ordered. Clean catch specimen preferred. First morning voided urine preferred.
Important Note

Sample must be received within 24 hours.
Vaginitis is primarily caused by Trichomonas, yeast, and bacterial vaginosis.
Culture usually is not warranted. Vaginitis Exam includes Trichomonas Antigen Detection, Gram Smear for detection of yeast and a scored gram smear for the diagnosis of bacterial vaginosis.

Specimen Information

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect</th>
<th>Submit</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial/Yeast Collection Kit</td>
<td>Variable</td>
<td>Refrigerate</td>
<td>Swab</td>
<td>Swab in Collection kit</td>
<td>24 hours</td>
</tr>
</tbody>
</table>
**Test Schedule / Analytical Time / Test Priority**
Daily / 24 Hours / Not available STAT

**Method**
Immunochromatography & Smear

### CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gram Smear for Clue Cells and Yeast</td>
<td>87205</td>
</tr>
<tr>
<td>Trichomonas</td>
<td>87808</td>
</tr>
</tbody>
</table>

**Instrumentation**
Manual Method

**Reference Range**
Negative for Trichomonas
Negative for yeast
Smear not consistent with bacterial vaginosis

**Section**
Microbiology-1

Is the UVMMC lab NY State Certified to perform this testing? Yes

---

**VALP  VALPROIC ACID**

*University of Vermont Medical Center*

**Test Schedule / Analytical Time / Test Priority**
Daily / 1 day / Available STAT

**Method**
Chemiluminescent Immunoassay

### CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valproic</td>
<td>80164</td>
</tr>
</tbody>
</table>

**Instrumentation**
Vitros 5600

**Reference Range**
Therapeutic Range: 50 – 100 ug/mL
Toxic: >150 ug/mL

**Section**
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes

---

Page 854
Specimen Information — VALPROIC ACID

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>72 hours</td>
</tr>
<tr>
<td>Lithium heparin (green top)</td>
<td>Plasma</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>*</td>
</tr>
<tr>
<td><strong>Green Microtainer</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Samples must be spun within one hour of collection. When collected in a gel barrier tube (SST) sample is stable for 72-hours on the gel and 7 days removed from gel and refrigerated. *When collected in a Green Top Tube, plasma must be removed within one hour. It is then stable 14 days refrigerated. **While a microtainer is an optional tube type in rare circumstances, it is not recommended.
VANCOMYCIN, PEAK

University of Vermont Medical Center

Important Note
Please use Vancomycin Random if a peak level is required. Peak level should be collected 60 minutes after completion of infusion. While a microtainer is an optional tube type in rare circumstances, it is not recommended.

VANCOMYCIN, RANDOM

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vancomycin</td>
<td>80202</td>
</tr>
</tbody>
</table>

Instrumentation
Ortho Vitros 5600

Reference Range
Trough: 10-20 ug/mL
Peak: 25-50 ug/mL

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — VANCOMYCIN, RANDOM

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>72 hours</td>
</tr>
<tr>
<td>*Yellow Microtainer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.
Important Note
Trough levels should be collected 30 minutes before the next dose.

Test Schedule / Analytical Time / Test Priority
Daily / 24 Hours / Available STAT

Method
Chemiluminescent Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vancomycin</td>
<td>80202</td>
</tr>
</tbody>
</table>

Instrumentation
Vitros 5600

Reference Range
Trough Level: 10 – 20 ug/mL
Trough Level (for Staphylococcus aureus bacteremia, endocarditis, meningitis, osteomyelitis, and pneumonia): 15-20 ug/mL
Call Value: >25.0 ug/mL

Section
Chemistry-1

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — VANCOMYCIN, TROUGH

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.2 mL</td>
<td>72 Hours</td>
</tr>
<tr>
<td>*Yellow Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
VARI  VARICELLA IgG ANTIBODY

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday-Friday, run starts at 9 am / 1 day / Not available STAT

Method
Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varicella IgG Antibody</td>
<td>86787</td>
</tr>
</tbody>
</table>

Instrumentation
DiaSorin Liaison XL

Reference Range

**Negative**: Absence of detectable Varicella Zoster virus IgG antibodies. A negative result indicated no detectable antibody, but does not rule out acute infection.

**Equivocal**: Recommend collecting a second sample for testing in no less than one to two weeks.

**Positive**: Presence of detectable Varicella Zoster virus IgG antibodies.

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No

Yes
### Specimen Information — VARICELLA IgG ANTIBODY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.5 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>Yellow Microtainer</td>
<td></td>
<td></td>
<td>0.6 mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Samples that are markedly lipemic, markedly hemolyzed or markedly icteric are not acceptable.

*While a microtainer is an optional tube type in rare circumstances, it is not recommended.*
### Specimen Information

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viral Collection Kit (M6)</td>
<td>Mucocutaneous</td>
<td>Refrigerate</td>
<td></td>
<td></td>
<td></td>
<td>15 days</td>
</tr>
<tr>
<td>Sterile Container</td>
<td>CSF</td>
<td>Refrigerate</td>
<td>2 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
**Test Schedule / Analytical Time / Test Priority**

Daily / 24 hours / Not available STAT

**Method**

Nucleic Acid Amplification

**CPT(s)**

<table>
<thead>
<tr>
<th>Narrative</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varicella zoster</td>
<td>87798 x 1</td>
</tr>
</tbody>
</table>

**Instrumentation**

Luminex Aries

**Reference Range**

Negative

**Section**

Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No

No

---

**B12  VITAMIN B12**

University of Vermont Medical Center

**Test Schedule / Analytical Time / Test Priority**

Monday - Friday / 1 day / Not available STAT

**Method**

Chemiluminescent Immunoassay

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin B12</td>
<td>82607</td>
</tr>
</tbody>
</table>

**Instrumentation**

Siemens Advia Centaur

**Reference Range**

211 – 911 pg/mL

**Section**

Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No

Yes
### Specimen Information — VITAMIN B12

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>0.6 mL</td>
<td>0.3 mL</td>
<td>7 days</td>
</tr>
</tbody>
</table>
Important Note
Test subject to Medicare Local Coverage Determination (NCD) Vitamin D Assay Testing (L32860).

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Competitive Chemiluminescence Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin D (25, OH)</td>
<td>82306</td>
</tr>
</tbody>
</table>

Instrumentation
DiaSorin Liaison XL

Reference Range
Deficiency: <10 ng/mL
Insufficiency: 10-30 ng/mL
Sufficiency: 30-100 ng/mL
Toxicity: >100 ng/mL

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
## Specimen Information — VITAMIN D, 25-OH (TOTAL)

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>0.8 mL</td>
<td>0.5 mL</td>
<td>7 days</td>
</tr>
<tr>
<td>*2 Yellow Microtainers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Samples that are markedly lipemic, markedly hemolyzed or markedly icteric are not acceptable.

*While a microtainer is an optional tube type in rare circumstances, it is **not recommended.**
Important Note
Includes analysis for methanol, isopropanol, ethanol and acetone. Methanol and isopropanol are quantitated if present.
Please call Lab Customer Service at 847-5121 or 1-800-991-2799 to notify us that a sample is on the way. This notification will allow time for us to prepare the instrumentation and ensure an appropriate turn around time.

Test Schedule / Analytical Time / Test Priority
Daily / 1 day / Available STAT

Method
Gas-Liquid Chromatography

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volatile Screen</td>
<td>80320</td>
</tr>
</tbody>
</table>

Instrumentation
Agilent Technologies GC 7890

Reference Range
None detected

Section
Chemistry-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — VOLATILE SCREEN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum Separator Tube</td>
<td>Serum</td>
<td>Refrigerate</td>
<td>4 mL</td>
<td>2 mL</td>
<td>1 mL</td>
<td>3 days*</td>
</tr>
</tbody>
</table>

Stable 3-days refrigerated as long as the sample remains tightly capped to prevent evaporation of any volatile substance. (Lab Only: Expedite all alcohols to chemistry.)
Important Note
Test includes: Factor 8 Assay, VWF Multimers, VWF Activity, VWF Antigen

Test Schedule / Analytical Time / Test Priority
Monday - Friday / Varies / Not available STAT

Method
See individual tests.

CPT(s)
See individual tests. Tests included are: Factor 8 Assay, VWF Multimers, VWF Activity, VWF Antigen.

Instrumentation
See individual tests.

Reference Range
See individual tests.

Section
Coagulation
Specimen Information — VON WILLBRAND FACTOR MULTIMER PANEL

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>3-3.5 mL Tubes to fill line</td>
<td>4-1mL Plasma Aliquots</td>
<td>1-1mL and 3-0.5 mL Plasma Aliquots</td>
<td>6 Months</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>3-3.5 mL Tubes to fill line</td>
<td>3-3.5 mL Tubes</td>
<td>3-3.5 mL Tubes</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

Refer to Coagulation Specimen Handling prior to collection. Glass vials cannot be accepted. Freeze specimen at less than or equal to minus 40° C if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.
University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Monday – Friday, run starts at 10 am / Same day / Available STAT, nights and weekends with pathologist approval

Method
Latex Particle Enhanced Immunoturbidmetric

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>VWF Activity</td>
<td>85245</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top
500

Reference Range
49 – 153%

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes
Specimen Information — VON WILLEBRAND FACTOR ACTIVITY

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>0.5 mL plasma</td>
<td>6 Months</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

Refer to Coagulation Specimen Handling prior to collection. Submit 2 x 0.5 mL frozen plasma aliquots for this test. Draw blood in light blue top tube(s). If sample can be submitted within 3 hours, submit whole blood at ambient temperature. If this is not possible, spin down tube and remove plasma. Spin plasma again and place citrate platelet-poor plasma in required number of plastic vials. Glass vials cannot be accepted. Freeze specimen at less than or equal to minus 40°C, if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.
VWFA  VON WILLEBRAND FACTOR ANTIGEN

University of Vermont Medical Center

Test Schedule / Analytical Time / Test Priority
Tuesday, Thursday / 1 day / Available STAT, nights and weekends with pathologist approval

Method
Immunoassay

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>VWF Antigen</td>
<td>85246</td>
</tr>
</tbody>
</table>

Instrumentation
ACL Top 500

Reference Range
50 – 185%

Section
Coagulation

Is the UVMMC lab NY State Certified to perform this testing?  Yes/No
Yes
Specimen Information — VON WILLEBRAND FACTOR ANTIGEN

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Top Tube</td>
<td>Plasma</td>
<td>Frozen</td>
<td>To fill line</td>
<td>2 mL plasma</td>
<td>0.5 mL plasma</td>
<td>6 months</td>
</tr>
<tr>
<td>Blue Top Tube</td>
<td>Whole Blood</td>
<td>Ambient</td>
<td>To fill line</td>
<td>To fill line</td>
<td>To fill line</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

Refer to Coagulation Specimen Handling prior before collection. Submit 2 × 0.5 mL frozen plasma aliquots for this test. Draw blood in light blue top tube(s). If sample can be submitted within 3 hours, submit whole blood at ambient temperature. If this is not possible, spin down tube and remove plasma. Spin plasma again and place citrate platelet-poor plasma in required number of plastic vials (Glass vials cannot be accepted.) Freeze specimen at less than or equal to minus 40° C if possible. Send specimen frozen on dry ice. Each coagulation assay requested should have its own vial.
**WATER  WATER TEST, CHEMICAL**

*University of Vermont Medical Center*

**Important Note**
Water tests are done March, June, September, and December. Samples must be received by the fifth of the month. Analysis will occur some time between the sixth and the twelfth of the month.

**Test Schedule / Analytical Time / Test Priority**
Quarterly / Varies / Not available STAT

**Method**
Purity-Conductivity

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Test, Chemical</td>
<td>84999</td>
</tr>
</tbody>
</table>

**Instrumentation**
Manual Methods

**Reference Range**
Conductivity <2 umhos

**Section**
Chemistry-2

**Is the UVMMC lab NY State Certified to perform this testing? Yes/No**
Yes

---

**Specimen Information — WATER TEST, CHEMICAL**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Container</td>
<td>Water</td>
<td>Refrigerate</td>
<td>500 mL</td>
<td>500 mL</td>
<td>200 mL</td>
</tr>
</tbody>
</table>
**Important Note**
Test subject to Medicare National Coverage Determination (NCD) 190.15 - Blood Counts.

**Test Schedule / Analytical Time / Test Priority**
Daily / 24 Hours / Available STAT

**Method**
Automated Cell Counter

**CPT(s)**

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBC</td>
<td>85048</td>
</tr>
</tbody>
</table>

**Instrumentation**
Sysmex XN 9000

**Reference Range**
Age and gender dependent – see report.

**Section**
Hematology

**Is the UVMMC lab NY State Certified to perform this testing?** Yes/No
Yes

**Specimen Information — WBC**

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lavender Top Tube</td>
<td>Whole Blood</td>
<td>Refrigerate</td>
<td>2.5 mL</td>
<td>2.5 mL</td>
<td>1.5 mL</td>
</tr>
</tbody>
</table>

Invert tube gently several times after collection.
Test Schedule / Analytical Time / Test Priority
Monday – Friday / 1 day / Not available STAT

Method
Macroscopic/Microscopic Exam.

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worm Identification</td>
<td>87169</td>
</tr>
</tbody>
</table>

Instrumentation
Manual Method

Reference Range
A descriptive report is provided.

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

Specimen Information — WORM IDENTIFICATION

<table>
<thead>
<tr>
<th>Container</th>
<th>Specimen</th>
<th>Temperature</th>
<th>Collect Vol</th>
<th>Submit Vol</th>
<th>Minimum Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile Container</td>
<td>Variable</td>
<td>Ambient</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Send specimen in sealed container preferably in 70% Alcohol (ethyl) or 10% Formalin.
FIOY  YEAST IDENTIFICATION, PLATE SUBMITTED

University of Vermont Medical Center

Specimen Information
Submit a plate or slant at ambient temperature.

Test Schedule / Analytical Time / Test Priority
Monday – Friday / 3-7 days / Not available STAT

Method
Culture

CPT(s)

<table>
<thead>
<tr>
<th>Description</th>
<th>CPT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>87106</td>
</tr>
</tbody>
</table>

Reference Range
Yeast identified to genu/species level.

Section
Microbiology-2

Is the UVMMC lab NY State Certified to perform this testing? Yes/No
Yes

ZNPL  ZINC, PLASMA

NMS Laboratory

Specimen Information
NMS Referral Lab Code 4844SP

Section
Sent to NMS Laboratory

VZOLP  Zolpidem Screen, Urine

Aspenti Health Laboratory

Important Note
Routine drug screen for inpatients and ambulatory clinics.
Zolpidem Screen, Urine, test information.

Test Schedule / Analytical Time / Test Priority
Monday - Friday / 24 Hours / Not Available STAT
Special Instructions & Forms
24 Hour Timed Urine Collection

**Container:**

| 24-Hour Timed Urine Jug, 2500 mL available from Laboratory Customer Service | Brown Jug, See Urine ph Adjustment and Preservatives: 24-hour Collection |

**Instructions for the Office:**
1. See the list of 24 hour urine preservatives below.
2. If you do not have a 24 hour timed urine jug with the appropriate preservative, call (802) 847-5121 to request one. We will send it to your office as soon as possible. You can also send the patient to one of our Patient Service Centers to pick one up.
3. Before giving the container to the patient label it with two patient identifiers. When you get the urine container back from the patient, make sure the Collection Begun and Collection Completed sections are filled in on the container.
4. Refrigerate the sample until it is sent to the laboratory.
5. An outpatient laboratory order must accompany the sample, as well as the “Collection of 24 Hour Timed Urine Specimen Form”.

**Instructions for Patients:**
24-hour urine containers are available from laboratory Customer Service (847-5121). Please arrange for patients to have the correct container prior to collection (See our Test Catalog [https://uvmlabs.testcatalog.org/](https://uvmlabs.testcatalog.org/)). Collection in the wrong container may cause the sample to be unsuitable for the tests ordered. In addition to the 24 hour timed urine collection container, patients will receive a brochure with the following instructions and a 24 hour timed urine specimen form.

1. Patients must not collect a 24 hour timed urine under the following circumstances.
   - Menstrual periods
   - Urinary Tract Infections
   - Strenuous exercise
2. Instruct patients to maintain a normal diet and fluid intake before and during collection unless the physician has specified otherwise.
3. Be sure your patient has a laboratory order identifying the test(s) requested.
4. Instruct patient to fill out the “Collection of 24 Hour Timed Urine Specimen Form prior to collection”. Patients may also need to bring a physician order (laboratory requisition) to the lab when they bring in the sample.
5. Instruct patients to keep the 24 hour timed urine jug in an upright position at all times.
6. Patient must also be sure the white cap is securely screwed on top of the jug.
7. The 24 hour timed urine jug may contain a preservative that is required to do the tests requested. There may be a hazard sticker as well as a sticker identifying the specific hazard attached to the jug.
8. Patients must not urinate directly into the container; Use the hat provided or urinate into a clean container and carefully pour the urine into the jug.
9. Instruct patients to keep the jug out of reach of children.
10. Patients also must keep jug in a cool place during collection. Refrigerate or place in a cooler with ice. Do not store urine in a different container than the one given to you by your health care provider.
11. **BEGIN COLLECTION**
    Collection period begins when the patient gets up in the morning and urinates directly into the toilet. Record the date and time on the collection form.
    **Collection Begun**
    Date: ____/____/_____ Time: ____:____ AM/PM

The next urination is the first collection.
Patients must collect and save all urine passed for the next 24 hours.

12. COMPLETE COLLECTION
The final collection should be approximately 24 hours from the start of collection, collect your first urination in the morning. Record the date and time on the collection form.

Collection Completed
Date: ___/___/___  Time: ___:___ AM / PM

If the patient has collected more than one container, indicate so on the collection form.

Refrigerate sample until delivery to the laboratory.

All 24 hour timed urine samples should be delivered to the lab within 12 hours of completion of collection.

Failure to follow these instructions may result in the need to recollect the sample.

13. PACKAGING URINE FOR TRANSPORT: Instruct patients to:
   • Be sure sample is labeled with full name and date of birth.
   • Be sure the cap is secure on the top of the jug and keep jug upright.
   • Put the jug into the large inner sleeve of the zip lock bag provided.
   • Put the laboratory order provided by the physician in the outer sleeve.

14. DELIVERY TO THE LAB: When the patient delivers the sample to the lab they will need to plan some extra time so that we can collect their insurance and demographic information. If someone else is dropping off your sample they will need to be prepared to provide insurance and demographic information.
Please visit our web site for Laboratory Service Center locations and hours.
www.uvmhealth.org/medcenterdrawsites/

Preservatives: 24-Hour Collection
Each test has a specific numbered jug as to the preservative required for testing.

JUG A - NO preservative. Refrigerate
JUG B - 25 mL 50% Acetic Acid. Refrigerate
JUG C - 10 gms Boric Acid. Refrigerate
JUG D - 5 gms sodium carbonate. Refrigerate
JUG E - 20 mL 6N HC1. Refrigerate
PEDI JUG B* - 15 mL 50% Acetic Acid. Refrigerate
PEDI JUG C* - 5 gms Boric Acid. Refrigerate

These jugs are available at the Patient Service Center (laboratory Services) at the Fanny Allen Campus and Ambulatory Care Center. One South Prospect also has jugs; please call Laboratory Customer Service (802)847-5121 for assistance.

*Usually a pediatric patient (for the purpose of a 24-hour urine) is considered anyone less than 5 years old.
Blood Transfusion: Answering Your Questions

This brochure is intended for persons who will need a transfusion of blood or blood products and those who are receiving transfusions on a regular basis.

FOR MORE INFORMATION PHONE: (802) 847-5121 | (800) 991-2799

IS IT SAFE TO RECEIVE BLOOD

Receiving blood is safer today than ever. In some cases, it may be the only way to save your life. While it is true that at one time, receiving blood was not as safe, nowadays a very rigorous process is used to select donors and cutting-edge technology is used to test blood so that harmful diseases and viruses can be detected more accurately in donors’ blood.

All of these precautions have led to a significantly lower risk of viral disease transmission; as a result, bacterial contamination and other non-infectious complications of transfusion are now considered to be more prevalent risks.

Other common transfusion reactions such as itching, hives, fever, or chills can occur in 1%–10% of transfused patients, but are considered minor and are not usually life-threatening (see further descriptions below). However, an evaluation by a physician is still recommended whenever any reaction occurs.

Current Estimated Transfusion Risks

<table>
<thead>
<tr>
<th>Complication</th>
<th>Risk per Unit Transfused</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute lung injury</td>
<td>1 in 1,000 to 200,000</td>
</tr>
<tr>
<td>Circulatory overload</td>
<td>1 in 2,000 to 6,000</td>
</tr>
<tr>
<td>Severe allergic reaction</td>
<td>1 in 2,000 to 30,000</td>
</tr>
<tr>
<td>Delayed hemolytic reaction</td>
<td>1 in 5,000 to 110,000</td>
</tr>
<tr>
<td>ABO incompatible hemolysis</td>
<td>1 in 13,000 to 200,000</td>
</tr>
<tr>
<td>Bacterial infection</td>
<td></td>
</tr>
<tr>
<td>with platelets</td>
<td>1 in 33,000 to 75,000</td>
</tr>
<tr>
<td>with red cells</td>
<td>1 in 30,000 to 5,000,000</td>
</tr>
<tr>
<td>Hepatitis B virus infection</td>
<td>1 in 205,000</td>
</tr>
<tr>
<td>Hepatitis A virus infection</td>
<td>1 in 1,000,000</td>
</tr>
<tr>
<td>Hepatitis C virus infection</td>
<td>&lt;1 in 1,935,000</td>
</tr>
<tr>
<td>HIV-1 (AIDS virus) infection</td>
<td>1 in 2,135,000</td>
</tr>
</tbody>
</table>

WHAT ARE OTHER RISK OF BLOOD TRANSFUSIONS?

Allergic reactions

Blood may cause an allergic reaction in the receiver. Approximately 1% to 10% of receivers have such a reaction, which may be hives or other skin reactions. These are easily treated with medication (antihistamines).

Fever

Like any foreign substance administered to a patient, blood can cause fever, with or without chills. Approximately 1% to 10% of transfusions cause this reaction, which also is easily treated with different medications. Very rarely, fever may be due to the infusion of a blood product that is contaminated with bacteria. In such cases, the medical team will treat the problem.

Other reactions

Certain patients may develop antibodies following a transfusion. This complication, called all immunization, has no symptoms and does not put the patient’s life in danger. However, special attention will be paid to the patient during subsequent transfusions.

Another potential reaction following a transfusion is circulatory overload, which can occur in the elderly or in patients with cardiac disorders. If blood transfusions have caused severe reactions in the past, please share this information with your medical team.
HOW CAN A PATIENT ENSURE A SAFE BLOOD TRANSFUSION?

Receive a blood transfusion only when it is needed

Although the risks of major complications from transfusions are very low, they can and do occur when over 15 million units of blood and blood components are transfused annually in the U.S. Therefore, a patient should receive transfusions only when necessary and when alternatives to improving their medical condition are believed to be less effective.

Confirm accuracy of patient identification

Preventable fatal transfusion reactions are almost always caused by errors in labeling or patient identification. The wristband is a very important piece of patient identification. Review the wristband to confirm proper spelling of name and date of birth. When a nurse or phlebotomist draws a blood sample, confirm that the tubes are labeled at the patient’s bedside. The labels should have complete and accurate patient information (no missing letters or numbers), the date and time when the sample was drawn, and the initials or designated code of the person drawing the blood sample.

Similarly, confirmation should be made that the right blood is going to the right patient. Before a transfusion is started, the nurse should read the information on the unit of blood out loud to another person at the bedside. The information on the unit should be the same as that of the patient who is to receive the blood (the name, medical record number, and date of birth should match).

WHAT IS BLOOD?

Blood contains different components: solid components – such as red blood cells, white blood cells and platelets – and plasma, the liquid in which the solid components are suspended. Each of these may be made into separate blood products. Depending on a person’s health status, he or she may need to receive one of the most commonly transfused blood products – red blood cells, platelets or plasma.

Blood is essential for the human body to function properly. It transports oxygen, nutrients and other substances for fighting disease to the cells, which need them to stay alive. Blood components are formed in the bone marrow. In an average adult, the volume of blood is between five and six liters.

Red Blood Cells

Red blood cells transport oxygen. Each drop of blood contains approximately five million red blood cells. Red blood cells are used for patients who have lost blood due to trauma or during a major surgical operation, or who suffer from disorders that reduce the number of their own red blood cells, such as chronic anemia.

Red blood cells are stored for 42 days at a temperature of 2 to 6 degrees Celsius. In exceptional circumstances, they can be frozen and then stored for up to ten years.

Platelets

The blood cells referred to as platelets are smaller than red blood cells. They aid in blood clotting and wound healing. The main role of platelets is to speed clotting when there is bleeding. They are used especially in cases of massive bleeding, where there is a decrease in the number of platelets in the blood, or when platelet dysfunction is noted.

Platelets can be stored for five days from the day they are collected and up to seven days with additional testing, at a temperature of 20 to 24 degrees Celsius.

Plasma

Plasma is the clear liquid part of the blood that contains the red blood cells, white blood cells and platelets. It also contains many proteins including factors necessary to form a clot. On average, plasma makes up 55% of whole blood by volume. Plasma is most often administered to patients who have serious clotting factor deficiencies or in order to replace an important loss of blood.

Plasma is generally kept frozen and only thawed when needed.
WHERE DOES THE BLOOD USED FOR TRANSFUSIONS COME FROM?

All the blood products mentioned in this brochure come either from volunteer donors in the New England region through the American Red Cross or from persons elsewhere in the U.S. through other accredited and FDA-licensed blood collection centers.

Not just anyone can be a donor! Donors are volunteers who are selected carefully before each donation. They are not paid for their donation. Apart from doing good, no other compensation is offered.

Before each donation, donors must provide personal identification and fill out a donor form that contains questions about their health status and risk factors they may have related to certain diseases. Donors are then questioned about their health status and any high-risk activities that they may have engaged in. The tip of the donor’s finger is pricked to ensure that the hemoglobin level is up to the standard of a blood donor. Only people who meet these rigorous criteria can donate their blood.

Finally, each donation is drawn using new, sterile and disposable material (needle, bag, etc.) which is used one time only.

HOW IS THE BLOOD I AM RECEIVING TESTED?

All blood collected is carefully analyzed. It is screened for Hepatitis B, Hepatitis C, HIV, West Nile Virus, HTLV, Zika, and syphilis. The tests are carried out before the blood can be used. If the results of one of these screening tests are inconclusive or positive, the blood must be disposed of. Additional required tests are performed as they become available and found to improve the safety of blood transfusions.

The blood is also analyzed to determine which blood group it belongs to and whether it is Rh-positive or Rh-negative. Before any transfusion, a recent sample of the patient’s blood is cross-matched with the donated blood to make sure that they are compatible.

HOW ARE BLOOD PRODUCTS TRANSFUSED?

All blood products are administered by intravenous infusion, using tubing equipment with a filter. The rate of transfusion varies according to the blood product used, but must be completed within 4 hours of starting. Usually the transfusion is started slowly for the first 15-20 minutes to ensure there are so major reactions before increasing the transfusion rate.

WHAT ARE THE ADVANTAGES OF BLOOD PRODUCT TRANSFUSION?

In the U.S., well over 15 million blood products are transfused every year. Blood transfusion may be required in the care of premature babies, during cardiac surgery, for organ transplants, during treatments for cancer and anemia, and for resuscitation following traumatic injury. The transfusion of blood or blood products have resulted in significant advances in the treatment of these patients. Thanks to blood transfusion, major surgical operations and medical treatments can be carried out.

ARE THERE ALTERNATIVES TO TRANSFUSION?

Options other than transfusion may be considered for certain surgeries. The decision to use either transfusion or another type of treatment must be discussed with your doctor.

Autologous blood donations

Autologous blood donation refers to patients who pre-donate their own blood and have it stored while they are awaiting surgery that is likely to require blood transfusions. To do this, you must ask your doctor whether it is advisable for you to store your own blood for a possible transfusion given the surgery and your own health status.

Recuperation of blood during the operation

In certain surgical operations, it is possible to retrieve lost blood during the operation and transfuse it immediately back to the patient. You should discuss this with your doctor, since it is not possible for all surgical operations.
USE OF DRUGS
In very specific circumstances, drugs may reduce or eliminate the need for blood. Once again, your doctor is the best person to give you information about this.

If you have other questions about blood transfusion, do not hesitate to discuss them with your doctor.

The information provided in this document is for educational purposes only and does not supersede existing hospital and clinic policies, procedures, or clinical judgment.

SELECTED INTERNET SITES*:
AABB (American Association of Blood Banks): www.aabb.org
American Red Cross – Northern New England Region: www.newenglandblood.org
America’s Blood Centers: www.americasblood.org
UpToDate Patient Information: www.patients.uptodate.com

*Inclusion of websites do not represent an endorsement of the content at the websites or a guarantee of the accuracy of the information contained within. However, these sites are generally viewed as reliable Internet sources.

This information was adapted in part and with permission to the University of Vermont College of Medicine from “Blood transfusions, answers to your questions” by Québec Ministère de la Santé et des Services sociaux, Secrétariat du système du Sang, Publication No. 00-205-4A.
COLLECTING A BONE MARROW SAMPLE

General Information

1. It is important to have all supplies ahead of time.
2. It is important to collect the specimens in the correct order. This order would be aspirate, aspirate with heparin for Cytogenetics and/or Flow Cytometry if needed, and needle biopsy.
3. Specimens may be collected Monday through Friday

Materials needed on Bone Marrow Collection Tray: Supplies are available from UVM Medical Center laboratory

- Lavender Top Tubes
- 1 box frosted end glass slides
- 4 containers of 1% Zinc Formalin fixative
  **CAUTION:** Contains Formaldehyde.
  - Toxic by inhalation and if swallowed.
  - Irritating to eyes, respiratory system, and skin
  - Risk of serious damage to eyes.
  - May cause cancer; repeated or prolonged exposure increases risk.
  - Keep container covered except when adding specimen. Reseal immediately to prevent spread of Formalin fumes.
  - Refer to MSDS Manual for further information.
- 2 Millipore Swinex-125 filters with Whatman Spectrum polypropylene Macro Filter mesh
- 20 mL of Plasmalyte Solution
- Venipuncture Equipment
- Bone Marrow Tube (RPMI)
- Bone Marrow Culture Tube (SPS)
- Heparin, 5 - 10,000 units, 1 mL vials
- Sodium Heparin tubes for flow cytometry
- **Cytogenetics/Flow Cytometry/Bone Marrow Exam** form including patient's birth date, clinical diagnosis or indication for study, previous or current chemo/radiotherapy, collection date, ordering physician, and tests requested.

Additional supplies needed: Not provided by University of Vermont Medical Center Laboratory

- 2 Plastic cups (for expelled Plasmalyte)
- Gloves
- Tweezers
- Gauze 4 x 4's
- Alcohol Swabs

Collecting the Aspirate

1. Assemble all materials and equipment for the bone marrow collection tray and put on gloves.
2. Inquire if any “optional” procedures are requested on the marrow specimen. If so, refer to the “Optional Procedure” section on the following page.
3. The provider performing the bone marrow will give the Technologist two types of specimens (1) 0.5-1.0 mL bone marrow aspirate and (2) a biopsy.
4. On the aspirated specimen perform the following:

   6-8 thin “push” smears
   For a standard collection 1 – 2 mL aspirate into EDTA (lavender top tube), mix well
The remaining marrow material in the syringe should be diluted with Plasmalyte and filtered through the polypropylene mesh filtration system

a. Draw 5-10 mL of Plasmalyte into the syringe with the marrow, mix immediately
b. Attach the Millipore Swinex-125 with mesh filter and expel contents of syringe through the millipore with gentle pressure
c. Repeat steps a and b
d. Open the Millipore and examine for particles (spicules). If insufficient amount, inform the clinician so additional marrow can be aspirated.
e. Using tweezers, place the mesh with particles into a bottle of 1% Zinc Formalin fixative. Reseal container immediately to prevent spread of Formalin fumes.
f. If aspirated specimen is clotted, place the clot directly into the fixative.

5. On the biopsy specimen perform the following:
   3-4 imprint or touch-prep slides of the bone marrow biopsy should be made using tweezers and a light touch. (The biopsy should be tan colored and firm. A blood clot appears red and gel-like.) Take care not to break the biopsy specimen.

Place the biopsy specimen into the second jar of 1% Zinc Formalin fixative, resealing the container immediately to prevent the spread of Formalin fumes.

If an aspirate cannot be collected, please submit a second biopsy in an extra Bone Marrow Tube (RPMI) container.

6. Write the date and approximate time when the specimen was collected on both jars of fixative and the Bone Marrow Requisition. Label jars and all smears with patients full name. Smears should also be dated.

7. The provider must sign and complete the Cytogenetics/Flow Cytometry/ Bone Marrow Exam form and check off the testing requested. This should include diagnosis.

8. A CBC with differential and peripheral smear collected within 72 hours of the bone marrow must be included. If this is not possible, record this information as well as the reason for not being available.

Optional Procedures

1. Culture: A separate specimen is collected into a Bone Marrow Culture Tube (SPS) stored at room temperature. The stopper should be well sterilized first with betadine and then alcohol first before injection. Approximately 1 mL of bone marrow should be injected through the rubber stopper. If the specimen is clotted, remove stopper and place the clotted specimen directly into the culture tube. Use caution to avoid contamination.

2. Chromosome Analysis (Karyotype): Use the second bone marrow aspirate which should be collected in a heparinized syringe and transferred to a Bone Marrow Tube (RPMI) stored at 4°C (do not use media if it has turned yellow) or Sodium Heparin Tube. At least 1-2 mL of bone marrow should be put into the tube. After collection, specimen should be kept at room temperature; the specimen should never be refrigerated. If there are any problems or questions concerning bone marrow cytogenetics samples, call Laboratory Customer Service at (802)847-5121 and ask to speak to the Cytogenetics Department.

3. Bone Marrow Leukemia/Lymphoma Panel: Use the second bone marrow aspirate which should be collected in a heparinized syringe and transferred to a sodium heparin, special tube, supply #032051, or EDTA, supply #78529. After collection, specimen should be kept at room temperature; the specimen
should **never** be refrigerated. If there are any problems or questions concerning Bone Marrow Leukemia/Lymphoma Panels, call Laboratory Customer Service at (802)847-5121 and ask to speak to the Immunopathologist or Immunology Charge Tech.

Samples collected in a sodium heparin tube, supply #032050, or a sodium heparin, special tube are stable for up to 48 hours. EDTA samples are stable only up to 30 hours.

**Transport to UVM Medical Center**

1. Please call Laboratory Customer Service at 847-5121 or 1-800-991-2799 and inform them that a bone marrow specimen will be arriving.

2. Put slides into a slide box or folder. Put these and all specimen material into 1 transport bag with the paperwork and mark “Deliver to Hematology”

3. Specimen must be received in a timely manner. If the collection site has Priority pick-up, please send it the day of collection. If specimen is to be sent by Federal Express overnight, send it the day of collection. Samples sent by Federal Express on Friday must have Saturday delivery indicated. Call Laboratory Customer Service at 847-5121 or 1-800-991-2799 and inform them that a sample is being sent and provide requested information.
ACUTE LEUKEMIA – New Diagnosis or Relapsed

- FLOW CYTOMETRY
- CHROMOSOME ANALYSIS
- PATHOLOGY SUMMARY REPORT
  - ask Kim to Accession PS report
  - add patient to PRISM list

AML

- Send out RAPID NGS PANEL to Brigham & Women’s (ID: RAPHMR; EDTA)
  - Fill out B&W requisition and bring it to Cytogenetics

  - Suspicious for Acute Promyelocytic Leukemia (APL)?
    - FISH for t(15;17) PML/RARA
      - If FISH is positive for t(15;17) then PML/RARA Quant. PCR (ID: PMLR; EDTA 5d)

  - Suspicious for t(8;21)?
    - FISH for t(8;21) RUNX1/RUNX1T1
    - Suspicious for inv(16)/t(16;16)?
      - FISH for CBFB

ALL

- FISH for BCR/ABL on all cases
  - If BCR/ABL1 FISH is positive then send:
    - BCR/ABL qualitative with reflex quantitation (ID: BCRFX; EDTA 72 Hr)
  - FISH for MLL if FISH for BCR/ABL1 is negative

I have reviewed this algorithm: ________________________________ date: ____________

Attending signature

Did you stray from the algorithm?  ○ yes  ○ no  why?

* Peripheral blood can be substituted for BM for most of these tests if there are >10% blasts in the blood
Treated Acute Leukemia

If this is Relapsed AML or ALL GO TO TRACK 1
Relapsed = recurrent leukemia after apparent remission. If in doubt, ask the clinician.

- FLOW CYTOMETRY
- CHROMOSOME ANALYSIS

Treated or Persistent AML:

- PML/RARA quantitative PCR (ID: PMLR; EDTA 5d)
- FISH for _______ if previously abnormal (order in CoPath)

Treated or Persistent ALL:

If PREVIOUSLY ABNORMAL and not done in the past 4 weeks

- BCR/ABL Quant. PCR P210 (ID: BCRAB; EDTA 72Hr)
- BCR/ABL Quant. PCR P190 (ID: BA190; EDTA 72Hr)
- FISH for ________ (order in CoPath)

I have reviewed this algorithm: ____________________________ date: ____________

Attending signature

Did you stray from the algorithm?  ○ yes  ○ no  why?

* Peripheral blood can be substituted for BM for most of these tests if there are >10% blasts in the blood
Cytopenias, Myelodysplasia

- Flow Cytometry
- Chromosome Analysis

If this is MYELODYSPLASIA then:

- PATHOLOGY SUMMARY REPORT
  - ask Kim to Accession PS report
  - add patient to PRISM list

ONLY if Chromosome Analysis fails (normal and <20 cells)
- MDS FISH panel (ID: MDSF; CG cell pellet)

If NEW definitive diagnosis of MDS

- Send out RAPID NGS PANEL to Brigham & Women’s (ID: RAPHMR; EDTA)
  - Fill out B&W requisition and bring it to Cytogenetics

* Note: genetic mutations are not diagnostic of MDS without morphologic evidence of dysplasia

I have reviewed this algorithm: __________________________ date: ________________

Attending signature

Did you stray from the algorithm?  ○ yes  ○ no  why?
CML – Chronic Myelogenous Leukemia (new or treated)

- Reticulin stain on biopsy
- Flow cytometry
- Chromosome Analysis
- FISH for BCR/ABL1

New Diagnosis of CML

- BCR/ABL qualitative with reflex quantitation (ID: BCRFX; EDTA 72 Hr)

Pathology Summary Report for new diagnosis Chronic Myelogenous Leukemia

- ask Kim to accession a PS report
- add patient to PRISM list

Previously Diagnosed CML

If P210 positive in the past
- BCR/ABL1 Quant. P210 on Bone Marrow (ID: BCRAB 72Hr)

If P190 positive in the past
- BCR/ABL1 Quant. P190 on Bone Marrow (ID: BA190 5 d)

If other than P210 or P190
- BCR/ABL1 new diagnosis and ask for quantitation (ID: BADX 5 d)

I have reviewed this algorithm: ____________________________ date: ___________

Attending signature

Did you stray from the algorithm?  ○ yes  ○ no  why?
Myeloproliferative Neoplasm or CMML or Mast cell disease

- Reticulin stain on biopsy
- Flow cytometry
- Chromosome Analysis

On all cases

New Diagnosis or New Workup

- PATHOLOGY SUMMARY REPORT
  - ask Kim to accession a PS report
  - add patient to PRISM list

Concern for Essential Thrombocythemia or Primary Myelofibrosis or possible Polycythemia Vera

- If JAK2, CALR and MPL not already done
  - JAK2V617F / CALR / MPL reflex
  (ID: MPNR: EDTA 7d)

- If JAK2, CALR and MPL are negative
  - FISH for BCR/ABL1
  (notify Cytogenetics)

Concern for Polycythemia Vera ONLY

- If JAK2 V617F not already done
  - JAK2 V617F / JAK2 exon 12-15
  (ID: PVJAK: EDTA 5d)

- If JAK2 V617F is negative
  - JAK2 exon 12 if not already done(BM)
  (ID: JAKXM: EDTA 5d)

- If JAX2 V617 and exon12 are negative
  - FISH for BCR/ABL1 if not already done
  (notify Cytogenetics)

Concern for Chronic Eosinophilic Leukemia

- If BCR/ABL1 not already done
  - FISH for BCR/ABL1
  (notify Cytogenetics)

- If BCR/ABL FISH is negative
  - FISH for PDGFRA and PDGFRB
  (ID: CHICF & 512F: cell pellet)

Concern for Chronic Myelomonocytic Leukemia

- If not already done
  - FISH for BCR/ABL1
  (notify Cytogenetics)

- If abnormalities of chromosome 5q
  - FISH for PDGFRB
  (ID: 512F: cell pellet)

- If accompanied by eosinophilia
  - FISH for PDGFRA & B
  (ID: FCHIC & 512F: cell pellet)

Concern for Chronic NEUTROPHILIC Leukemia (CNL) or atypical CML (aCML)

- If BCR/ABL1 not already done
  - FISH for BCR/ABL1
  (notify Cytogenetics)

- Concern for CNL and BCR/ABL1 is negative
  - CSFR3
  (ID: FCHIC: cell pellet)

- Concern for aCML and BCR/ABL1 is negative
  - NGS Heme panel for SETBP1
  (Mayo ID: NGSHM)

Concern for Mastocytosis

- If ? mastocytosis
  - KIT D816F (even if negative in blood)
  (ID:KITBM: EDTA 7d)

- If ? mastocytosis with eosinophilia
  - FISH for PDGFRB
  (ID: CHICF: cell pellet)

- If ? mastocytosis and need to meet WHO
  - CD25 by IHC
  (ID: IHC send–out)

- If ? mastocytosis and mast cells seen
  - tryptase by IHC
  (ID: UVMMC IHC test)

I have reviewed this algorithm: ___________________________ date: __________

Attending signature

Did you stray from the algorithm?  ○ yes  ○ no    why?
Plasma Cell Dyscrasia, Myeloma and/or Amyloid

- Flow cytometry

If MYELOMA (bone marrow has >10% plasma cells: new or restaging/follow up)

- Cytogenetics Chromosome Analysis
- Myeloma FISH panel (if clinician requests it, order even if plasma cells are <10%) *

* BMs are usually obtained for surveillance or change in disease – but require FISH
Mayo will do an abbreviated panel for previously tested patients

- Congo red on biopsy if clinical or morphology is suspicious for amyloid

- PATHOLOGY SUMMARY REPORT for new diagnosis Myeloma
  - ask Kim to accession PS report
  - add patient to PRISM list

Additional Information:

- Evidence of end-organ damage? (optional):  ○ unknown ○ NO ○ YES  by: ○ Clinical Hx ○ PRISM ○ Radiology

SPEP:

- Serum Immunoglobulins: IgG:________ IgA: _________ IgM: __________
- Free Light chains: Kappa: ___________ Lambda: ___________ K/L ratio: __________
- Hemoglobin: Calc Calcium: Creat: B2 microglobulin:

I have reviewed this algorithm: ____________________________ date: __________

Attending signature

Did you stray from the algorithm?  ○ yes ○ no  why?
Chronic Lymphocytic Leukemia and/or Lymphoma

If Diagnosis is NHL or CLL  (not for Hodgkin lymphoma)

- Flow Cytometry

Diagnosis of CLL / SLL and Marrow Is Involved

If a new diagnosis then:

- PATHOLOGY SUMMARY REPORT
  - ask Kim to accession PS report
  - add patient to PRISM list

if not done in past six months

- CLL FISH panel

Diagnosis of DLBCL and Marrow Is Involved

if not previously done

- FISH for MYC cascade

OPTIONAL  - PATHOLOGY SUMMARY REPORT

I have reviewed this algorithm: ____________________________ date: _________

Attending signature

Did you stray from the algorithm?  ○ yes  ○ no  why?
Other, including benign disease (hemolytic anemia, ITP, TTP, etc.)

As Indicated:

- Flow cytometry
- Chromosome Analysis
- FISH for __________
- Other: ____________________________
- Switch to another track as appropriate: TRACK _____

Please communicate with the Clinician before you order anything unusual.

for a new diagnosis of a WHO entity

- PATHOLOGY SUMMARY REPORT
  - ask Kim to accession PS report
  - add patient to PRISM list

I have reviewed this algorithm: _______________________ date: _________

Attending signature

Did you stray from the algorithm?  ○ yes  ○ no  why?
**Lab Order Detail for CCCTest, TEST34 (Patient ID: 0611590514 Hospital ID: MHV)**

**Time of report 07/21/2017 1615**

**CCCTest, TEST34 (0611590514)**
- DOB 05/05/1955 (62Y)
- Soc Sec #: 888777777

**Sex F**

**Hospital ID MHV**
- Location B622-2 (B006)
- Att phys 1 GOGO MD, PROSPERO B JR
- Att phys 2

<table>
<thead>
<tr>
<th>Order designer:</th>
<th>GOGO MD, PROSPERO B JR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bordetella pertussis</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Specimen Description | Nasopharynx
| Special Requests | None
| Result | Negative
| Report Status | Final 07/21/2017 (603) {MV} |

**Order account #:** |

**Order location: B006**

**F6176 Collect D/T: 07/21/2017 1532**

**Receive D/T: 07/21/2017 1542**

**Order account #:** |

**Order location: B006**

*** END OF REPORT ***
Celiac Disease Panel
Tissue Transglut Ab  H 35.5  [<4.0]  U/mL

The following results were obtained with the INOVA QUANTA Lite Rh-tTG Elisa on the Dynex DSX.
Interpretation: Positive (>10.0 U/mL)

IgA  259  [82-453]  mg/dl

Celiac Dis Interpret  Celiac disease possible. Consider referral to gastroenterology specialist for consideration for biopsy.
Celiac Disease Panel

Tissue Transglut Ab H 6.3 [≤4.0] U/mL

The following results were obtained with the INOVA QUANTA Lite Rh-tTG Elisa on the Dynex DSX.

Interpretation: Weak Positive (4-10 U/mL). Suggest follow-up testing for anti-endomysial antibodies and/or anti-deamidated gliadin peptide antibodies if clinically indicated. A serum sample will be available for at least seven days for add-on testing if needed.

IgA 135 [82-453] mg/dl

Celiac Dis Interpret Equivocal serology, celiac disease cannot be excluded. Referral to gastroenterology specialist recommended for additional evaluation.
Celiac Disease Panel
Tissue Transglut Ab  <1.2  [<4.0] U/mL
The use of this assay and normal range (result interpretation) has not been established for pediatric samples.
The following results were obtained with the INOVA QUANTA Lite Rh-tTG Elisa on the Dynex DSX.
A negative result may be due to IgA deficiency and does not rule out celiac disease.

IgA
Celiac Dis Interpret
Approximately 10% of patients with celiac disease are seronegative. Patients who are already adhering to a gluten-free diet may be seronegative. If celiac disease is highly clinically suspected, referral to gastroenterology for additional evaluation is recommended.
Celiac Disease Panel
Tissue Transglut Ab  H 4.2 [<4.0] U/mL

The use of this assay and normal range (result interpretation) has not been established for pediatric samples.

The following results were obtained with the INOVA QUANTA Lite Rh-tTG Elisa on the Dynex DSX.

Interpretation: Weak Positive (4-10 U/mL).

Suggest follow-up testing for anti-endomysial antibodies and/or anti-deamidated gliadin peptide antibodies if clinically indicated. A serum sample will be available for at least seven days for add-on testing if needed.

IgA 33 [8.0-83] mg/dl

Celiac Dis Interpret Celiac disease interpretation in children less than one year of age is difficult. Recommend referral to gastroenterology specialist for additional evaluation if clinically indicated.
Celiac Disease Panel
Tissue Transglut Ab  H 7.3  [<4.0]  U/mL  

The use of this assay and normal range (result interpretation) has not been established for pediatric samples.

The following results were obtained with the INOVA QUANTA Lite Rh-tTG Elisa on the Dynex DSX.

Interpretation: Weak Positive (4-10 U/mL). Suggest follow-up testing for anti-endomysial antibodies and/or anti-deamidated gliadin peptide antibodies if clinically indicated. A serum sample will be available for at least seven days for add-on testing if needed.

IgA  L 30  [45-237]  mg/dl  

Corrected on 06/27 AT 1416: Previously reported as 199

Celiac Dis Interpret  Low total serum IgA. Recommend referral to gastroenterology specialist for additional evaluation.

END OF REPORT

H = High  L = Low  * = Critical
Celiac Disease Panel
Tissue Transglut Ab 3.6  [<4.0]  U/mL
The following results were obtained with the
INOVA QUANTA Lite Rh-tTG Elisa on the Dynex
DSX.
A negative result may be due to IgA deficiency
and does not rule out celiac disease.

IgA
Celiac Dis Interpret L <7  [82-453]  mg/dl
Total serum IgA deficiency. Recommend referral
to gastroenterology specialist for
additional evaluation.
Pathology & Laboratory Medicine
Client Centrifuge Procedure

OPERATING INSTRUCTIONS

The centrifuge must be placed on a rigid level surface, in a temperature controlled, non-patient area. There must be adequate ventilation and at least twelve inches of space around the centrifuge. There must be sufficient space above the centrifuge to leave the cover open. Suction cups secure the centrifuge to the bench top.

Observe universal precautions when handling specimens, always use gloves and goggles. Inspect tubes before centrifugation; cracked or scratched tubes should not be spun.

To balance the load, place tubes of equal weight (volume) opposite each other. Unbalanced tubes will result in excess noise when spinning and may lead to broken tubes. When you centrifuge an odd number of tubes, place a balance tube of equal weight (volume) opposite the odd tube. Do not remove tops from tubes before spinning.

Do not walk away from the centrifuge until full operating speed is attained.

*DO NOT OPEN THE CENTRIFUGE COVER UNTIL THE ROTOR STOPS COMPLETELY!*

To minimize temperature build up, the centrifuge should be left idle for 10 minutes with the cover open between sequential runs. When temperatures build up in successive runs the results for certain tests can be altered or can cause hemolysis.

Additional inserts are available for various tube sizes. Please contact laboratory Customer Service if you have any questions about your centrifuge.

COMPACT II OR FISHER SCIENTIFIC

1. The six stainless steel shields MUST be inserted into the rotor for proper centrifuge operation.
2. The six stainless steel shields must have one black or orange disk cushion and one large black cushion inserted into the bottom. Failure to use BOTH cushions can lead to the tops of the tubes popping off in the centrifuge. For smaller tubes insert a blue adapter into shields opposite each other. There should be a couple of centimeters between the bottom of the test tube cap and the top of the metal shield.
3. Close the top cover and latch. The centrifuge will not start unless the interlock switch near the cover is depressed.
4. Turn the timer knob past 15 and back to the 15 mark. Do not spin blood for longer than 15 minutes. When the timer’s clock gets to zero (knob reaches OFF position), a bell will ring and electrical power to the motor will shut off causing the rotor head to coast to a stop.

HORIZON MINI E

1. Make sure there are 4-red tube holders and 2-green tube holders inserted into the rotor.
2. The green holders are for spinning tubes that are less than 5 mL (75 mm long).
3. The red holders are for spinning tubes that are 6-10 mL (100 mm long). Do not spin 75 mm tubes in the red holders.
   "IMPORTANT: The top of the tube must not rest on the lip of the bucket or bucket insert. In addition, the tube must not stick up beyond middle of the rotor when spinning."
   Close the top cover and turn the latch clockwise, the LATCH light will illuminate.
4. Press START. The RUN and the LATCH light should be illuminated. The run is set for 10 minutes and the centrifuge will automatically turn off when finished. When the centrifuge is stopped turn the latch counter clock wise to open.
5. In case the power goes out and you need to get into the centrifuge, peel back the open/close label and insert a pen in the hole as you turn the latch.
CLEANING, GENERAL

1. Always unplug the power cord before cleaning the centrifuge. Wear protective gloves and clothing.
2. At least weekly, wipe the centrifuge interior rotor chamber and exterior housing with a mild detergent or Clorox wipes and water. Do not pour cleaning solutions directly into the centrifuge.
3. Run empty centrifuge for 5 minutes before spinning patient samples.
4. Annually or as needed, centrifuge maintenance must be done by a qualified technician. This would include checking the centrifuge brushes, timer, speed and electrical leaks. This is done by UVM Medical Center Technical Services Department.
5. Please contact Laboratory Customer Service at (802)847 5121 to order your annual maintenance. This is required according to the renewal date on the inspection sticker located on the centrifuge.

ANNUAL MAINTENANCE OR CENTRIFUGE REPAIR

The centrifuge needs routine maintenance annually. There is a sticker on the side of your centrifuge that tells you the date maintenance is due. If your centrifuge is due for maintenance or there is a problem with operation call Laboratory Customer Service for a replacement. If you have an orange “Defective Equipment” sticker fill it out and stick it to the centrifuge for transport. If not add a label to your centrifuge that says Your name, phone number, location, and the problem with your centrifuge (for instance “routine maintenance/ too loud/ latch broken, etc.) for transport. The courier will pick up your centrifuge for delivery to the lab.

CLEANING, DISINFECTING

1. To disinfect, wipe the centrifuge interior rotor chamber and exterior housing with Clorox wipes or with a solution of 1:10 sodium hypochlorite (bleach) and water solution (1-part bleach and 9-parts water).
2. It is also recommended to soak the shields and adapters in a 1:10 bleach solution for 10 minutes. After soaking rinse thoroughly in water and dry completely before use.
3. If a tube breaks in the centrifuge, carefully remove broken glass/plastic with a hemostat or other device, using gloves. Disinfect the centrifuge as above.
4. Run empty centrifuge for 5 minutes before spinning patient samples.

* IMPORTANT *

*DO NOT SEND A CONTAMINATED CENTRIFUGE TO THE LAB. BE SURE TO CLEAN YOUR CENTRIFUGE BEFORE SENDING IT TO UVMMC FOR SERVICE*

*NEVER SEND A CENTRIFUGE WITH BROKEN TUBES INSIDE TO THE LABORATORY*

SAFETY MEASURES

1. Do not use the centrifuge if any part shows signs of corrosion, mechanical damage, or wear.
2. Do not use the centrifuge if the interior is hot or if unusual vibrations or noises occur. For centrifuge problems, call Laboratory Customer Service (802)847-5121.
3. Centrifuges are instruments with strong potential for harming users due to the high speed at which they operate. It is very important to act safely when using and maintaining these instruments.
4. Do not lean or place items on the centrifuge at any time.
5. Do not leave the centrifuge until full operating speed is attained, and the centrifuge is operating correctly.

References:


Coagulation Specimen Handling and Processing

**SPECIMEN REQUIREMENTS FOR BLUE TOP TUBES (3.2% SODIUM CITRATE)**

1. Please indicate in the order or on the laboratory requisition if the patient is on heparin or coumadin.
2. Under-filled or over-filled blue top tubes are unacceptable for coagulation testing.
3. Samples from patients receiving heparin or fondaparinux should be processed immediately.
   
   See Heparin Assay-UFH (HEPUFH) and Heparin Level-LMW (HEPLMW) sample requirements.

- All the screening tests (Protime, PTT, Fibrinogen, D-Dimer) or any combination of the listed screening tests can be performed on a single 1.5 mL plasma aliquot.
- Thrombin Time requires a separate aliquot.
- Each additional test requires a separate 0.5-mL aliquot of plasma.
- Samples that require treatment with a heparin adsorbent require a separate 1.0-mL aliquot for each test.
- Platelet Function Analysis requires a separate blue top whole blood tube.

**Labels**

Tubes should be labeled with the patient’s full legal name, collection date/time, and if you are not sending the sample in the primary tube label with sample type (for example blue top plasma).

**Patient Information**

Please note on the test request if the patient is on heparin or coumadin. Some tests (in addition to the Protime and PTT) are affected by the presence of heparin or coumadin.

**REFER TO INDIVIDUAL TEST DESCRIPTIONS FOR EXCEPTIONS TO THIS PROTOCOL**

<table>
<thead>
<tr>
<th>Test</th>
<th>Sample Time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NON-HEPARINIZED PATIENT</strong></td>
<td></td>
</tr>
<tr>
<td>PTT and/or Protime</td>
<td>Deliver capped whole blood sample at room temperature within 3-hours of collection. For delayed delivery, send platelet poor plasma frozen. Protime can be included with this collection and sample time. If a patient is on heparin see <strong>HEPARINIZED PATIENT</strong> lower in this table.</td>
</tr>
<tr>
<td>D-Dimer</td>
<td></td>
</tr>
<tr>
<td>Fibrinogen</td>
<td></td>
</tr>
<tr>
<td>Other Coag Testing</td>
<td>Deliver capped whole blood sample at room temperature within 3 hours. For delayed delivery send platelet poor plasma in individual frozen aliquots for each test requested.</td>
</tr>
<tr>
<td>Platelet Function Analysis</td>
<td>Deliver capped whole blood samples at room temperature within 3 hours. Requires separate tube.</td>
</tr>
<tr>
<td>ProTime only</td>
<td>Deliver capped whole blood sample at room temperature within 23-hours of collection, if delayed, send platelet poor plasma frozen.</td>
</tr>
<tr>
<td>(no other coagulation testing requested)</td>
<td></td>
</tr>
<tr>
<td><strong>HEPARINIZED PATIENT</strong></td>
<td></td>
</tr>
<tr>
<td>Heparin Assay or Fondaparinux (Unfractionated or low molecular weight)</td>
<td>Deliver immediately; sample must be processed as soon as possible after collection, preferably within 30 minutes. For delayed delivery send platelet poor plasma frozen.</td>
</tr>
<tr>
<td>PTT, D-Dimer, Fibrinogen, Protime, Other Coag testing</td>
<td><strong>Samples from patients receiving heparin must be processed for platelet poor plasma immediately</strong></td>
</tr>
</tbody>
</table>
COLLECTION OF SAMPLE FOR COAGULATION STUDIES

1. **ANTICOAGULANT:** Use blue top tube, 3.2% sodium citrate anticoagulant.
   (NOTE: The majority of coagulation tests require sodium citrate anticoagulant but there are exceptions. Refer to the individual tests in the directory for specific specimen requirements.)

2. If using the Vacutette® system the blue top tube must not be the first drawn. If only coagulation specimens are being collected, draw at least 2-ML of blood into the first tube, then discard that tube.

3. If using the two-syringe technique, unscrew the safety needle and dispose of it in an approved sharps container. Screw a blood transfer device into the syringe. You can now safely fill vacuum tubes as needed, use care not to force blood into the tubes, run the blood gently down the side of the tube. Immediately after filling the tube, invert the tube GENTLY five or six times to mix. When transfer is complete, discard the entire assembly (syringe and transfer device) in an approved sharps container. Never disassemble equipment, dispose of it in its entirety. Blood must be transferred from syringe to anticoagulated tubes within one minute to prevent clotting.

4. The sample must be drawn asatraumatically as possible to avoid contamination with tissue factor, activation of clotting factors or platelets, and hemolysis. Do not leave the tourniquet on for more than one minute. Also avoid excessive pumping of the hand, or slapping to raise a vein. If a good blood flow has been established, loosen the tourniquet before drawing the coag samples.

5. **HEMOLYSIS IS UNACCEPTABLE** for the more specialized coagulation tests. Screening tests (Protime, PTT, Fibrinogen, D-dimer and Thrombin Time), will be performed on a slight too hemolysis is preferable for the screening tests as well. MARKEDLY HEMOLYZED SPECIMENS WILL BE REJECTED.

6. **UNDERFILLED OR OVERFILLED TUBES ARE UNACCEPTABLE.** Even though minimum PLASMA requirements for a test may be as little as 0.1 mL, MINIMUM REQUIREMENT IS A FULL COAG TUBE. There is a black triangle located at the top of the label that is the fill-to line, tubes that are filled under or over this line will be rejected. Coagulation testing and accurate test results are based on a ratio of 9 parts blood to 1 part anticoagulant and since the anticoagulant stops blood from clotting by removing a portion of the calcium from plasma, underfilling the tube removes too much calcium leading to inaccurate patient results. For patients whose hematocrits are 55% or higher, a smaller plasma volume leads to a disproportionately higher calcium loss therefore anticoagulant volume must be adjusted for patients with high hematocrits. Call the Coagulation Laboratory at (802) 847-5121 for instructions.

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PLATELET POOR PLASMA PROCESSING

1. If only a protime is ordered and the sample will reach the lab within 23 hours after collection, the sample must be stored and transported at room temperature.

2. If only screening tests are requested (PTT, Fibrinogen, D-Dimer, Thrombin Time) and the sample will reach the lab within 3 hours of collection, the sample must be kept at room temperature.

   **DO NOT FREEZE A WHOLE BLOOD SAMPLE.**

   All other coagulation tests require that the specimen be processed for platelet poor plasma and frozen as quickly as possible after the specimen is drawn. The plasma must remain frozen until the test is performed.

3. **SPECIMENS MUST BE CHECKED FOR CLOTS.** This may be done before centrifuging the specimen or after the plasma has been removed. If several tubes are drawn and the plasma is to be pooled and re aliquoted, it is preferable that the tubes be checked for clots prior to centrifugation in case one of several tubes to be used for the pool is clotted. CLOTTED TUBES MUST BE REJECTED.

4. **To obtain plasma suitable for freezing for coagulation testing,** the capped specimen tube must be centrifuged. It is recommended that a swing bucket rotor be used to minimize remixing of the plasma and platelets. A double-spun method is required.

5. **To double-spin plasma:** Spin whole blood and transfer the top two thirds of the plasma into a plastic aliquot tube, cap the aliquot tube and res pin the plasma. Being careful not to disturb the cells at the bottom of the tube, transfer the top two thirds of the respun plasma to a plastic tube and freeze. If the plasma is for multiple tests, prepare a separate aliquot for each test. Failure to produce platelet-poor-plasma results in residual platelets, which are a significant source of interference in coagulation testing. Contact the Hematology laboratory for further guidance ((802) 847-5121). Samples for heparin levels, tests used to detect Lupus-like inhibitors and tests on heparinized patients must be centrifuged as outlined above and frozen within one hour of collection.

6. If a delivery system other than the UVMMC courier is used, frozen specimens should be shipped in a styrofoam container with at least 5 pounds of dry ice via a courier with a guaranteed overnight delivery.
SPECIMEN HANDLING FOR THROMBOSIS PANELS

There are 2 orderable Thrombosis Panels:


**Thrombosis Panel WITHOUT Coumadin**, charge code TP1. Testing includes: Prothrombin time, PTT, PTT 50/50 mixing study, D-Dimer, Cardiolipin IgG & IgM AB, Antithrombin 3 Functional, Lupus Anticoagulant Cascade, Activated Protein C Resistance V, Protein C Functional (if low, Protein C Antigen done), Protein S Functional (if low Protein S Antigen done).

Prothrombin time and PTT are subject to Medicare Local Medical Review Policy. Only order these panels if all test components are medically necessary. May only be ordered if laboratory has a signed "Physician Acknowledgement of Custom Profile" on file. Contact your Lab Outreach Specialist to obtain this form.

Collect and process samples for either panel in the following manner. Be sure to label all tubes with 2 patient identifiers and the date and time collected.

**COLLECT:**
- 6 Blue tops
- 1 Serum Gel Tube

**PROCESSING AND STORAGE**
Process blue tops as for platelet poor plasma. Label each aliquot tube as “Blue top plasma” along with 2 patient identifiers and the date and time collected. Freeze plasma and send to the lab on dry ice.

Aliquot: 2-plastic tubes with 1.0 mL each
- 6-plastic tubes with 0.5 mL each

Spin the serum gel tube. Send 1-mL serum refrigerated.
COLLECTING A BLOOD SAMPLE

Patient Considerations

Fasting
Patients should be instructed not to have anything to eat or drink for at least 8 hours. Water is acceptable. The patient should continue to take any medications that have been prescribed, unless otherwise directed by the physician. If the patient usually takes their medication with food, please tell them to refrain until after the sample has been collected. It is important for the patient to hydrate.

Other Factors
Smoking and exercise may affect test result. Please ask patients to refrain from these activities until their sample has been collected.

General Information
1. It is important to have all equipment, supplies, and test orders ready for the procedure.

2. Wash your hands before each patient.

3. Gloves must be worn when performing any venipuncture or fingerstick. Gloves must also be worn when processing the lab samples.

4. Whenever collecting laboratory samples, the patient must be identified using at least two patient identifiers. Label the samples immediately after collection and in the presence of the patient. For proper labeling use the patients’ full legal name (no nick names), date of birth and, University of Vermont Medical Center (UVMMC) MRN if available. The date and time the sample was collected is also helpful.

Blood Bank Sample Collection

Only authorized personnel can collect Blood Bank samples used for transfusion, Contact blood bank for information 847-5121.

Venipuncture

1. To help find a site for venipuncture use a soft flexible tourniquet. Place the tourniquet around the arm above the bend of the elbow (2-3 inches) in such a way that a pull of one end will allow for easy release. It should be tight but not painful to the patient. Do not leave the tourniquet on for more than one minute.

2. Palpate for a suitable vein. Once the site has been selected, use concentric circles to decontaminate it with 70% alcohol. The alcohol should be allowed to air dry after preparing the site. Do not wipe off with gauze. If this is not done, alcohol will sting at the puncture site and can interfere with some test results.

3. Once the site has been decontaminated DO NOT touch the actual puncture site. Put on gloves.

4. Prepare the needle assembly. Do not uncap the needle until you are ready to perform the venipuncture.
5. Anchor the vein. This is very important so the vein does not move when inserting the needle. Using the thumb of your non-dominant hand pull down on the patient’s skin approximately 3 inches below the intended venipuncture site. You may also use your index finger above the site but is not practiced universally.

6. Hold the assembly with the first tube in place between your thumb and third and fourth fingers of your dominant hand. Your fingers should never come in contact with the exposed needle. The needle should run the same direction as the vein and should be inserted at a 15-30 degree angle with the bevel side upward, slightly below the vein. Once the needle is in the vein the test tube should be gently pushed forward to puncture the rubber stopper and allow blood to fill the tube. Hold firmly onto the needle holder to prevent the needle from moving as you push the test tube onto the needle.

7. The tube should continue to fill until the blood flow stops (vacuum has been exhausted). Remove tube from assembly and gently invert the tube 5 to 7 times for light blue top tubes and 8 to 10 times for all others to mix the blood. Never shake a tube containing blood. When drawing multiple tubes each tube should be gently removed from the holder and replaced with the next tube.

8. The correct order for tubes to be collected so there is no contamination or transfer of anticoagulants is as follows:

   1. Blood Cultures
   2. Light Blue Top Tube
   3. Red Top, NO GEL
   4. Serum Gel Tube
   5. Green Top Tube
   6. Lavender Top Tube/Pink Top Tube
   7. Grey Top Tube

9. If blood has been collected into one tube, it should never be transferred to another tube.

10. Release the tourniquet, withdraw the needle, and apply pressure with a dry gauze pad for two minutes, or until bleeding has stopped. DO NOT BEND the arm. The arm may be elevated.

11. Do not recap the needle. Dispose of the needle and holder assembly in a puncture proof needle disposal container.

12. Label the tubes at the patient's side see “Laboratory Specimen Acceptability Policy”). Samples should not be left on a counter top or bed unlabeled.

13. After labeling tubes, check the patient’s arm for proper clotting by dabbing the gauze and stretching the skin at the puncture site. Apply a pressure bandage to reduce the risk of bruising. Instruct the patient to remove the bandage after one hour.

**Hemolysis of Blood Specimens**
Hemolysis is due to red blood cells lysing or breaking-up, causing constituents inside the cell to spill into the serum or plasma. Hemolysis is important because it can effect test results. Some lab tests are effected more than others by hemolysis, the effects can be caused by-products liberated from the red cells, or due to interferences with laboratory analyzers.

The most common causes of hemolysis occur during blood collection, listed here are a few of the most common collection errors that can lead to hemolysis.

Common Causes of Hemolysis During Sample Collection

- Not letting the venipuncture site completely dry after cleansing with 70% alcohol or betadine.
- Putting the tourniquet on too tight or leaving the tourniquet on the arm for more than one minute. You usually can release the tourniquet as soon as the blood starts to flow into the tube.
- Using too small a gauge needles for blood collection. Needles should be 21 or 23 gauge to facilitate steady blood flow into the tube or syringe. A larger bore needle can cause too much suction on a small or weak vein, collapsing it. If you use too small of a needle, the shearing forces on the cells as they enter the needle can cause hemolysis.
- Forcing blood into or out of a syringe. Before drawing the blood in a syringe move the plunger within the barrel several times to ensure ease of movement. A 5mL, 10mL, or 20 mL syringe is recommended, larger syringes require more force to pull out the plunger and this can cause hemolysis. It is extremely important to draw the blood SLOWLY into the syringe, keeping the level of the blood close or at the edge of the plunger. If the blood is drawing slowly, do not pull back harder. If you use a syringe you will need to transfer the blood to the proper tubes. Never force the flow of blood into the tube, let the vacuum fill the tube.
- Mixing the blood sample too vigorously. NEVER SHAKE THE TUBE; always gently invert the tube 5 to 7 times for light blue tops and 8 to 10 times for all others to mix anticoagulant with the blood. (Some testing may require special handling. Refer to test catalog for special instructions)
- The tube must be inserted straight into the needle adapter/holder. If the needle that goes inside the collection tube is crooked and is resting near the side of the tube or is not completely inside the stopper, this can cause hemolysis.
- Do not remove the needle from the vein until you have removed the collection tube from the adapter/holder. If there is vacuum left in the tube, the sudden burst of air into the tube from the needle can cause hemolysis and pain to the patient.
- Do not centrifuge blood for longer than 15 minutes. Temperatures can build up in successive runs and this can cause hemolysis. To minimize temperature build up, the centrifuge should be left idle for 10 minutes with the cover open between sequential runs.

Hemolysis can occur in other scenarios, if you have a particular instance you would like to discuss please call Laboratory Customer Service (802)847-5121.
PREPARATION OF DIFFERENTIAL BLOOD SMEARS

If you order a CBC with differential and the sample will not arrive at UVMMC within 4 hours, a blood smear must be made for the differential. A carefully prepared blood smear is vital for an accurate differential count. If the smear is made too thin, there is a chance the larger cells will be collected at the thin edge. If too thick, the cells appear too round to properly identify. Preparation technique, therefore, is of the utmost importance in the blood cell differential. Our laboratory is happy to assist in training of office personnel. Please contact an Outreach Specialist at (802) 847-5121 to schedule training.

**When handling blood or other body fluids always wear gloves.**

**Manual Method (push smear) for Making Blood Smears**

1. Place a drop of blood approximately 3-4 mm in diameter at one end (non-frosted) of the slide:
   a. Use clean glass slides of sufficient quality so that the edges of the slide are smooth (free of nicks or imperfections). If the slides used do not have smooth edges the resulting smear will be uneven and full of streaks.
   b. Fill a microhematocrit tube with blood. Carefully place a small drop of blood in the middle of the slide approximately 1 cm from the frosted end.

2. Draw a spreader slide back into the blood, allow blood to spread, then immediately push the spreader slide over the entire length of the slide:
   a. Place the slide on a table top with the drop of blood on the right (for left-handed people it may be easier to reverse all techniques to the opposite hand).
   b. With the left hand, hold the slide on the table. Hold the spreader slide with the right hand and place the end slightly in front of the drop of blood on the other slide. There should be an approximately 25 degree angle between the two slides (see diagram above).
   c. Draw the spreader slide back toward the drop of blood. As soon as the spreader slide comes in contact with the drop of blood, the blood will spread to the edges of the slide. (Be careful that no blood gets in front of the spreader slide.)
   d. Keeping the spreader slide at a 25 degree angle, and the edge of the spreader slide firmly against the horizontal slide, push the spreader slide rapidly over the entire length of the slide. Label the slide with the patient’s full name.

3. Prepare a second slide on the same specimen using the same procedure.
4. Allow the slides to air dry and label. (Do not use a fan to dry.)
5. Label the frosted area with a pencil; include patient name and Fletcher Allen Medical Record Number and/or date of birth.

**Discussion**

1. The glass slides must be clean and have smooth edges.
2. There should be no delay in making the smear once the drop of blood is placed on the glass slide. Any delay whatsoever results in abnormal distribution of the white cells. Rouleaux and platelet clumping may occur.
3. Common causes of a poor blood smear:
   a. Drop of blood is too large or too small.
   b. Spreader slide pushed across the slide in a jerky manner.
   c. Failure to keep the entire edge of the spreader slide against the slide while making the smear.
   d. Failure to keep the spreader slide at a 25 degree angle with the slide. (Increasing the angle results in a thicker slide, whereas a smaller angle gives a thinner smear.)
   e. Failure to push the spreader slide completely across the slide.

Examples of Properly and Improperly Prepared Smears:

Properly made smear contains no streaks and tapers to a feathered edge with adequate area for differential to be performed.

Improperly made smear. Lots of streaks with no feathered edge. This may be caused by not allowing the drop of blood to spread along the spreader slide, spreader slide being pushed too rapidly or a poor quality spreader slide.

Improperly made smear. No feathered edge. This type of slide results when either the drop of blood is too large and/or the spreader slide is pushed too slowly.

Improperly made smear. Irregular pressure applied during slide preparation.
### PATIENT INFORMATION

Last Name _______________________________  First Name _______________________________   MI________
DOB____/____/____  Gender: _________  Ethnicity of patient:  
(Check all that apply)  
☐Caucasian/NW European   ☐Hispanic
☐Asian       ☐African-American    ☐Indian
☐Native American  ☐Eastern European
☐Mediterranean  ☐Other____________

**Required clinical information:**

- muscle weakness present: _______.  If yes, please describe: _______________________________________________
- muscle wasting: _______. hypotonia: _______. exercise intolerance: _______. lower back pain: _______.
- cardiomyopathy/cardiomegaly: _______.  cardiac arrhythmia: _______. hepatomegaly: _______.
- respiratory insufficiency: _______. If yes; _______________________________________________

- Has a muscle biopsy been performed? ____________  If yes, please summarize results: ____________________________
- Family history of Pompe disease? _____________  *If patient is part of a known Pompe family, please attach pedigree.
- Other relevant clinical information: ___________________________________________________________________

### SAMPLE INFORMATION

Sample requirements: **3-5mL whole blood in sodium-EDTA (purple-top) tube.**

**Please indicate your testing preferences:**  
☐ DBS for GAA enzyme assay and GAA gene sequencing if indicated**

**If enzyme activity is decreased, GAA gene sequencing may be indicated to confirm diagnosis. You must indicate above if you wish for reflex GAA gene sequencing to be done if necessary.**

Date sample collected: ____/____/____  Time sample collected: ____:____ AM/PM

Sample should be shipped overnight with a cold pack. If unable to ship on the day sample is drawn, please keep at 4°C until able to be shipped. Ship samples Monday through Thursday only. **Do not ship samples on Fridays; no weekend deliveries accepted. Be sure to include this requisition form with your sample!**

**Ship to:** Glycogen Storage Disease (GSD) Laboratory  
Biochemical Genetics Laboratories  
Attn: Deeksha Bali, PhD – Pompe DBS Program  
Duke Hospital  
801 Capitola Drive, Suite 6  
Durham, NC  27713

If questions please contact:  
Deeksha Bali, PhD  
Phone: 919-684-0025  
Deeksha.Bali@duke.edu

Gwen Dickerson  
Phone: 919-684-0338  
gharmon@duke.edu

http://medgenetics.pediatrics.duke.edu

### PHYSICIAN ORDERING TEST:

Name and Specialty: _______________________________  
Institution / address: _______________________________

City: ____________________________  State: ________  Zip: ________
Phone: (_____) _______ - ________  Fax: (_____) ______ - ________
Email: _______________________________

Duplicate report to: _______________________________

Physician name & clinic  
Phone: (_____) _______ - ________  
Fax: (_____) ______ - ________

### BILLING INFORMATION:

Are you an MDA-affiliated physician? _____ yes*  
____ no

* If you are an MDA physician, you must provide billing info for your local MDA office below:

**MDA Billing address: **

Name: _______________________________
Address: _______________________________

Phone: (_____) _______ - ________  
Fax: (_____) ______ - ________
About the Pompe Testing Program

Pompe disease (also known as Acid Maltase Deficiency) is a progressive and often fatal neuromuscular disorder with symptoms that can mimic other metabolic myopathies. Making the diagnosis is an important step toward optimizing your patient’s care.

The Duke Glycogen Storage Disease (GSD) Laboratory offers non-invasive and free testing through the Pompe Disease Dried Blood Spot (DBS) testing and GAA Sequencing Program. This program is supported through a grant provided by Genzyme Corporation.

How do I test my patients?

- Collect 3 – 5 mL whole blood in an EDTA (purple-top) tube.
- Complete the requisition form (available from your local Genzyme representative).
- Send the sample to the address provided on the requisition form within 24 hours of collection:
  - If sample is collected on a Friday, please store at 4°C through the weekend and ship sample on the following Monday with a cold-pak enclosed.
  - The Pompe Disease Dried Blood Spot Testing and GAA Sequencing Program does not cover the costs associated with obtaining and shipping the sample.
- If a patient’s GAA enzyme activity testing on blood sample is found to be low, the ordering physician will be notified via e-mail or phone call to recommend follow up testing through GAA full gene sequencing. If a patient’s DBS tests negative, you will receive results via the mail within 10 days.
Why does the test requisition form ask me to indicate my testing preferences?

Blood-based GAA enzyme testing is an initial screening test for Pompe disease. Dried blood spot (DBS) samples testing positive for GAA deficiency must be confirmed using GAA full gene sequencing for definitive diagnosis.

Initial testing performed on the patient's blood sample will be DBS based GAA enzyme activity measurement. Samples testing in the normal range in enzyme activity exclude the diagnosis of Pompe disease.

If your patient's GAA enzyme activity test shows deficiency or low-level activity, follow-up testing through GAA full gene sequencing is recommended for confirmation of diagnosis. There is no need to send an additional sample; sequencing can be performed using blood from the original sample.

If you would like GAA gene sequencing to be done as a reflective test for confirmation of diagnosis, please indicate this by ordering both tests on the requisition form.

Duke University Hospital
Glycogen Storage Disease Laboratory
Biochemical Genetics Laboratory
801 Capitola Drive, Suite 6
Durham, NC 27713
919-549-0445

The Duke University GSD Laboratory specializes in the enzymatic and molecular diagnosis of glycogen storage disorders, disorders of fructose metabolism, and lysosomal storage diseases. The laboratory is certified by the College of American Pathologists (CAP) and Clinical Laboratory Improvement Amendments (CLIA) and is staffed by highly trained, licensed professionals and laboratory personnel. The latest advances in diagnostic technologies are utilized to provide physicians with an extensive menu of biochemical, enzyme and molecular tests. The laboratories work closely with the Division's board-certified medical geneticists and genetic counselors to ensure timely interpretation of laboratory results for health care professionals and their patients.
Time of report 08/07/2018 1235

TEST, ED1 (5300002028)
DOB 05/05/1955 (63Y)
Soc Sec #: 888888888

Hospital ID MHV
Location ED103 (EDI)
Att phys 1 EMERGENCY MD, DEFAULT
Att phys 2

<table>
<thead>
<tr>
<th>Test Code</th>
<th>Description</th>
<th>Order account #</th>
<th>Order location</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Receive D/T: 08/07/2018 1226</td>
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<tr>
<td></td>
<td>Order physician: EMERGENCY MD, DEFAULT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ED,UC INFLUENZA, RSV</td>
<td>Nasopharynx</td>
<td>(608) {MV}</td>
<td></td>
</tr>
<tr>
<td>INFLUENZA A RNA RESU</td>
<td>Negative</td>
<td>(608) {MV}</td>
<td></td>
</tr>
<tr>
<td>INFLUENZA B RNA RESU</td>
<td>Negative</td>
<td>(608) {MV}</td>
<td></td>
</tr>
<tr>
<td>RSV RNA RESULT</td>
<td>Negative</td>
<td>(608) {MV}</td>
<td></td>
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*** END OF REPORT ***
**Time of report 08/07/2018 1235**

**TEST, ED1 (5300002028)**  
**DOB 05/05/1955 (63Y)**  
**Soc Sec #: 888888888**  
**Sex F**  

**Hospital ID MHV**  
**Location ED103 (EDI)**  
**Att phys 1 EMERGENCY MD, DEFAULT**  
**Att phys 2**

<table>
<thead>
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<th>Description</th>
<th>Result</th>
<th>Order D/T</th>
<th>Order Account</th>
<th>Order Location</th>
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<tbody>
<tr>
<td>T8236</td>
<td>Nasopharynx</td>
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<td>08/07/2018</td>
<td>(608) {MV}</td>
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**Collect D/T: 08/07/2018 UNKNOWN**  
**Receive D/T: 08/07/2018 1227**  

**Order physician: EMERGENCY MD, DEFAULT**  

*** END OF REPORT ***
**Time of report 08/06/2018 1505**

TEST, MAGGIE (8500000255)  
DOB 05/05/1995 (23Y)  
Soc Sec #: 888338888  
Sex F  

**Hospital ID MHV**  
Location WP3025 (PMCHI)  
Att phys 1 MARROQUIN MD, CARLOS E  
Att phys 2

---

<table>
<thead>
<tr>
<th>MS840</th>
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</thead>
<tbody>
<tr>
<td>Order physician:</td>
<td>MARROQUIN MD, CARLOS E</td>
<td>Order account #:</td>
</tr>
<tr>
<td><strong>INPATIENT, OP INFLUE</strong></td>
<td>Nasopharynx</td>
<td>(608) {MV}</td>
</tr>
<tr>
<td><strong>INFLUENZA A RNA RESU</strong></td>
<td>Negative</td>
<td>(608) {MV}</td>
</tr>
<tr>
<td><strong>INFLUENZA B RNA RESU</strong></td>
<td>Negative</td>
<td>(608) {MV}</td>
</tr>
<tr>
<td><strong>RSV RNA RESULT</strong></td>
<td>Negative</td>
<td>(608) {MV}</td>
</tr>
</tbody>
</table>

---

*** END OF REPORT ***
Time of report 08/06/2018 1506

TEST JR,MARYTT2 B (0611200809)  Hospital ID MHV
DOB 05/04/1933 (85Y)  Location ME5061 (M005)
Soc Sec #: 8888888888  Att phys 1 DRUCKER MD, NANCY ANN
Sex F  Att phys 2

<table>
<thead>
<tr>
<th>Test Code</th>
<th>Test Description</th>
<th>Specimen</th>
<th>Result</th>
<th>Order Location</th>
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</thead>
<tbody>
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<td>Nasopharynx</td>
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<td></td>
<td>Receive D/T: 08/06/2018 1457</td>
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*** END OF REPORT ***
Time of report 08/06/2018 1506

TEST,MARY (0011150042)  Sex F
DOB 05/05/1955 (63Y)  Hospital ID MHV
Soc Sec #: 8888888888  Location DCRE

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<thead>
<tr>
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</thead>
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<tr>
<td></td>
<td>Order physician: DRUCKER MD, NANCY ANN</td>
<td>Order account #:</td>
</tr>
<tr>
<td>Specimen Description</td>
<td>Bronchoalveolar Lavage</td>
<td>(608) {MV}</td>
</tr>
<tr>
<td>INFLUENZA A RNA RESU</td>
<td>Negative</td>
<td>(608) {MV}</td>
</tr>
<tr>
<td>INFLUENZA B RNA RESU</td>
<td>Negative</td>
<td>(608) {MV}</td>
</tr>
<tr>
<td>RSV RNA RESULT</td>
<td>Negative</td>
<td>(608) {MV}</td>
</tr>
</tbody>
</table>

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*** END OF REPORT ***
Lab Order Detail for TEST,MARY (Patient ID: 0011150042 Hospital ID: MHV)

Time of report 08/06/2018 1506

TEST,MARY (0011150042)
DOB 05/05/1955 (63Y)
Soc Sec #: 888888888

Hospital ID MHV
Location DCRE
Att phys 1 FINK MD, THEODORE
Att phys 2

<table>
<thead>
<tr>
<th>Test Code</th>
<th>Description</th>
<th>Result</th>
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</thead>
<tbody>
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<td>M5843</td>
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<tr>
<td></td>
<td>INFLUENZA A RNA RESU</td>
<td>(608)</td>
</tr>
<tr>
<td></td>
<td>* POSITIVE</td>
<td>(608)</td>
</tr>
<tr>
<td></td>
<td>INFLUENZA B RNA RESU</td>
<td>(608)</td>
</tr>
<tr>
<td></td>
<td>* POSITIVE</td>
<td>(608)</td>
</tr>
</tbody>
</table>

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*** END OF REPORT ***
Time of report 08/06/2018 0906

TEST JR,NXG1XX Z (8500025237) DOB 05/05/1955 (63Y) Soc Sec #: 888888888 Sex F

Hospital ID MHV Location B390-1 (B003) Att phys 1 KLIKUNAS MD, MARVIN F Att phys 2

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<th>M5832</th>
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<th>Receive D/T: 08/06/2018 0856</th>
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<tbody>
<tr>
<td>Order physician:</td>
<td>KLIKUNAS MD, MARVIN F</td>
<td>Order account #:</td>
</tr>
<tr>
<td>EXPANDED RESP VIRAL</td>
<td>Nasopharynx</td>
<td>(608) {MV}</td>
</tr>
<tr>
<td>PARAINFLUENZA TYPE 1</td>
<td>Negative</td>
<td>(608) {MV}</td>
</tr>
<tr>
<td>PARAINFLUENZA TYPE 2</td>
<td>Negative</td>
<td>(608) {MV}</td>
</tr>
<tr>
<td>PARAINFLUENZA TYPE 3</td>
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</tr>
<tr>
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<tr>
<td>RHINOVIRUS RNA RESUL</td>
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<td>(608) {MV}</td>
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</table>

*** END OF REPORT ***
Lab Order Detail for TEST JR, STATUS A (Patient ID: 8500041374 Hospital ID: MHV)

Time of report 08/06/2018 0906

Test JR, STATUS A (8500041374)  Sex F
DOB 02/05/1981 (37Y)
Soc Sec #: 888888234

<table>
<thead>
<tr>
<th>Order physician: LANDRY MD, KARA KLINGMAN</th>
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<tbody>
<tr>
<td>EXPANDED RESP VIRAL</td>
</tr>
<tr>
<td>Specimen Description</td>
</tr>
<tr>
<td>PARAINFLUENZA TYPE 1</td>
</tr>
<tr>
<td>PARAINFLUENZA TYPE 2</td>
</tr>
<tr>
<td>PARAINFLUENZA TYPE 3</td>
</tr>
<tr>
<td>PARAINFLUENZA TYPE 4</td>
</tr>
<tr>
<td>ADENOVIRUS DNA RESUL</td>
</tr>
<tr>
<td>METAPNEUMOVIRUS RNA</td>
</tr>
<tr>
<td>RHINOVIRUS RNA RESUL</td>
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</tbody>
</table>

M5833 Collect D/T: 08/06/2018 UNKNOWN Receive D/T: 08/06/2018 0856

Order account #: Order location: B003

(608) {MV}

*** END OF REPORT ***

file:///C:/Users/m167288/AppData/Local/Temp/SQIQLabUI-P.htm

8/6/2018
### Lab Order Detail for TEST, LARRY A

**Patient ID:** 5118008803  **Hospital ID:** MHV  
**DOB:** 03/11/1953 (65Y)  **Sex:** M  
**Soc Sec #:** 8888888888

---

### Test Information

**Order physician:** LURIA MD, SCOTT  
**Order account #:**  
**Order location:** B004

<table>
<thead>
<tr>
<th>Test Description</th>
<th>Result</th>
<th>Specimen</th>
<th>Location</th>
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<tbody>
<tr>
<td>EXPANDED RESP VIRAL</td>
<td></td>
<td>Bronchoalveolar Lavage</td>
<td>(608) MV</td>
</tr>
<tr>
<td>PARAINFLUENZA TYPE 1</td>
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<td>(608) MV</td>
<td></td>
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<tr>
<td>PARAINFLUENZA TYPE 2</td>
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<td>(608) MV</td>
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<tr>
<td>PARAINFLUENZA TYPE 3</td>
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<td>(608) MV</td>
<td></td>
</tr>
<tr>
<td>PARAINFLUENZA TYPE 4</td>
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<td>(608) MV</td>
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<td>METAPNEUMOVIRUS RNA</td>
<td>Negative</td>
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<tr>
<td>RHINOVIRUS RNA RESUL</td>
<td>Negative</td>
<td>(608) MV</td>
<td></td>
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</table>

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*** END OF REPORT ***
# Lab Order Detail for TEST, KYLE D (Patient ID: 0611213471 Hospital ID: MHV)

**Time of report 08/06/2018 0907**

**TEST, KYLE D (0611213471)**
**DOB 04/16/2006 (12Y)**
**Soc Sec #: 888552222**

**Hospital ID MHV**
**Location AES**
**Att phs 1 HAYDEN MD, JONATHAN**
**Att phs 2**

---

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<th>M5835</th>
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<tr>
<td>Order physician:</td>
<td>CONNOLLY MD, GREGORY J</td>
<td>Order account #:</td>
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<tr>
<td>EXPANDED RESP VIRAL</td>
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<tr>
<td>Specimen Description</td>
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<tr>
<td>PARAINFLUENZA TYPE 1</td>
<td>* POSITIVE</td>
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<td>PARAINFLUENZA TYPE 4</td>
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<td>METAPNEUMOVIRUS RNA</td>
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<td>RHINOVIRUS RNA RESUL</td>
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*** END OF REPORT ***

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file:///C:/Users/m167288/AppData/Local/Temp/SQIQLabUI-P.htm 8/6/2018

Medical Device Ongoing Action

Published: Wednesday, May 18, 2016
Last Updated: Thursday, May 19, 2016

UMDNS Terms:
- IVD Test Reagents/Kits, Serology, Rapid Test, Bacteria, Helicobacter pylori [19468]

Product Identifier:
BreathTek Urea Breath Test (UBT) Kits [Contraindicated]

Geographic Regions: (Impact in additional regions has not been identified or ruled out at the time of this posting), U.S.&#8320;50.

Manufacturer(s): Otsuka America Pharmaceutical Inc 2440 Research Blvd, Rockville, MD 20850, United States

Suggested Distribution: Clinical Laboratory/Pathology, Gastroenterology, Point-of-Care Coordination, Pharmacy, Materials Management

Problem:
In an April 12, 2016 letter submitted by an ECRI Institute member hospital, Otsuka states that FDA has approved updates to the product labeling for the above kits. Otsuka also states that the above kits will not be distributed with the updated package insert and how-to guide for several months. The manufacturer has not confirmed the information provided in the source material.

Action Needed:
Identify any affected product in your inventory. If you have affected product, verify that you have received the April 12, 2016, letter, the new current package insert, and how-to guide from Otsuka. The current package insert and how-to guide are also available for download from the firm’s website. Be aware of the following changes to the package insert:

Warnings and Precautions (Section 4)
- The caution for administering the Pranacitin citrate solution in diabetic patients was removed.
- The term “aminocarbamins” was changed to “antibiotics.”
- A clarification was added to recommend the use of the straw supplied in the kit to reduce the likelihood of false-positive results.
- The safety of using affected product on pregnant and lactating patients is not established.
- Additional emphasis has been placed on determining infection status in pediatric patients. To obtain pediatric results, you must use a web-based calculation program provided on the website.

Patient Preparation (Section 7)
- Additional information advises patients to stop taking histamine 2-receptor antagonists (H2RAs) 24 to 48 hours before testing.
- Additional information establishes that patients may continue to take antacids before testing.
- The term “aminocarbamins” was changed to “antibiotics.” Patients should stop taking antibiotics 2 weeks before testing.
- If a repeat test is required, affected product can be administered on the following day.

Step-by-Step Procedure (Section 8.2)
- After adding water to the Pranacitin citrate solution, close the lid securely by pressing down until there is a click before swirling the mixture.
- Do not using the straw provided in the kit may result in inaccurate results.
- The patient’s breath sample may be collected no later than 30 minutes post-dose.

Notify all relevant personnel at your facility of the information in the letter, and forward a copy of the letter to any facility to which you have further distributed affected product.

For Further Information:
Otsuka
Tel: (888) 627-3835
Email: productinfo@otsuka.com
Website: Click here

Comments:
This alert is a living document and may be updated when ECRI Institute receives additional information. In circumstances in which we determine that it is appropriate for customers to repeat their review of an issue (e.g., when additional affected product has been identified), we will post a separate update alert. In other cases, we may add information, such as additional commentary, recommendations, and/or source documents, to the original alert. For additional information regarding the format of this alert, refer to our HDA Format Guide.

Source(s):
- 2016 May 17. Member Hospital. Download
TITLE: iSTAT TEST SYSTEM

I. OVERVIEW AND INTENDED USE: The i-STAT analyzer is intended for use with i-STAT cartridges for in vitro quantification of various analytes and coagulation times in whole blood. The i-STAT System incorporates a comprehensive group of components needed to perform blood analysis at the point of care. A portable handheld analyzer, a cartridge with the required test, and 2 to 3 drops of blood will allow the caregiver to view quantitative test results for blood gas, chemistry and coagulation tests in approximately 2 minutes. The System consists of the following primary components:

Analyzer: A hand-held analyzer into which the blood-filled cartridge is placed for analysis automatically controls functions of the systems including fluid movement within the cartridge, calibration, and continuous quality monitoring.

iSTAT Downloader/Downloader/Recharger: The Downloader converts test records and transmits results to Epic. The Downloader/Recharger is also capable of recharging rechargeable batteries. The Downloader comes in two models:

Portable Printer: The printer can receive data directly from the analyzer via IR transmission. The printer can be recharged from a power adapter connected to an outlet. Only UVMMC Transport and Anesthesia/Perfusion use these printers.

UniPOC: UniPOC provides the primary information management capabilities for the i-STAT system. IR links and downloaders allow for transmission of patient records from a widely distributed network of analyzers to the POCCS server which communicates to UniPOC. Data can be stored, organized, edited and transferred to the laboratory information system (Sunquest) and then on to the UVMMC EHR, Epic. From UniPOC, cartridge usage and efficiency reports can be generated for management of the Test System.
**Cartridges:** A single-use disposable cartridge contains a microfabricated sensor array, a calibrant solution, fluidics system, and waste chamber. Sensors for analysis of sodium, potassium, chloride, BUN, creatinine, glucose, pH, pCO2, pO2, lactate and hematocrit are available in a variety of configurations (See Table 1).

**II. SUPPLIES and STORAGE REQUIREMENTS:**

1. **Cartridges:**
   Store the main supply of cartridges at 2-8°C (35 to 46°F). Do not allow cartridges to freeze. Cartridges may be stored at room temperature (18 - 30°C or 64 - 86°F) for the time frame indicated on the box and the foil pouches.

   **Room Temp Storage for 14 days:** **Chem8, G, ACT, and CREA Cartridges**
   **Room Temp Storage for 2 months:** **G3, CG4, & CG8 Cartridges**

   Cartridges should **never** be returned to the refrigerator once they have been at room temperature and should not be exposed to temperatures above 30°C (86°F). Mark the box or the cartridge to indicate the two-week or two-month expiration date immediately when removed from the refrigerator. Cartridges should remain in pouches until time of use. Do not use cartridge after the labeled expiration date. Do not use if storage conditions have been exceeded. Do not transport via pneumatic tube.

2. **Analyzer:** The operating and storage temperature for the i-STAT analyzer is 16-30°C (61-86°F). The analyzer monitors its own temperature and will not operate outside the acceptable temperature range. In addition, humidity should not exceed 90% non-condensing and barometric pressure should be between 300-850 mmHg. The analyzer has internal sensors to assure these are within range.

3. **Quality Control:**
   - **i-STAT TriControls:** Store at 2 to 8°C (35° to 46°F). Controls may be stored at room temperature (18 to 30°C or 64 to 86°F) for five days. Do not use after expiration date on the box and ampules.
   - **i-STAT Controls for ACT:** Store at 2 to 8°C (35° to 46°F). Do not use after expiration date on the box and vials. Controls should be used immediately after reconstitution.
   - **Electronic Simulator:** Store at room temperature and protect contact pads from contamination by replacing the plastic cap and placing the Electronic Simulator in its protective case after use.
   - **i-STAT Calibration Verification Set Linearity 1-5:** Store at 2 - 8°C (35-36°F). Do not use materials after expiration date. Observe manufacturer's handling instructions.
   - **Eurotrol Hypoxic and Hyperbaric Controls:** Store Hyperbaric QC at room temp (15-30°C). Stable until manufacturer’s expiration date. After opening, only stable for 30 seconds. Hypoxic should be stored at 2-8°C in the dark. Stable until manufacturer’s expiration date. After opening, only stable for 10 minutes.
Quality Control Quick-Guide:

<table>
<thead>
<tr>
<th>New device (Performed by Point of Care)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. i-STAT TriConrols Calibration Verification material levels 1 – 5 in singlet</td>
</tr>
<tr>
<td>2. ACT QC Levels 1 and 2</td>
</tr>
<tr>
<td>3. Eurotrol Hypoxic and Hyperbaric QC material</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Replacement devices (Performed by Point of Care)</th>
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</thead>
<tbody>
<tr>
<td>1. i-STAT TriConrols Calibration Verification material levels 1 – 5 in singlet</td>
</tr>
<tr>
<td>2. ACT QC Levels 1 and 2</td>
</tr>
<tr>
<td>3. Eurotrol Hypoxic and Hyperbaric QC material</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New Shipments of cartridges &amp;/or Monthly QC (Performed by testing departments)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Chem8, G3, CG4, CREA, G and CG8+: i-STAT TriControl levels 1, 2, and 3</td>
</tr>
<tr>
<td>2. ACT: QC using ACT Level 1 and Level 2 materials</td>
</tr>
<tr>
<td>3. Old Lot vs New Lot Comparisons done by POC Team using 2 patient samples for all new lot/shipment of cartridges.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Post Software Upgrade (Performed by Point of Care)</th>
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</thead>
<tbody>
<tr>
<td>1. i-STAT TriControl Calibration Verification Levels 1 - 5 (Chem8, CG4)</td>
</tr>
<tr>
<td>2. ACT QC levels 1 and 2</td>
</tr>
<tr>
<td>3. Eurotrol Hypoxic and Hyperbaric QC material</td>
</tr>
<tr>
<td>4. Thermal probe check</td>
</tr>
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</table>

For more detailed information on the ongoing iSTAT Test System Quality Assurance Plan, see Point of Care Quality Assurance Policy (LabPOCT100.027)

iSTAT Cartridges by UVMMC Location:

<table>
<thead>
<tr>
<th>DEPARTMENT</th>
<th>ACT-k</th>
<th>G3</th>
<th>CREA</th>
<th>CG4</th>
<th>Chem8</th>
<th>CG8</th>
<th>G</th>
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</thead>
<tbody>
<tr>
<td>Respiratory Therapy</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Pulmonology</td>
<td>X</td>
<td></td>
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<tr>
<td>NICU Staff</td>
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<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Anesthesia/OR</td>
<td>X</td>
<td></td>
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<tr>
<td>Cath Lab</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Perfusion</td>
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<td>Radiology</td>
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<td></td>
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</tr>
<tr>
<td>CT/MRI</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>UVMHealthNet Transport</td>
<td></td>
<td>X</td>
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</tr>
</tbody>
</table>

III. SAMPLE REQUIREMENTS

A. Suitable Specimens for ALL cartridges other than ACT Kaolin:

- Fresh whole blood collected in a capillary collection tube with balanced heparin.
- Fresh whole blood collected in a collection tube with lithium heparin anticoagulant. Fill collection tubes to capacity.
- Fresh whole blood collected in a plain plastic syringe or in a blood gas syringe labeled for the assays to be performed. Fill syringes for correct blood-to-heparin ratio.

B. Suitable Specimens for ACT-Kaolin Cartridges

- Fresh whole blood without anticoagulant collected in a plastic syringe. If from an indwelling line, flush the line with 5ml saline and discard the first 5ml of blood or six dead space volumes of the catheter.
- Fresh whole blood collected in a plastic tube without anticoagulant, clot activators, or serum separators. Device used to transfer sample to cartridge must be plastic. Sample must be tested immediately after collection.
Table 1: Cartridge Panel Configurations & Blood Volume Requirements:

<table>
<thead>
<tr>
<th>Sample volume</th>
<th>G only</th>
<th>G3+</th>
<th>EG6+</th>
<th>CG8+</th>
<th>CG4+</th>
<th>Chem8</th>
<th>ACT Kaolin</th>
<th>Creat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium (Na)</td>
<td>65 uL</td>
<td>95 uL</td>
<td>95 uL</td>
<td>95 uL</td>
<td>95 uL</td>
<td>95 uL</td>
<td>40 uL</td>
<td>65ul</td>
</tr>
<tr>
<td>Potassium (K)</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Chloride (Cl)</td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>BUN</td>
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<td>X</td>
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<tr>
<td>Glucose(GL)</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Ionized Ca (iCA)</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
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<td></td>
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<td>pH</td>
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<td>X</td>
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<tr>
<td>PCO₂</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>PO₂</td>
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<td>X</td>
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<td>HCO₃</td>
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<td>X</td>
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<tr>
<td>tCO₂</td>
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<td>X</td>
<td>X</td>
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<td>sO₂</td>
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<td>X</td>
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<td>BE</td>
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<td>X</td>
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<td>Gap</td>
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<td>X</td>
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<tr>
<td>Lactate (LAC)</td>
<td></td>
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<td></td>
<td>X</td>
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<tr>
<td>Creatinine (Creat)</td>
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<td>X</td>
<td>X</td>
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<td>ACT</td>
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<td>X</td>
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</tbody>
</table>

IV. SPECIMEN COLLECTION:

Patient must be identified prior to sample collection using guidelines from the Lab Patient Identification Policy, Lab200.037. Standard precautions must be followed, including using the appropriate PPE. Gloves must be worn during patient testing, hand hygiene performed, and gloves changed between patients. Follow site protocol for collection practices, but below are points to consider specific to sample quality for the iSTAT System:

1. In-Dwelling Line:

Back flush line with sufficient amount of blood to remove intravenous solution, heparin or medications that may contaminate the sample. Recommendation: five to six times the volume of the catheter, connectors and needle. Following guidelines for suitable specimen when choosing collection device (see above section).

2. Arterial Specimens:

Fill a plain syringe or fill a blood gas syringe, labeled for the assays to be performed, to the recommended capacity, or use the least amount of liquid heparin anticoagulant that will prevent clotting. Under-filling syringes containing liquid heparin will decrease results due to dilution and will decrease ionized calcium results due to binding. For ionized calcium, balanced or low volume heparin blood gas syringes should be used. Do not expose sample to air or PCO₂ may decrease, pH may increase and PO₂ may decrease if the value is above or increase if the value is below the PO₂ of room air (approximately 150 mmHg). For cartridge testing of ACT, use only a plain, plastic syringe without anticoagulant.

Mix blood and anticoagulant by rolling syringe between palms for at least 5 seconds each in two different directions, then invert the syringe repeatedly for at least 5 seconds. Discard the first two drops of blood. For blood gas testing, avoid or remove immediately any air drawn into syringe to maintain anaerobic conditions.

Test samples collected without anticoagulant immediately. Test samples for ACT and lactate immediately. For pH, blood gases, TCO₂ and ionized calcium, test within 10 minutes of collection. If not tested immediately, remix the sample and discard the first two drops of blood from a syringe before testing. Note that it may be difficult to properly remix a sample in a 1.0 cc syringe. For other cartridge tests, test sample within 30 minutes of collection.
3. Venous Specimens:
Collect sample into an evacuated blood collection tube or a syringe containing lithium heparin, or balanced heparin anticoagulant. For ionized calcium measurements, balanced heparin or 10 U of sodium or lithium heparin/mL of blood is recommended. Fill tubes to capacity; fill syringes for correct heparin-to-blood ratio. Incomplete filling causes higher heparin-to-blood ratio, which will decrease ionized calcium results and may affect other results. The use of partial – draw tubes (evacuated tubes that are adjusted to draw less than the tube volume, e.g. a 5 mL tube with enough vacuum to draw only 3 mL) is not recommended for blood gases because of the potential for decreased \(\text{PCO}_2\), HCO\(_3\) and \(\text{TCO}_2\) values. Be sure to allow any alcohol on the skin to completely dry before venipuncture, as alcohol contamination can cause hemolysis and inaccurate results. For cartridge testing of ACT, use only a plain, plastic syringe or collection tube containing no anticoagulant. Use a plastic capillary tube, pipette, or syringe to transfer sample from a tube to a cartridge.

Mix blood and anticoagulant by inverting a tube gently at least ten times. Roll a syringe vigorously between the palms for at least 5 seconds each in two different directions, then invert the syringe repeatedly for at least 5 seconds, then discard the first two drops of blood. Note that it may be difficult to properly mix a sample in a 1 cc syringe.

Test Sample collected without anticoagulant immediately. Test samples for ACT and lactate immediately. Test samples for pH, \(\text{PCO}_2\), \(\text{TCO}_2\) and ionized calcium within 10 minutes of sample draw. If not tested immediately, remix the sample before testing and discard the first two drops of blood from a syringe before testing. For other cartridge tests, test sample within 30 minutes of collection.

4. Finger and Heelstick Specimens:
**Only auto-disabling, single use fingerstick devices can be used for fingerstick and heelstick specimens.** Wipe away the first drop of blood, which contains excess tissue fluid which can increase potassium result and dilute other test results. Avoid drawing air into capillary tube. **Heparinized capillary tubes are not suitable for ionized calcium due to the high concentration of heparin.** Use balanced heparin capillary tubes for collection. UVMMC uses Safe-Wrap Combo Blood Collection Tubes for heelstick collection and transfer. Tubes are calibrated to deliver either 65 ul or 95 ul of blood volume. The tubes are Mylar-wrapped and have been treated with calcium-balanced lithium heparin. Test samples immediately to avoid clotting (especially in neonates). Capillary samples are NOT recommended for ACT testing.

There are conflicting reports in the literature regarding the validity of PO\(_2\) analysis performed on arterialized skin puncture specimens compared to arterial PO\(_2\). The process of capillary collection may change PO\(_2\), PCO\(_2\) and the calculated SO\(_2\). Arterial specimens are preferred for blood gas analysis.

Criteria for Specimen Rejection
1. Evidence of clotting
2. Specimens collected in vacuum tubes with anticoagulant other than lithium heparin
3. Syringe for pH, \(\text{PCO}_2\) and \(\text{PO}_2\) with air bubbles in sample
4. Other sample types such as urine, CSF and pleural fluid
5. Incompletely filled vacuum tube for the measurement of ionized calcium, \(\text{PCO}_2\), HCO\(_3\) or \(\text{TCO}_2\)
6. Samples collected in glass collection device or collection device containing anticoagulants for ACT testing.
7. Samples drawn from insufficiently flushed catheters.

Avoid the Following Circumstances
1. Drawing a specimen from an arm with an I.V.
2. Stasis (tourniquet left on longer than one minute before venipuncture)
3. Extra muscle activity (fist pumping)
4. Alcohol contamination from puncture site during venipuncture (not allowing to dry completely)
5. Traumatic draw
6. Icing before filling cartridge
7. Time delays before filling cartridge
8. Exposing the sample to air when measuring pH, \(\text{PCO}_2\) and \(\text{PO}_2\)
9. Analyzer not on level surface during testing
**NOTE** Whenever the sample integrity is questioned and/or results do not fit clinical picture, please contact the Point of Care Office at 847-1116 or email Lab-Pointofcare@uvmhealth.org for assistance.

V. PROCEDURE FOR PATIENT TESTING:

Preparation for Use: An individual cartridge may be used after standing 5 minutes, in its pouch, at room temperature. An entire box should stand at room temperature for one hour before cartridges are used.

Procedural Note: ALWAYS wear gloves and follow UVMMC biohazard safety policies and guidelines when performing tests involving patient blood samples.

Cartridge Testing:

1. PRESS to turn on iSTAT. The Test Main Screen will display:
   1- Last Result
   2- i-STAT cartridge
2. On the Test Menu Screen, select 2- i-STAT cartridge and follow the prompts on the screen.
3. Scan your operator ID (your M# on your barcoded UVMMC badge. If badge is unavailable, enter the 6-digit User ID #, omitting the M).

   **General iSTAT Scanning Tips:**
   - Position barcodes 3-9 inches from scanner window on the iSTAT
   - Press and hold to activate the scanner
   - Align the red laser light so it covers the entire barcode
   - The iSTAT will beep when it reads the barcode successfully
4. Scan the patient ID always using the patient’s wrist band whenever available. If necessary, manually entering the patient ID will require the ID to be entered twice.
5. Scan the bar-coded lot# off the individual cartridge package.

   ![Cartridge Testing Image]

6. Remove the cartridge from the pouch. Avoid touching the contact pads or exerting pressure over the calibrant pack in the center of the cartridge.
7. Direct the dispensing tip or capillary tube containing the blood into the sample well.
8. Dispense the sample until it reaches the “Fill To” mark on the cartridge. Leave some sample in the well.

   ![Fill to blue mark]

9. Close the cover over the sample well until it snaps into place. Do not press directly over the sample well, use the tab on the side of the cover.
10. Insert the cartridge into the cartridge door until it clicks into place. Wait for test to complete.

   **Note:** iSTAT analyzer MUST remain on a level, flat surface during testing. ACT results may be affected up to 10% by the analyzer testing on an unlevel surface.

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11. Enter additional parameters (if required). Only Respiratory Therapy and UVM HealthNet Transport utilize the free fields.
   - Patient temperature should be entered as degrees Celsius. Use the * key for a decimal point.
   - %FIO2 may be entered as a percentage of oxygen the patient is receiving. Enter the whole number, using % as the unit.
   - Choose the number corresponding to the type of sample used when prompted at the Sample Type field.
   - Press the SAVE softkey to record the blood gas parameters entered.

12. View the results shown on the display screen.
13. Cartridges should be disposed of properly in a biohazardous waste container as per UVMMC Policy.

**Backup Procedure:** If the i-STAT system is inoperable for any reason, contact the Point of Care Office at 847-1116 during business hours (0800-1630 M-F) for assistance. If an analyzer malfunctions during off-hours, report problem to Point of Care via FrontRange ticket or email Lab-PointofCare@uvmhealth.org. Alternately, specimens could be collected and submitted to the laboratory in accordance with the UVMMC Laboratory Procedure Manual.

**VI. RESULTS**

**Displayed Results:** Results are displayed numerically with their units. Non-blood bas and hematocrit results are depicted as bar graphs with reference ranges marked under the graphs.

Action ranges (or critical values) indicate results that require immediate attention. See the Critical Value Policy section below for site-specific protocols. Critical values are depicted on the iSTAT screen as either too high (↑) or too low (↓). In the example of the screen below, Potassium (K) is depicted as being too high (a critical value):

![i-STAT Screen Example](image)

*Note: Since the ↑ and ↓ symbols cannot be printed from the iSTAT printer, action flags will appear with the << >> symbol.*

**Calculations:** The i-STAT contains a microprocessor that performs all calculations required for reporting results. These results include: O2 saturation, base excess, base deficit, TCO2 and temperature correction. The calculations may be found in the i-STAT system manual.

**Suppressed Results:** There are three conditions under which the i-STAT System will not display results:

1. Results outside the System reportable ranges are flagged with a < or >, indicating that the result is below the lower limit or above the upper limit of the reportable range respectively. See table of Reportable Ranges.
   - **Action:** Send specimen(s) to the laboratory for analysis.
2. Cartridge results which are not reportable based on internal QC rejection criteria are flagged with ***.
   - **Action:** Analyze the specimen again using another cartridge. If the results are not suppressed, report in the usual manner. If the result is suppressed again, send specimen(s) to the laboratory for analysis.
3. A Quality Check message will be reported instead of results if the handheld detects a problem with the sample, calibrant solution, sensors, or mechanical or electrical functions of the handheld during the test cycle.
   - **Action:** Repeat testing using another cartridge. If error code repeats, contact the Point of Care Testing office at 847-1116, noting the Error Code number and display.

**When results are questionable:** Whenever results are being questioned as accurate, the following actions are options:

- notify the provider right away of questionable results and document the notification in Epic Notes

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repeat testing using new cartridge or send a specimen to the UVMCC Core Lab for testing.
For results that have filed into Epic and are known to be errant due to sample integrity, please email the Point of Care Office at Lab-Pointofcare@uvmhealth.org or call 847-1116. Point of Care can append a disclaimer on the result(s) to say: Sample integrity questioned, results may not be reliable or Specimen Contaminated; disregard results.

Other Errors:
Point of Care can also make edits to errors in sample type and FIO2 %s.
Point of Care can correct all reports that have filed errantly into the wrong patient’s chart, if notified. These will also be reported using the SAFE System.

VII. PRINTING and TRANSMITTING RESULTS

Printing from the iSTAT Analyzer (Anesthesia/OR and UVM HealthNet Transport ONLY)
1. Turn printer on if green power light is not on.
2. Align IR windows of handheld and printer.
3. Display results.
4. Press the Print key.
5. Do not move handheld or printer until printing is complete.
6. If printer is not powered from a wall outlet, turn printer off.

Transmitting i-STAT Results Using the Downloader or Wireless Transmission
1. Place analyzer in front of the downloader. When properly aligned, the red proximity light will turn on and the analyzer will automatically upload its data to the Central Data Station.
2. Wireless iSTATs transmit automatically via the wireless network once the testing is complete. Wireless iSTATs may also be placed in the downloader to transmit results if necessary.
3. DO NOT remove the analyzer while data is transmitting. While data is being transmitted the arrows on the screen will “spin”.
4. If a corrected report needs to be generated, contact Point of Care Office 847-1116 during business hours (0800-1630, M-F) or Help Desk at 847-1414. During off-hours, a Service Now Ticket will be generated for POCT to review the next business day.

Individual Site Resulting Protocols:
1. Cardiac Catheterization Lab: Results are verbally reported by the operator to the physician and to the nurse at the monitor station. Results file into Epic after analyzer is downloaded.
2. Radiology: ACT results are recorded on the log sheet and verbally reported to the radiologist. iSTAT is downloaded and results are transmitted to Epic. Reference ranges are in Epic.
3. CT/MRI: Results are read on the iSTAT analyzer and transmitted into Epic after analyzer is docked. Reference ranges are on a sticker that is placed on the patient order and scanned into the PACS System.
   a. To calculate GFRs (Glomerular Filtration Rates) from the iSTAT Creatinine results, CT/MRI uses the following website via a dedicated icon on their department’s computers:
   http://www.niddk.nih.gov/health-information/health-communication-programs/nkdep/lab-evaluation/gfr-calculators/adults-conventional-unit-ckd-epi/Pages/default.aspx
   b. This calculator is IDMS-traceable and utilizes the MDRD study equation. For children, the same website offers the IDMS-traceable Schwartz calculator using a different tab.
4. Anesthesia/OR: Results are printed out and handed to the Anesthesiologist. Critical values and reference ranges are posted in the Anesthesia Workroom and on the iSTAT results form. Patient iSTAT printout is stapled to this form and scanned into Epic. In addition, iSTAT results are filed into Epic by either wireless transmission or when a non-wireless analyzer is docked.
5. Perfusion: Results are printed from the iSTAT and recorded on the Cardiopulmonary Bypass Record log. The printout is then handed to the Anesthesiologist and changes in therapy are then made by the Perfusionist and/or the Anesthesiologist. One copy of the two part Cardiopulmonary Bypass Record is kept by the Department of Surgery and the other is scanned into the patient’s chart. After iSTAT is downloaded, results file into Epic.
6. **UVMHN Transport**: Results are printed from the i-STAT and recorded in a documentation application utilized by the department, ImageTrend.

7. **Respiratory Therapy and NICU Nurses**: Results are visually read by the RT or NICU Nurse from the iSTAT screen. Results are interpreted and patient treated accordingly in collaboration with the attending provider. Results are transmitted wirelessly and file into Epic.

**Reference Ranges, Reportable Ranges, Test Unit Conversions**: Reference range means the range of test values expected from 95% of fasting individuals presumed to be healthy. Measurable range is the test reporting limits of the iSTAT analyzer. The following table contains the reference ranges (normal) and measurable ranges applicable to the i-STAT System.

Table 2: **REFERENCE RANGES, REPORTABLE RANGES, TEST UNITS**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Unit</th>
<th>Measurable Range</th>
<th>Normal Reference Range-Arterial</th>
<th>Normal Reference Range-Venous &amp; Capillary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium (Na)</td>
<td>mmol/L</td>
<td>100 – 180</td>
<td>136 - 145</td>
<td>Same as arterial</td>
</tr>
<tr>
<td>Potassium (K)</td>
<td>mmol/L</td>
<td>2.0 - 9.0</td>
<td>&gt;17-Adult: 3.5-5.0</td>
<td>Same as arterial</td>
</tr>
</tbody>
</table>
| ACT-Kaolin (PreWarm Status)    | Seconds    | 50 - 1000        | Baseline (pre-heparin range) : 74-137**  
|                                |            |                  | 3 min post heparin dose during CPB: 480  
|                                |            |                  | Therapeutic interventional range is dependent upon patient population and procedure type.  |
| pH                             | N/A        | 6.5 - 8.2        | 7D-Adult: 7.35- 7.45 **          | 7.31 - 7.41 **                           |
|                                |            |                  | 1D-7D: 7.29-7.45                |                                          |
|                                |            |                  | 0D-1D: 7.26-7.49                |                                          |
| Creatinine                     | mg/dL      | 0.2-20           | >18-Adult: 0.6-.1.3**          | Same as arterial                         |
|                                |            |                  | 0-1 year: 0.3-1.0               |                                          |
|                                |            |                  | 1-4 year: 0.1-0.6               |                                          |
|                                |            |                  | 4-7 year: 0.1-0.7               |                                          |
|                                |            |                  | 7- 10 year 0.3-0.7              |                                          |
|                                |            |                  | 10-14 year 0.4-1.0             |                                          |
|                                |            |                  | 14-18 year 0.6-1.2             |                                          |
| PCO₂                            | mm/Hg      | 5 – 130          | 7D-Adult: 35 – 45**             | 41-51 **                                 |
|                                |            |                  | 1D-7D: 27-41                   |                                          |
|                                |            |                  | 0D-1D: 27-40                   |                                          |
| PO₂                             | mm/Hg      | 5 – 800          | 7D-Adult: 80-105**              | N/A **                                   |
|                                |            |                  | 1D-7D: 54-95                   |                                          |
| HCO₃ Calculated                 | mmol/L     | 1-85             | 22-26 **                        | 23-28 **                                 |
| TCO₂ Calculated                 | mmol/L     | 5 – 50           | 23-27 **                        | 24-29 **                                 |
| BE Calculated                   | mmol/L     | (-30)-(30)       | (-2) - (+3) **                  | Same as arterial                         |
| sO₂ Calculated                  | %          | N/A              | 95 – 98 **                      | N/A                                      |

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### Table 2: REFERENCE RANGES, REPORTABLE RANGES, TEST UNITS (cont)

<table>
<thead>
<tr>
<th>Test</th>
<th>Unit</th>
<th>Reference Ranges</th>
<th>Reportable Ranges</th>
<th>Test Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloride (Hct)</td>
<td>% PCV</td>
<td>15 – 75</td>
<td>65-140</td>
<td>Same as arterial</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&gt;18-Adult Male:</td>
<td>39.5-50.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&gt;18-Adult Female:</td>
<td>34.9-44.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12-18 yr Male:</td>
<td>37.0-49.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12-18 yr Female:</td>
<td>36.0-46.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6-12 yr Male &amp; Female:</td>
<td>35.0-45.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2yr-6yr Male &amp; Female:</td>
<td>34.0-40.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6m-2yr Male &amp; Female:</td>
<td>33.0-39.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3m-6m Male &amp; Female:</td>
<td>29.0-41.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1m-3m Male &amp; Female:</td>
<td>28.0-42.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;1m: Not established</td>
<td>Same as arterial</td>
</tr>
<tr>
<td>BUN</td>
<td>mg/dL</td>
<td>3-140</td>
<td>&gt;18-Adult: 10-26</td>
<td>Same as arterial</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14-18 y.o.: 8-21</td>
<td>14-18 y.o.: 7-17</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4-13 y.o.: 5-17</td>
<td>4-13 y.o.: 5-17</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-3 y.o.: 15</td>
<td>1-3 y.o: 1-5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4m-12m Male: &lt;15</td>
<td>4m-12m Male: &lt;15</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4m-12m Female: &lt;14</td>
<td>4m-12m Female: &lt;14</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1m-3m Male: &lt;13</td>
<td>1m-3m Male: &lt;13</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1m-3m Female: &lt;15</td>
<td>1m-3m Female: &lt;15</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8D-30D Male: &lt;17</td>
<td>8D-30D Male: &lt;17</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8D-30D Female: &lt;16</td>
<td>8D-30D Female: &lt;16</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1D-7D Infants: 14</td>
<td>1D-7D Infants: 14</td>
<td></td>
</tr>
<tr>
<td>Glucose (fasting)</td>
<td>mg/dl</td>
<td>20-700</td>
<td>&gt;7D-Adult: 70-100</td>
<td>Same as arterial</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1D-7D: 50-100</td>
<td>1D-7D: 50-100</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0D-1D: 40-100</td>
<td>0D-1D: 40-100</td>
<td></td>
</tr>
<tr>
<td>Ionized Calcium</td>
<td>mmol/L</td>
<td>0.25-2.50</td>
<td>6mo-Adult: 1.12-1.32 **</td>
<td>Same as arterial</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt;6 Months: 1.12</td>
<td>&lt;6 Months: 1.12</td>
<td></td>
</tr>
<tr>
<td>Lactate</td>
<td>mmol/L</td>
<td>0.30 – 20.00</td>
<td>&gt;18-Adult: 0.36-1.25**</td>
<td>up to 1.9 mmol/L</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pediatric ranges: not defined</td>
<td></td>
</tr>
</tbody>
</table>

**Reference ranges stated are defined by i-STAT. All other reference ranges stated are as defined by the UVMMC Core Lab and verified on the i-STAT.**

**Result Reporting Errors:** Errors in the testing process that are brought to light will be included in the hospital SAFE reporting system and corrected by the POCT staff, when possible.

**VIII. CRITICAL VALUE PROTOCOL:** Critical test results fall significantly outside the normal range and may indicate a life-threatening situation. Critical results represent an emergency condition and must be reported immediately to the licensed provider who can change or initiate treatment. Critical value protocol consists of:

- Notifying the licensed provider immediately –not exceeding 30 minutes
- Documenting in the patient’s chart both the name of provider, and time of notification. Provider should read back the results as per policy LAB200.007

Note: Repeat testing for confirmation is no longer required and will be at the discretion of the provider.

In emergent cases such as: **DURING A CODE, IN MEDICAL TRANSPORT, DURING PERFUSION, OR DURING SURGERY**, the critical result will be reported IMMEDIATELY to the licensed provider in charge who can initiate or change treatment. Therefore, no documentation of doctor notification is necessary.
Each caregiver is in a position to assess whether or not results are incongruent with patient status. In these instances, the caregiver should exercise clinical judgment as to whether or not the results are consistent with the clinical status of the patient or consistent with previous results.

### Monitoring of Critical Values Compliance

Each morning, critical value iSTAT results are reviewed by POCT staff via the UniPOC Monitoring System and investigated for confirmatory requirements. POCT emails each department with their critical values, and each department is responsible for reviewing and investigating each case for provider notification and documentation requirements.

### IX. Interfering Substances

An interferent is a substance which, if present at significant levels in the blood specimen being analyzed, will produce an error in the result of the analyte being measured. See the table below and on the next pages for specific known interfering substances:

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Interfering Substance</th>
<th>Interferent Concentration</th>
<th>Effect on Analyte Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium (Na)</td>
<td>Bromide</td>
<td>37.5 mmol/L</td>
<td>Increase ↑ Na</td>
</tr>
<tr>
<td></td>
<td>Nithiodote (sodium thiosulfate)</td>
<td>16.7 mmol/L</td>
<td>Increase ↑ Na</td>
</tr>
<tr>
<td>Potassium (K)</td>
<td>Bromide</td>
<td>37.5 mmol/L</td>
<td>Increased rate of star (*** outs)</td>
</tr>
<tr>
<td></td>
<td>Nithiodote (sodium thiosulfate)</td>
<td>16.7 mmol/L</td>
<td>Decrease ↓ K</td>
</tr>
<tr>
<td>Chloride (Cl)</td>
<td>Acetylcysteine</td>
<td>10.2 mmol/L</td>
<td>Increase ↑ Cl</td>
</tr>
<tr>
<td></td>
<td>Bromide</td>
<td>37.5 mmol/L</td>
<td>Increase ↑ Cl</td>
</tr>
<tr>
<td></td>
<td>Bromide (therapeutic)</td>
<td>2.5 mmol/L</td>
<td>Increase ↑ Cl</td>
</tr>
<tr>
<td></td>
<td>Salicylate</td>
<td>4.34 mmol/L</td>
<td>Increase ↑ Cl</td>
</tr>
<tr>
<td>ANALYTE</td>
<td>INTERFERING SUBSTANCE</td>
<td>INTERFERENT CONCENTRATION</td>
<td>EFFECT ON ANALYTE RESULT</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------------------</td>
<td>----------------------------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>Chloride (Cl)</td>
<td>Iodide</td>
<td>2.99 mmol/L</td>
<td>Increase ↑ Cl</td>
</tr>
<tr>
<td></td>
<td>Thiocyanate</td>
<td>6.9 mmol/L</td>
<td>Increase ↑ Cl</td>
</tr>
<tr>
<td></td>
<td>Nithiodote (sodium thiosulfate)</td>
<td>16.7 mmol/L</td>
<td>Increase ↑ Cl</td>
</tr>
<tr>
<td>Ionized Calcium (iCa)</td>
<td>Acetaminophen</td>
<td>1.32 mmol/L</td>
<td>Decrease ↓ iCa</td>
</tr>
<tr>
<td></td>
<td>Leflunomide</td>
<td>0.03 mmol/L</td>
<td>Decrease ↓ iCa</td>
</tr>
<tr>
<td></td>
<td>Magnesium</td>
<td>1.0 mmol/L</td>
<td>Increase ↑ iCa by up to 0.04 mmol/L</td>
</tr>
<tr>
<td></td>
<td>Acetylcysteine</td>
<td>10.2 mmol/L</td>
<td>Decrease ↓ iCa</td>
</tr>
<tr>
<td></td>
<td>Bromide</td>
<td>37.5 mmol/L</td>
<td>Increase ↑ iCa</td>
</tr>
<tr>
<td></td>
<td>Lactate</td>
<td>6.6 mmol/L</td>
<td>Decrease ↓ iCa by up to 0.07 mmol/L</td>
</tr>
<tr>
<td></td>
<td>Salicylate (therapeutic)</td>
<td>0.5 mmol/L</td>
<td>Decrease ↓ iCa by up to 0.03 mmol/L</td>
</tr>
<tr>
<td></td>
<td>Salicylate</td>
<td>4.34 mmol/L</td>
<td>Decrease ↓ iCa</td>
</tr>
<tr>
<td></td>
<td>Nithiodote (sodium thiosulfate)</td>
<td>16.7 mmol/L</td>
<td>Decrease ↓ iCa</td>
</tr>
<tr>
<td></td>
<td>Thiocyanate</td>
<td>6.9 mmol/L</td>
<td>Decrease ↓ iCa. <strong>USE ANOTHER METHOD</strong></td>
</tr>
<tr>
<td>Lactate</td>
<td>Bromide</td>
<td>37.5 mmol/L</td>
<td>Decrease ↓ Lactate</td>
</tr>
<tr>
<td></td>
<td>Hydroyxyurea</td>
<td>0.92 mmol/L</td>
<td>Increase ↑ Lactate <strong>USE ANOTHER METHOD</strong></td>
</tr>
<tr>
<td></td>
<td>Nithiodote (sodium thiosulfate)</td>
<td>16.7 mmol/L</td>
<td>Increase ↑ Lactate <strong>USE ANOTHER METHOD</strong></td>
</tr>
<tr>
<td>Glucose (Gl)</td>
<td>Acetaminophen</td>
<td>1.32 mmol/L</td>
<td>Increase ↑ Gl</td>
</tr>
<tr>
<td></td>
<td>Acetylcysteine</td>
<td>10.2 mmol/L</td>
<td>Decrease ↓ Gl</td>
</tr>
<tr>
<td></td>
<td>Bromide</td>
<td>37.5 mmol/L</td>
<td>Decrease ↓ Gl</td>
</tr>
<tr>
<td></td>
<td>Bromide (therapeutic)</td>
<td>2.5 mmol/L</td>
<td>Decrease ↓ Gl</td>
</tr>
<tr>
<td></td>
<td>pH per 0.1 pH units below 7.4 @ 37°C</td>
<td></td>
<td>Decrease ↓ Gl by 0.9 mg/dl</td>
</tr>
<tr>
<td></td>
<td>pH per 0.1 pH units above 7.4 @ 37°C</td>
<td></td>
<td>Increase ↑ Gl by 0.8 mg/dl</td>
</tr>
<tr>
<td></td>
<td>Oxygen (O₂)</td>
<td>PO₂ &lt;20 mmHg @ 37°C</td>
<td>Decrease ↓ Gl</td>
</tr>
<tr>
<td></td>
<td>Thiocyanate</td>
<td>6.9 mmol/L</td>
<td>Decrease ↓ Gl</td>
</tr>
<tr>
<td></td>
<td>Hydroxyurea</td>
<td>0.92 mmol/L</td>
<td>Increase ↑ Gl. <strong>USE ANOTHER METHOD</strong></td>
</tr>
<tr>
<td></td>
<td>Nithiodote (sodium thiosulfate)</td>
<td>16.7 mmol/L</td>
<td>Decrease ↓ Gl</td>
</tr>
<tr>
<td>BUN/Urea</td>
<td>Bromide</td>
<td>37.5 mmol/L</td>
<td>Increased rate of star (*** outs)</td>
</tr>
<tr>
<td></td>
<td>Hydroxyurea</td>
<td>0.92 mmol/L</td>
<td>Increase ↑ BUN</td>
</tr>
<tr>
<td></td>
<td>Nithiodote (sodium thiosulfate)</td>
<td>16.7 mmol/L</td>
<td>Decrease ↓ BUN</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>ANALYTE</th>
<th>INTERFERING SUBSTANCE</th>
<th>INTERFERENT CONCENTRATION</th>
<th>EFFECT ON ANALYTE RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$pCO_2$</td>
<td>Propofol (Diprovan™) Thiopental Sodium</td>
<td>For patients on propofol or thiopental sodium, iSTAT does NOT recommend EC8 cartridges. G3,CG4,CG8, and EG6 are free from clinically significant interferences at all therapeutic doses.</td>
<td></td>
</tr>
<tr>
<td>Hematocrit (HCT)</td>
<td>White Blood Count (WBC) &gt;50,000 WBC/μL</td>
<td>Increase ↑ HCT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lipids Abnormally High</td>
<td>Increase ↑ HCT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bromide 37.5 mmol/L</td>
<td>Increased rate of star (***), outs</td>
<td></td>
</tr>
<tr>
<td>HCT &lt;40%</td>
<td>Total Protein for each g/dL below 6.5</td>
<td>Decrease ↓ by 1% PCV</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Protein for each g/dL above 8.0</td>
<td>Increase ↑ by 1% PCV</td>
<td></td>
</tr>
<tr>
<td>HCT &gt;40%</td>
<td>Total Protein for each g/dL below 6.5</td>
<td>Decrease ↓ by .75% PCV</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Protein for each g/dL above 8.0</td>
<td>Increase ↑ by .75% PCV</td>
<td></td>
</tr>
<tr>
<td>$pO_2$</td>
<td>Air Exposure below 150 mmHg</td>
<td>Increase ↑ $pO_2$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Air Exposure above 150 mmHg</td>
<td>Decrease ↓ $pO_2$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Iced samples</td>
<td>Increase ↑ $pO_2$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cold cartridges</td>
<td>Decrease ↓ $pO_2$</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>Venous Stasis (prolonged tourniquet application)</td>
<td>Decrease ↓ pH</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Air Exposure</td>
<td>Increase ↑ pH</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Delay in testing (anaerobically in syringe)</td>
<td>Decrease ↓ pH</td>
<td></td>
</tr>
<tr>
<td>Creatinine</td>
<td>Acetaminophen 1.32 mmol/L</td>
<td>Increase ↑ Creatinine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ascorbate 0.34 mmol/L</td>
<td>Increase ↑ Creatinine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bromide 2.5 mmol/L</td>
<td>Increase ↑ Creatinine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hydroxyurea 0.92 mmol/L</td>
<td>Increase ↑ Creatinine – USE ANOTHER METHOD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acetylcysteine 10.2 mmol/L</td>
<td>Increase ↑ Creatinine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Creatine 0.382 mmol/L</td>
<td>Increase ↑ Creatinine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Glycolic Acid 10.0 mmol/L</td>
<td>Decrease ↓ Creatinine—USE ANOTHER METHOD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nithiodote (sodium thiosulfate) 16.7 mmol/L</td>
<td>Increase ↑ Creatinine</td>
<td></td>
</tr>
</tbody>
</table>

X. NON-PATIENT TESTING PROCEDURES

1. DAILY TASKS:
Analyzer Verification – All departments using the i-STAT

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1. Internal Electronic QC is performed from a patient cartridge every 8 hours.
2. If the internal electronic QC fails twice, run an external simulator (see procedure in Section IX). If the simulator passes, the iSTAT may be used for patient testing.
3. If the external simulator fails. Take the analyzer out of service and return it to the Point of Care office. The Point of Care Office will troubleshoot and/or contact i-STAT Technical Support to determine whether the internal system is functioning properly.
4. Calibration is automatically performed as part of the test cycle on each cartridge. Operator intervention is not necessary.

All departments using the i-STAT Responsibilities

Refrigerated Cartridges

1. Verify that the cartridges stored in the refrigerator are all within the expiration date printed on the boxes or on the cartridge. If cartridges are expired, discard appropriately.
2. Verify that the refrigerator did not exceed the 2-8°C limit. Current temperature and minimum and maximum temperatures should be taken daily and logged on the temperature log in the department. After temperatures are recorded, the thermometer should be cleared.

Action: If the temperature of the cartridge storage refrigerator is within the range of 2 to 8°C (35 to 46°F) use cartridges as required.

Remedial Action: If the temperature is outside the range of 2 to 8°C (35 to 46°F) quarantine the cartridges in the storage refrigerator. Notify the Lead Respiratory Therapist/Educator/Manager or Point of Care Office immediately. DO NOT USE the cartridges from the out-of-range refrigerator. Note temperature out of range on the temperature log and note action taken under “Action taken if temp is out of range”. The lab fridge is a back up to any refrigerator used to store i-STAT supplies.

Room Temperature Cartridges: Verify that all cartridges are stored properly according to the cartridge packaging. Any cartridges stored at room temperature must have the room temperature expiration date written on the cartridge. Room temperatures (current, min and max temps) should be logged daily on the room temperature log.

Action: If the measured temperature of the room has been continuously below 30°C (86°F) use cartridges as required. After temperatures are recorded, the thermometer should be cleared.

Remedial Action: If the measured room temperature has exceeded 30°C (86°F) for any period of time:

1. Quarantine the cartridges.
2. Notify the Lead Respiratory Therapist/Educator/Manager or Point of Care Office (7-1116) immediately.
3. DO NOT USE the cartridges.
4. Record on room temperature log.

2. MONTHLY QC PROCEDURE FOR ALL ISTAT CARTRIDGES EXCEPT ACT-KAOLIN

Monthly external liquid QC must be performed on all iSTAT cartridges at least every 31 days, or whenever a new shipment/new lot is received. See the procedure below for all cartridges except ACT-Kaolin:

** When running QC material, be sure you are ready to run the test before you open the vial.

1. Turn on the i-STAT analyzer, and select “Menu”. Select “3-Quality Test”.
2. Select “1-Control”.
3. Scan or enter your operator ID. (Scan badge)
4. Select Fluid Vendor. Select 1-APOC
5. Select Fluid Level: Enter 1 for Level 1, 2 for Level 2, 3 for Level 3
6. Scan the control lot number found on the bottle.
7. Scan the Cartridge lot number.
8. Results will display, and the analyzer will determine if QC is acceptable by displaying “Pass” or “Fail”. If results are out of range, or there is a cartridge error, repeat test with new cartridge. Press “1- Test Options”, “1-Next Level”. Choose appropriate level.

9. Repeat with next level until all 3 levels are done.

10. Download the i-STAT

For the CG8+, Chem8, G, G3+, CG4+ and Crea cartridges: Use i-STAT TriControl levels 1, 2, 3. Liquid QC for each cartridge type shall fall within the manufacturer’s reference range.

3. MONTHLY QC PROCEDURE FOR ACT CARTRIDGES:

Do not reconstitute both levels of quality control at the same time. To run the quality control: Reconstitute the control material, and set up meter. Control solutions may also be stored at room temperature for up to 4 hours (18 to 30 °C or 64 to -86 °F). If left out longer than 4 hours at room temperature, they should be discarded.

Prior to testing, vials containing the lyophilized plasma and CaCl2 reconstituting fluid should stand at room temperature (18 - 30 °C or 64 - 86 °F) for a minimum of 45 minutes. For best results, vials, cartridges, and analyzers should be at the same temperature. Reconstitute only one level of control plasma at a time. CONTROL SOLUTIONS MUST BE USED IMMEDIATELY (less than 30 seconds) AFTER COMPLETING THE RECONSTITUTION AND MIXING STEPS

1. After 45 minute room temperature equilibration, remove the cap and stopper from one lyophilized human plasma control vial and remove the cap from one vial of calcium chloride reconstituting fluid.

2. Pour the entire contents of the calcium chloride vial into the lyophilized human plasma control vial. Place the stopper back in the reconstituted control vial, sealing the vial appropriately so that the contents do not leak or spill out.

3. Allow the vial to sit at room temperature for 1 minute.

4. Mix the contents of the vial by swirling gently for 1 minute, then inverting slowly for 30 seconds.

Note: To minimize foaming of the control sample, avoid vigorous or rapid mixing motion. Visually inspect the control vial to ensure that the sample is fully reconstituted. If not, discard the reconstituted fluid and start over with fresh vials.
5. Using a plastic transfer pipette, plastic syringe, or plastic capillary tube with no anticoagulant, immediately transfer the solution from the vial into the ACT cartridge.

6. Immediately seal the cartridge and insert it into an analyzer.
   Note: Additional ACT cartridges may be tested with the remaining fluid if used within 30 seconds of complete reconstitution of the sample. Results should be within manufacturer’s range.

**WHAT IF QC FAILS?**

i-STAT TriControl levels 1, 2, & 3 or ACT Levels 1 & 2 will be performed for each cartridge type. QC shall fall within the manufacturer’s range. If a parameter is outside limits, verify the following conditions and then repeat the test(s):

- Expiration date printed on cartridge pouch and control ampule have not been exceeded
- Room temperature expiration date for cartridge and control have not been exceeded
- Cartridge and control have been stored correctly
- The analyzer being used passes an Electronic Simulator test.

If the results have exceeded despite meeting the above criteria, repeat QC using a new box of control solutions and new cartridges. All QC failures will be reviewed by the POCT Medical Director for further action.

4. PROFICIENCY TESTING FOR THE ISTAT TEST SYSTEM

Participation in CAP proficiency testing occurs two or three times/yr depending on analytes reported. Point of Care Testing will alert department when proficiency testing samples have arrived. All Proficiency Tests should be performed by end-users selected from each department. For more detailed information, please refer to the Point of Care Quality Assurance Policy LABPOCT100.027 and the External Assessment System Policy LAB700.001

To access the Proficiency Test path on the i-STAT 1 Analyzer
1. Press the On/Off key
2. Press the MENU key
3. Press 3 for Quality Tests
4. Press 2 for Proficiency

5. Biannual Procedures Performed by Point of Care

**Correlations**: Correlations with the main lab will be performed every 6 months. For this, patient specimens will be tested using a sampling of iSTAT devices for each sensor type used. All sensors will be compared with the main lab.

**Post Software Update (Calibration Verification)**: Assay i-STAT TriControl Calibration Verification set in singlet on all cartridge types and a sampling of devices. Eurotrol Hyperbaric and Hypoxic QC are used to validate the AMR for pO2. Liquid QC for each cartridge type shall fall within the manufacturer’s reference range. If a parameter is outside limits, it is repeated and reviewed by Medical Director.

6. Periodic Procedures- Performed by Point of Care

**New Device- Calibration Verification and QC (See Quick Reference Section)**: All new analyzers will be validated using the Replacement Device procedure below. The POCT Medical Director must review and approve new analyzer validations. Analyze i-STAT TriControl Calibration Verification solutions 1-5 in singlet. If a parameter is outside limits, it is repeated in duplicate and the results are averaged to determine acceptability (manufacturer’s instructions). If results are still outside the manufacturer’s range, consult the Medical Director.

Analyze i-STAT ACT Level 1 and 2 for devices that perform ACT testing. Analyze Eurotrol Hypoxic and Hyperbaric QC material to validate the pO2 AMR. Transmit results to UniPOC and record results. For i-STAT 1’s use the linearity graph report in UniPOC. Lot number of calibration verification set must be loaded into UniPOC for each sensor type on each cartridge type.

**Replacement Devices- Calibration Verification and monthly QC**: The POCT Medical Director must review and approve replacement analyzer validations monthly and QC data for trending or if any issues arise.
Analyze i-STAT TriControl Calibration Verification solutions 1-5 in singlet. If a parameter is outside the manufacturer’s limits, it is repeated in duplicate and the results are averaged to determine acceptability (manufacturer’s instructions). If results are still outside the manufacturer’s range, consult the Medical Director.

Analyze i-STAT ACT Level 1 and 2 for devices that perform ACT testing. Analyze Eurotrol Hypoxic and Hyperbaric QC material to validate the pO2 AMR. Use expected values in inserts to verify results are acceptable.

For i-STAT use the linearity graph report in UniPOC 3.0. Lot number of calibration verification set must be loaded into UniPOC for each sensor type on each cartridge type.

Error codes will be monitored biweekly after implementation.

**New Cartridge (Sensor) Types:** New cartridge (sensor types) will require validation of accuracy, precision and reportable range, as well as a 10 point validation of 2 levels of i-STAT TriControls versus the electronic QC (EQC validation). The POCT Medical Director must review and approve new sensor validations.

**XI. MAINTENANCE**

1. **Performed by Testing Departments**

   **Daily Cleaning:** Clean the analyzer after every patient use with alcohol (DisCide wipes) or 10% Bleach solution (DisPatch wipes). Avoid getting excess fluids in the seam between the display screen and the case, the electronics compartment, battery compartment, cartridge port or test strip port. Clean the Downloader and/or Printer whenever necessary. Use caution when cleaning either devices, as they may be damaged by liquid contamination.

   If the analyzer is not to be used for an extended period of time, the batteries should be removed to prevent leakage

   **Decontamination:** Decontaminate the analyzer or downloader whenever a specimen is spilled onto them or before and after any patient in Isolation. Decontaminate with 10% Bleach (DisPatch wipes), wearing gloves.

   **External Simulator Testing:** The Electronic Simulator, external and internal, is a quality control device for the analyzer’s cartridge signal-reading function. It simulates two levels of electrical signals that stress the analyzer’s cartridge signal detection function both below and above measurement ranges. UVMMC has all iSTAT analyzers customized to do an Internal simulator check once every 8 hours. If it passes, the analyzer can be used for patient testing. This is automatic and happens without notice. If it does not pass, the analyzer will display “ELECTRONIC SIMULATOR FAIL”. iSTAT analyzer will be locked out for patient testing. Please contact Point of Care at 71116 and perform an External Simulator.
If the External Simulator passes, continue to use the analyzer. Remove the simulator and return to its protective case.

**Changing Disposable Batteries:** Change or charge rechargeable batteries whenever the analyzer displays “Low Battery”. For non-rechargeable batteries, it is recommended that 2 Lithium-ion 9V be used and not 9V Alkaline. Wait until any test in progress is completed, and turn off the analyzer before replacing the batteries or the most recent set of results may be lost. Stored results will not be lost when replacing the batteries.

1. Slide the battery compartment door off.
2. Tilt the analyzer slightly to slide out the battery carrier which contains the two 9-volt batteries.
3. Remove the old batteries from the carrier. Pull each battery out to the side and then lift back and out.
4. Note the battery orientation symbol molded into the carrier on each side of the center wall. Starting with one side, orient the new battery so it matches the symbol. Slide the battery into the carrier, pushing the terminal end in first, under the plastic bar, and slide it up as far as it will go. Then push the bottom of the battery inward. The terminals of the battery should be underneath the protective bar on the carrier. Repeat for the second battery on the other side of the carrier.
5. Note the orientation of the battery carrier illustrated on the label on the carrier. The label faces up, and the electrical contact end of the battery goes into the instrument first. Insert the carrier into the instrument as shown on the label. If the carrier is inserted incorrectly, the battery door will not close.
6. Slide the battery compartment door back into place.
7. Dispose of old batteries according to UVMMC Policy SEH13, Waste Battery Policy

**Changing Rechargeable Batteries:** Rechargeable batteries recharge when analyzer is placed in a Downloader/Recharger. In addition, the Downloader has a compartment for recharging the battery outside the analyzer.

1. Slide the battery compartment door off.
2. Tilt the analyzer slightly to slide out the rechargeable battery pack.
3. The battery pack has two labels: one for orientation in the analyzer and one for orientation in the Downloader/Recharger. With the label with the analyzer facing up, and the electrical contact end of the pack facing the analyzer, insert the pack into the analyzer as shown on the label. If the pack is inserted incorrectly, the battery door will not close.
4. Slide the battery compartment door back into place.

If using rechargeable batteries, use only rechargeable batteries and recharging equipment supplied by the POCT Office. Other batteries and chargers may affect test results and pose other hazards to operators and patients. A falling instrument may cause injury.

**MONITORING PLAN:** Refrigerator and room temperature logs will be checked monthly by a point of care testing specialist for any reading that is out of range and any corrective action that resulted from the out of range reading.

**RELATED POLICIES:**
- Lab200.007 Critical Values
- Lab200.037 The Identification of Patient Specimens
- LabPOCT100.036 Competency Assessment for Point of Care Non-Waived Tests
- LabPOCT100.027 Point of Care Quality Assurance Policy
- Lab700.006 Individualized Quality Control Plan
- INFC00016 Infection Prevention Practices-Cleanliness of the Environment and Equipment
- SEH13 Waste Battery Policy

**REFERENCES:**
- i-STAT Test System Manual, Most recent version

Printed on: 2/7/2019 3:58 PM    By: Williams, Colleen A.
DISCLAIMER: Only the online policy is considered official. Please compare with on-line document for accuracy.
PLEASE PRINT CLEARLY

Patient Information:

Full Legal Name:

Street Address:

City State Zip Code

Legal Guardian:

Full Legal Name:

Home Phone:

Sample Type:

Check one

Venous

Capillary

Date of Collection

Race:

Check one

White (Non-Hispanic)

Black (Non-Hispanic)

Hispanic

Asian/Pacific Islander

American Indian/Alaskan Native

Other

Unknown

Ordering Provider:

Full Name:

Practice Name:

Street/PO Box

City State Zip Code

Submit to:

UVM Medical Center
Pathology & Laboratory Medicine-233MP1
111 Colchester Avenue
Burlington VT 05401
Phone: 847-5121 or 1-800-991-2799 Fax 1-802-847-6079
Lynch Syndrome Screening

Effective October 1, 2014, University of Vermont Medical Center GI Pathology began performing Universal Screening for Lynch Syndrome on biopsy specimens found to be positive for colorectal cancer. This screening was formerly performed on resection specimens. This change allows for clinical decision making to be made prior to surgical intervention.

It is important to note that the initial screening test, immunohistochemical (IHC) staining with antibodies against four mismatch repair proteins, done at the University of Vermont Medical Center is NOT considered a molecular test. However, any follow up molecular testing (e.g. MLH1-Promoter Methylation) requires preauthorization. The most common scenario in which this is encountered is in colon cancers that show the following IHC results: Loss of MLH1/PMS2 and retention of MSH2 and MSH6 proteins. In these cases the following comment will always be present in the surgical pathology report:

“The majority of colon cancers that have loss of MLH1/PMS2 protein are associated with somatic changes rather than an inherited mutation (Lynch syndrome). However, if additional testing to rule out Lynch syndrome is warranted in this individual, additional molecular testing, specifically MLH1 Promoter Methylation can be ordered upon obtaining preauthorization. “

MLH1 Promoter Methylation allows clinicians to definitively delineate Lynch Syndrome-associated cancer from microsatellite unstable (aka MSI-high) tumors that are sporadic (non-familial). However, this test will only be performed following preauthorization obtained from the treating clinician.

If you have any questions concerning this change please contact Dr. Rebecca Wilcox, 802-847-9477, Rebecca.wilcox@uvmhealth.org.
To: Valued Donor Testing Clients  
From: Dennis Glaser, Donor Testing Assistant Manager  
Dennis.Glaser@innovativeblood.org | Phone: 651-332-7229  
Cc: Aelgifa Kehr, Donor Testing Senior Manager  
Re: NAT MPX and WNV Sample Collection and Storage  
Date: 03/26/19

On Monday April 1, 2019 MBC Donor Testing Laboratory will be switching our NAT assays to the Roche cobas® MPX (HIV/HCV/HBV) test and Roche cobas® WNV test.

Impact to Clients:
- With the new assays there is an important change to the shipping requirements that will impact our clients. We are providing you with this information to ensure your testing is not impacted.
- When ordering NAT (MPX or WNV) testing the sample must arrive at MBC within 72 hours of collection.
- If sample arrives after 72 hours we will not be able to test your sample for NAT.
- We highly recommend you document collection times on your Test Request Forms to expedite the specimen accessioning process. Recording the time can be the difference between meeting the 72 hour requirement or having the samples rejected for being too old.

Please take preventative actions when shipping samples:
- Ship samples the day they are collected. Avoid combining or batching samples into a single shipment and proactively ship tubes without unnecessary delays.
- Ship samples directly to Memorial Blood Centers. Avoid shipping samples to a secondary location to be forwarded to MBC.
- Schedule Friday collections so that they are available for the last Friday FedEx pick-up.
- Avoid FedEx shipping on Saturday. FedEx will not deliver shipments on Sundays.

If you have any questions regarding any of the above information, please feel free to contact me at 651-332-7229 or by email at Dennis.Glaser@innovativeblood.org.

Thank you for your continued business.
PACKAGING LABORATORY SAMPLES FOR TRANSPORT WITH COURIER

Each office is responsible for getting samples ready for the courier to pick up for delivery to the lab, and we appreciate your help with this. In order to ensure optimal service for all of our clients, we ask that samples be packaged and ready to go prior to the courier arriving. Each time the courier has to wait for a sample, other offices and patients are likely to be inconvenienced by a delayed sample pickup.

1. Inspect each primary container (the container in direct contact with the sample) prior to packaging for courier pick-up. Look for evidence of leaks and please carefully turn screw-capped containers upside down to ensure that their lids are on securely. A leaky sample may contaminate other patient samples and could render one or more samples unacceptable for testing.

2. If you have a collection and you do not have time to allow the sample to clot and centrifuge, it might be a better choice to process the sample correctly and wait until the following day for the sample to be picked up. Improper handling can affect laboratory results and ultimately patient care.

3. For physician offices and clinics, UVM Medical Center provides a medium size bag for packaging samples. When properly sealed, this bag is a watertight barrier between the primary container and the person transporting the sample. The exterior of the bag must remain clean so that it can be carried safely without wearing gloves.

4. Package like sample types together at the appropriate temperature.

5. Put the requisitions corresponding to the samples in the back pocket of the specimen transport bag. If a patient has multiple samples that require storage at different temperatures, place a copy of the laboratory requisition with each sample.

6. Do not put more than 12 tubes of blood in one bag. It is important not to overfill specimen transport bags. If there are too many samples in a bag, some of the specimens may not be maintained at the proper temperature.

7. On the front of each bag check off the storage requirement for the samples contained within; this ensures that the courier will store the samples appropriately during transport.

8. Keep a record of what you give to the courier for transport. Make sure you have packed all of the samples for the tests requested.

9. Please make sure that all of the specimens are handed off to the courier upon arrival.

10. If a sample container has a flat bottom, it should be placed so that is sits upright.

11. If testing is STAT, place a STAT sticker on the same side as the storage requirements, and notify the lab (1-800-991-2799 or 847-5121) and the courier that the testing is STAT.
Specimen Transport Bags

All primary sample containers must be contained inside a secondary or outer container. The secondary container must be a watertight barrier, such as a sealed plastic bag. For outside clients that are transported by a courier, the secondary packaging has a biohazard warning attached to it. The exterior of the outer container must remain clean so that the package can be carried safely without wearing gloves.

Plastic biohazard bags are available to use as a secondary container for laboratory samples. These bags have an outer sleeve in which to place the laboratory requisition and an inner sleeve in which the primary sample container can be sealed. We provide biohazard bags in several different sizes for use by offices and hospitals that send samples to us. Below is a summary of guidelines for use of plastic biohazard bags.

It is important not to overfill specimen transport bags. If there are too many samples in a bag, some of the specimens may not be maintained at the proper temperature.

<table>
<thead>
<tr>
<th>Bag Size</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small:</td>
<td>For hospital client use only. Dimensions: 6 x 8.5 inches. Holds a maximum of 6 samples. Bags are color coded by temperature: white for room temperature, pink for refrigerated, and yellow for frozen. These bags contain a sheet of absorbent material.</td>
</tr>
<tr>
<td>Small:</td>
<td>For inpatient units and UVMMC Main Campus clinics. Dimensions: 6 x 8.5 inches. Holds a maximum of 6 samples. Bags are transported by medical personnel and are not marked (clear) and should be brought to the laboratory immediately.</td>
</tr>
<tr>
<td>Medium:</td>
<td>For client doctors' offices. Dimensions: 8 x 12 inches. Holds a maximum of 12 samples. Package samples by temperature; check temperature box that applies. These bags do not contain absorbent material.</td>
</tr>
<tr>
<td>Large:</td>
<td>All clients. Dimensions: 12 x 13.5 inches. Holds a maximum of 20 samples. Package samples by temperature; check temperature box that applies. These bags do not contain absorbent material.</td>
</tr>
</tbody>
</table>
Sample Transport Temperature Requirements

Please package similar sample types that are transported at the same temperature together.

**Refrigerated Specimens: 21°C (Wet Ice or ice pack)**
- If you use an ice pack, do not put the ice pack directly on the primary container or the tube might freeze.
- Place all refrigerated blood tubes and Aptima containers into a medium-sized (small for hospitals) specimen bag (or bags) with accompanying requisitions.
- Place all other refrigerated samples, i.e. urines or swabs, into a separate medium-sized specimen bag (or bags) with accompanying requisitions.
- **Hospitals Only:** Place smaller bags into a large specimen bag. Mark bag as refrigerated.

**Frozen Specimens: 4°C (Dry Ice)**
- Place all frozen specimens in a medium-sized (small for hospitals) specimen bag with a copy of each requisition. Mark bag as frozen.

**Ambient Specimens: 21°-25°C**
- Place ambient specimens in a medium-sized (small for hospitals) specimen bag (or bags) with accompanying requisitions. Mark bag as ambient.

**PAP Test (Ambient Temperature)**
- Place up to 2 Thin Prep vials into a small or medium-sized bag, with one copy of accompanying requisition. Mark PAP Test on the outside of the bag.
- **Hospitals:** Place no more than 10 small bags in a large bag. Mark PAP Test on the outside of the bag.

**Surgical Pathology Specimens (Ambient Temperature)**
- Place specimens from the same patient in one medium-sized bag with requisition. Mark Surgical Pathology on bag.
- **Hospitals:** Place all Surgical Pathology specimens in large bag. Mark Surgical Pathology on bag.

**24-Hour Urine Jugs (Temperature Varies)**
Two-liter (half gallon) brown jugs may contain any of a variety of preservatives; store at the temperature appropriate for the particular preservative. Urine jugs must always be transported in an upright position inside a large specimen bag.

**Electronic Orders:** 24-Hour urine samples should be on a separate order.

**Notes:** Urine specimen cups and non-stat histology specimens and microbiology specimens can be placed in the bag individually with the requisition in the back pocket. Be sure caps are screwed on securely.
MS Pt Program (Medicaid patients excluded)

Medicaid ID # and State: ________________________________

Please check one ICD Code (Required)

- Multiple Sclerosis (G35)
- Crohn’s Disease (K5090)
- Other ____________________________ (Please write applicable description and code)

Patient Sex

- Male
- Female

TEST

90257(X)  X  STRATIFY JCV® Antibody ELISA w/ Reflex to Inhibition Assay

Offered for multiple sclerosis patients only.
The JC Virus (JCV) is associated with progressive multifocal leukoencephalopathy (PML). Detection of antibodies to JCV in serum or plasma is a reliable indicator of exposure to JCV. The analytical performance characteristics were determined for multiple sclerosis patients.

Do Not use this Form to order any other tests; use a separate requisition.

Visit QuestDiagnostics.com to:
• Schedule an appointment (or call 888-277-8772)
• Find Quest Diagnostics locations (or call 800-377-8448)

Walk-in patients are always welcome

UVMMC Test Code: SJCV
Call Results To: ____________________

Select:

☐ MS Pt Program (Medicaid patients excluded)

☐ Medicaid ID # and State: ____________________

Please check one ICD Code (Required)

☐ Multiple Sclerosis (G35)

☐ Crohn’s Disease (K5090)

☐ Other ____________________

(Please write applicable description and code)

Patient Sex

☐ Male  ☐ Female

TEST

91665(X) ☒ STRATIFY JCV® Antibody ELISA w/ Reflex to Inhibition Assay

Offered for multiple sclerosis patients only.

The JC Virus (JCV) is associated with progressive multifocal leukoencephalopathy (PML). Detection of antibodies to JCV in serum or plasma is a reliable indicator of exposure to JCV. The analytical performance characteristics were determined for multiple sclerosis patients.

Do Not use this Form to order any other tests; use a separate requisition.

Visit QuestDiagnostics.com to:

• Schedule an appointment (or call 888-277-8772)

• Find Quest Diagnostics locations (or call 800-377-8448)

Walk-in patients are always welcome

UVMMC Test Code: SJCV
QunatIFERON TB Gold
TB Interpretation

NEGAT

Negative Reference Range: Negative No interferon-gamma response to M. tuberculosis antigens was detected. Infection with M. tuberculosis is unlikely. A single negative result does not exclude infection with M. tuberculosis.

In patients at high risk for M. tuberculosis infection, a second test should be considered in accordance with the 2017 ATS/IDSA/CDC Clinical Practice Guidelines for Diagnosis of Tuberculosis in Adults and Children [Lewinsohn DM et al. Clin. Infect. Dis. 2017;64(2):111-115]. Results were obtained with the Qiagen QuantiFERON-TB Gold Plus ELISA.

| TB1 Ag minus Nil | 0.03 | IU/mL |
| TB2 Ag minus Nil | 0.03 | IU/mL |
Clinician: IMMUNOLOGY LAB

F12329 COLL: 08/31/2018 10:25 REC: 08/31/2018 10:26 PHYS: IMMUNOLOGY LAB

QuantiFERON TB Gold
TB Interpretation

[NEGAT]

A Positive Reference Range: Negative Interferon-gamma response to M. tuberculosis antigens detected, suggesting infection with M. tuberculosis.

Positive results in patients at low-risk for tuberculosis should be interpreted with caution and repeat testing on a new sample should be considered as recommended by the 2017 ATS/IDSA/CDC Clinical Practice Guidelines for Diagnosis of Tuberculosis in Adults and Children.


False positive results may occur in patients with prior infection with M. marinum, M. szulgai, or M. kansasii. Results were obtained with the Qiagen QuantiFERON-TB Gold Plus ELISA.

TB1 Ag minus Nil  2.56  IU/mL
TB2 Ag minus Nil  >10.00  IU/mL

END OF REPORT

M = High  L = Low  * = Critical

111 Colchester Ave. Burlington, Vermont 05401

MRN: LABS9-8337
Page: 1
<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Viral Tests Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF</td>
<td>Herpes simplex virus 1</td>
</tr>
<tr>
<td></td>
<td>Enterovirus</td>
</tr>
<tr>
<td></td>
<td>Varicella zoster (VZV)</td>
</tr>
<tr>
<td>Muco-cutaneous</td>
<td>Herpes simplex virus types 1 &amp; 2</td>
</tr>
<tr>
<td></td>
<td>Varicella zoster (VZV)</td>
</tr>
<tr>
<td>Ocular</td>
<td>Herpes simplex virus types 1 &amp; 2</td>
</tr>
<tr>
<td></td>
<td>Varicella zoster (VZV)</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Influenza A/B and RSV</td>
</tr>
<tr>
<td></td>
<td>Rinovirus</td>
</tr>
<tr>
<td></td>
<td>Adenovirus</td>
</tr>
<tr>
<td></td>
<td>Parainfluenza Virus</td>
</tr>
<tr>
<td></td>
<td>Human Metapneumovirus</td>
</tr>
<tr>
<td>Urine CMV</td>
<td>Cytomegalovirus</td>
</tr>
</tbody>
</table>
VIRAL STUDIES

Please collect samples with swabs provided by UVM Medical Center Laboratory. Pediatric Collection Kits are also available. Other swabs may not be acceptable. Wooden shafted swabs are inappropriate for microbiology testing. Chemicals within the shaft can be inhibitory to some bacteria and can inhibit PCR reactions. Samples on wooded shafted swabs will be rejected. Swabs are available from Lab Customer Service at (802) 847-5121 or (800) 991-2799.

Viral Collection Kit

Collection Instructions for Viral Studies

- Keep sample kit at room temperature.
- After collecting Virology samples from the appropriate site break the swab into the Viral transport media, and securely recap the vial.
- Label the vial with patient name, DOB and date of collection and send to the Microbiology laboratory for testing. Refrigerate.

FLUID SAMPLES FOR VIRAL STUDIES

Sterile fluids and Bronchial washings or BAL samples should be submitted in a sterile container and Not placed in media for viral requests from these sites. Refrigerate.

<table>
<thead>
<tr>
<th>Test Name</th>
<th>Sample Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient/Outpatient Influenza, RSV PCR*</td>
<td>Collect a nasopharyngeal specimens using a Viral Collection Kit (M6), refrigerate. Respiratory fluids should be collected in a sterile container, 1 ml minimum volume, refrigerate.</td>
</tr>
<tr>
<td>ED, Urgent Care Influenza, RSV PCR</td>
<td>Collect a nasopharyngeal specimens using a Viral Collection Kit (M6), refrigerate.</td>
</tr>
<tr>
<td>Expanded Respiratory Viral Panel, PCR</td>
<td>Collect a nasopharyngeal specimens using a Viral Collection Kit (M6), refrigerate. Respiratory fluids should be collected in a sterile container, 1 ml minimum volume, refrigerate.</td>
</tr>
<tr>
<td>Enterovirus PCR, CSF</td>
<td>1 ml CSF submitted in sterile container, refrigerate</td>
</tr>
<tr>
<td>Herpes Simplex Virus, PCR</td>
<td>Collect a swab using a Viral Collection Kit (M6), Refrigerate. CSF should be collected in a sterile container, 1 ml minimum volume, refrigerate.</td>
</tr>
<tr>
<td>Varicella zoster Virus, PCR</td>
<td>Collect a swab using a Viral Collection Kit (M6), refrigerate. CSF should be collected in a sterile container, 1 ml minimum volume, refrigerate.</td>
</tr>
<tr>
<td>CMV, Molecular Detection, PCR</td>
<td>Varies, refer to Mayo Medical Laboratories (MML) specimen requirements for details</td>
</tr>
</tbody>
</table>

Nasopharyngeal Swab Technique for respiratory viral specimen collection. (Nasopharyngeal swabs are available upon request)
Getting tested for Zika virus is different from a flu, strep, or pregnancy test, which can be done in a doctor’s office. Only a few laboratories (labs) in the U.S. are certified to test for Zika. As a result, specimens often have to be shipped to a lab for testing. Several state and local health departments are certified to perform Zika testing. If your health department doesn’t currently perform Zika testing, it will coordinate testing with CDC. CDC is receiving hundreds of samples each week. Depending on the lab’s workload, processing and reporting times may take 2 to 4 weeks. Reporting times may take longer during summer months or when other viruses spread by mosquitoes increase. Here’s how testing occurs:

1. **Need for testing determined**
   - When you visit your doctor, you’ll discuss any recent travel and symptoms. Tell your doctor if you are pregnant or planning to become pregnant.
   - Your doctor may decide to test for Zika and other viruses like dengue or chikungunya.

2. **Health department contacted**
   - If Zika testing is needed, your doctor will get approval from the health department before collecting samples (blood, urine, saliva).

3. **Samples collected**
   - Your doctor will send you to a laboratory that will collect samples for testing.
   - Your doctor will select the test(s) that need to be performed and complete paperwork for the health department.

4. **Samples shipped**
   - After samples are collected, the laboratory ships them to the health department.
   - The health department logs receipt of the samples.

5. **Samples tested**
   - If your health department has been certified to perform Zika testing, then your samples will be tested there.
   - If your health department is not able to perform testing, your samples will be shipped to CDC and tested.

6. **Results reported**
   - If your health department performed testing, it will send the results to your doctor.
   - If CDC performed testing, CDC will report results to your health department, which will report the results to your doctor. Your doctor will then report lab test results to you.
Testing Process:

1. Identify patient who needs testing
2. Collect the required information
3. Call Infectious Disease Epidemiology at the VT Department of Health for specimen submission approval at their 24/7 phone number (802) 863-7240
4. Collect the appropriate specimens
5. Fill out the VT Department of Health Laboratory (VDHL) Clinical Test Request Form Micro 220 to submit with the specimen

1. Patient who meets criteria for testing

- Any symptomatic* person with travel to an area with active Zika transmission within previous 2 weeks of symptom onset, OR
- Any symptomatic* person who had unprotected sexual exposure to a person** who had previously traveled to an area with active Zika transmission, OR
- A pregnant woman WITH or WITHOUT symptoms* who had a history of travel to an area with active Zika transmission within the previous 12 weeks, OR
- A pregnant woman WITH or WITHOUT symptoms* who had unprotected sexual exposure to a person** within the previous 12 weeks, who had previously traveled to an area with active Zika transmission

*Symptoms consistent with Zika virus include acute febrile illness, rash, arthralgia, conjunctivitis, myalgia or headache
**Person does NOT need to be a confirmed Zika virus case

NOTE: Current CDC research suggests that Guillain-Barre Syndrome (GBS) is strongly associated with Zika; however, only a small proportion of people with recent Zika virus infection get GBS. If you have a patient with a GBS diagnosis and a recent travel history to an area with active Zika transmission, call the VT Department of Health at (802) 863-7240 for guidance on specimen collection for Zika lab testing.

Testing will not be approved for asymptomatic men, children or women considering pregnancy. The current CDC recommendation is for women to wait 8 weeks after return from travel to attempt conception. Men should wait at least 6 months after symptoms start, or last possible exposure, before attempting to impregnate a woman. Men should use condoms or not have sex for at least 6 months after travel to area with active transmission (if asymptomatic) or for at least 6 months from the start of symptoms (or Zika diagnosis).

2. Required Information

- Patient’s name
- Patient’s demographic information
- If pregnant, estimated delivery date or date of LMP
- Symptom onset dates
- Patient’s DOB
- Pertinent travel history (locations and dates)
- Clinical symptoms, if symptomatic
- Specimens collected and dates of collection

3. Call Infectious Disease Epidemiology at the VT Department of Health: (802) 863-7240
4. Collect the appropriate specimens

<table>
<thead>
<tr>
<th>Person to be tested</th>
<th>Number of days between symptom onset and specimen collection</th>
<th>Type of test</th>
<th>What to collect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptomatic, non-pregnant</td>
<td>&lt;14 days</td>
<td>rRT-PCR assay *</td>
<td>1-2 mL of urine AND 1 mL of serum AND 1 mL of whole blood in EDTA lavender-top tube</td>
</tr>
<tr>
<td></td>
<td>≥14 days to 12 weeks</td>
<td>Zika IgM MAC ELISA</td>
<td>1 mL of serum</td>
</tr>
<tr>
<td>Pregnant and symptomatic</td>
<td>&lt; 14 days</td>
<td>rRT-PCR assay *</td>
<td>1-2 mL of urine AND 1 mL of serum AND 1 mL of whole blood in EDTA lavender-top tube</td>
</tr>
<tr>
<td></td>
<td>≥14 days to 12 weeks</td>
<td>Zika IgM MAC ELISA</td>
<td>1 mL of serum</td>
</tr>
<tr>
<td></td>
<td>&gt;12 weeks after return from travel or exposure</td>
<td>Not available</td>
<td>Testing currently not available</td>
</tr>
<tr>
<td>Pregnant and asymptomatic</td>
<td>Specimen collected &lt;14 days after return from travel or exposure</td>
<td>rRT-PCR assay**</td>
<td>1-2 mL of urine AND 1 mL of serum AND 1 mL of whole blood in EDTA lavender-top tube</td>
</tr>
<tr>
<td></td>
<td>2 – 12 weeks after return from travel or exposure</td>
<td>Zika IgM MAC ELISA</td>
<td>1 mL of serum</td>
</tr>
<tr>
<td></td>
<td>&gt;12 weeks after return from travel or exposure</td>
<td>Not available</td>
<td>Testing currently not available</td>
</tr>
</tbody>
</table>

* The rRT-PCR assay tests for Dengue, Chikungunya, and Zika. If negative for all three viruses, the Zika IgM MAC ELISA will be performed

** If negative, the health care provider should request collection of a follow-up serum specimen 2-12 weeks following exposure or return from travel. Follow up specimen will be tested by Zika IgM MAC ELISA.

Specimen collection and storage instructions

- Serum needs to be collected in serum separator tube and centrifuged prior to shipment. Urine needs to be in a sterile screw top tube. Collect whole blood in a filled EDTA lavender-top tube.
- Ship specimens cold (2–6°C) or frozen (-70°C) by courier to VDHL.

5. Complete the Vermont Department of Health Laboratory Micro 220 Clinical Test Request Form

Under the Virology section on page 2, beside “Other”, write in “Zika”. Testing is performed at no charge.

Send to: Vermont Department of Health Laboratory
359 South Park Drive
Colchester, VT 05446
(800) 660-9997 or (802) 338-4724
(802) 338-4706 (FAX)
Policies
POLICY STATEMENTS

Animal Specimens
We do not accept animal specimens for laboratory testing.

Billing
Client—Each month you will receive an itemized invoice/ statement which will indicate the date of service, patient name, CPT code, test name, and test charge. Payment terms are net 30 days. When making payment, please include our invoice number on your check to ensure proper credit to your account.

Patient—Mayo Clinic Laboratories does not routinely bill patient’s insurance; however, if you have made advanced arrangements to have Mayo Clinic Laboratories bill your patient’s insurance, please include the following required billing information: responsible party, patient’s name, current address, zip code, phone number, Social Security number, and diagnosis code. Providing this information will avoid additional correspondence to your office at some later date. Please advise your patients that they will receive a bill for laboratory services from Mayo Clinic Laboratories for any personal responsibility after insurance payment. VISA® and MasterCard® are acceptable forms of payment.

Billing—CPT Coding
It is your responsibility to determine correct CPT codes to use for billing. While this catalog lists CPT codes in an effort to provide some guidance, CPT codes listed only reflect our interpretation of CPT coding requirements and are not necessarily correct. Particularly, in the case of a test involving several component tests, this catalog attempts to provide a comprehensive list of CPT codes for all of the possible components of the test. Only a subset of component tests may be performed on your specimen. You should verify accuracy of codes listed. Where multiple codes are listed, you should select codes for tests actually performed on your specimen. MAYO CLINIC LABORATORIES ASSUMES NO RESPONSIBILITY FOR BILLING ERRORS DUE TO RELIANCE ON CPT CODES LISTED IN THIS CATALOG. For further reference, please consult the CPT Coding Manual published by the American Medical Association. If you have any questions regarding use of a code, please contact your local Medicare carrier.

Business Continuity and Contingency Planning
In the event of a local, regional, or national disaster, Mayo Clinic and Mayo Clinic Laboratories’ performing sites have comprehensive contingency plans in place in each location to ensure that the impact on laboratory practice is minimized. With test standardization between our performing sites and medical practice locations throughout the country, we have worked to ensure that patient care will not be compromised.

Cancellation of Tests
Cancellations received prior to test setup will be honored at no charge. Requests received following test setup cannot be honored. A report will be issued automatically and charged appropriately.

Chain-of-Custody
Chain-of-custody, a record of disposition of a specimen to document who collected it, who handled it, and who performed the analysis, is necessary when results are to be used in a court of law. Mayo Clinic Laboratories has developed packaging and shipping materials that satisfy legal requirements for chain-of-custody. This service is only offered for drug testing.
Compliance Policies
Mayo Clinic Laboratories is committed to compliance with applicable laws and regulations such as the Clinical Laboratory Improvement Amendments (CLIA). Regulatory agencies that oversee our compliance include, but are not limited to, the Centers for Medicare and Medicaid Services (CMS), the Food and Drug Administration (FDA), and the Department of Transportation (DOT). Mayo Clinic Laboratories develops, implements, and maintains policies, processes, and procedures throughout our organization which are designed to meet relevant requirements. We expect clients utilizing our services will ensure their compliance with patient confidentiality, diagnosis coding, anti-kick back statutes, professional courtesy, CPT-4 coding, CLIA proficiency testing, and other similar regulatory requirements. Also see “Accreditation and Licensure,” “HIPAA Compliance,” and “Reportable Disease.”

Confidentiality of Results
Mayo Clinic Laboratories is committed to maintaining confidentiality of patient information. To ensure Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the College of American Pathologists (CAP) compliance for appropriate release of patient results, Mayo Clinic Laboratories has adopted the following policies:

Phone Inquiry Policy—One of the following unique identifiers will be required:
- Mayo Clinic Laboratories’ accession ID number for specimen; or
- Client account number from Mayo Clinic Laboratories along with patient name; or
- Client accession ID number interfaced to Mayo Clinic Laboratories; or
- Identification by individual that he or she is, in fact, “referring physician” identified on requisition form by Mayo Clinic Laboratories’ client

Under federal regulations, we are only authorized to release results to ordering physicians or health care providers responsible for the individual patient’s care. Third parties requesting results including requests directly from the patient are directed to the ordering facility. We appreciate your assistance in helping Mayo Clinic Laboratories preserve patient confidentiality. Provision of appropriate identifiers will greatly assist prompt and accurate response to inquiries and reporting.

Critical Values
The “Critical Values Policy” of the Department of Laboratory Medicine and Pathology (DLMP), Mayo Clinic, Rochester, Minnesota is described below. These values apply to Mayo Clinic patients as well as external clients of Mayo Clinic Laboratories. Clients should provide “Critical Value” contact information to Mayo Laboratory Inquiry to facilitate call-backs. To facilitate this process, a customized form is available at mayocliniclabs.com.

Definition of Critical Value—A critical value is defined as a value that represents a pathophysiologic state at such variance with normal (expected values) as to be life-threatening unless something is done promptly and for which some corrective action could be taken.

Abnormals are Not Considered Critical Values—Most laboratory tests have established reference ranges, which represent results that are typically seen in a group of healthy individuals. While results outside these reference ranges may be considered abnormal, “abnormal” results and “critical values” are not synonymous. Analytes on the DLMP Critical Values List represent a subgroup of tests that meet the above definition.

Action Taken when a Result is Obtained that Exceeds the Limit Defined by the DLMP Critical Values List—In addition to the normal results reporting (eg, fax, interface), Mayo Clinic Laboratories’ staff telephone the ordering physician or the client-provided contact number within 60 minutes following laboratory release of the critical test result(s). In the event that contact is not made within the 60-minute period, we continue to telephone until the designated party is reached and the result is conveyed in compliance and adherence to the CAP.
**Semi-Urgent Results**—Semi-Urgent Results are defined by Mayo Clinic as those infectious disease-related results that are needed promptly to avoid potentially serious health consequences for the patient (or in the case of contagious diseases, potentially serious health consequences to other persons exposed to the patient) if not acknowledged and/or treated by the physician. While not included on the Critical Values List, this information is deemed important to patient care in compliance and adherence to the CAP.

To complement Mayo Clinic Laboratories’ normal reporting mechanisms (eg, fax, interface), Mayo Clinic Laboratories’ staff will telephone results identified as significant microbiology findings to the ordering facility within 2 hours following laboratory release of the result(s). In the event that contact is not made within the 2-hour period, we will continue to telephone until the responsible party is reached and the result is conveyed. In addition, in most instances, you will see the comment **SIGNIFICANT RESULT** appear on the final report.

For information regarding the Mayo Clinic Critical Value List, contact Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700 or visit mayocliniclabs.com.

**Disclosures of Results**
Under federal regulations, we are only authorized to release results to ordering physicians or other health care providers responsible for the individual patient’s care. Third parties requesting results, including requests directly from the patient, are directed to the ordering facility.

**Extracted Specimens**
Mayo Clinic Laboratories will accept extracted nucleic acid for clinical testing, provided it is an acceptable specimen source for the ordered test, if the isolation was performed in a CLIA-certified laboratory or a laboratory meeting equivalent requirements as determined by the CAP and/or the CMS.

**Fee Changes**
Fees are subject to change without notification and complete pricing per accession number is available once accession number is final. Specific client fees are available by calling Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700 or by visiting mayocliniclabs.com.

**Framework for Quality**
“Framework for Quality” is the foundation for the development and implementation of the quality program for Mayo Clinic Laboratories. Our framework builds upon the concepts of quality control and quality assurance providing an opportunity to deliver consistent, high-quality and cost-effective service to our clients. In addition, our quality program enhances our ability to meet and exceed the requirements of regulatory/ accreditation agencies and provide quality service to our customers.

A core principle at Mayo Clinic Laboratories is the continuous improvement of all processes and services that support the care of patients. Our continuous improvement process focuses on meeting the needs of you, our client, to help you serve your patients.

“Framework for Quality” is composed of 12 “Quality System Essentials.” The policies, processes, and procedures associated with the “Quality System Essentials” can be applied to all operations in the path of workflow (eg, pre-analytical, analytical, and post-analytical). Performance is measured through constant monitoring of activities in the path of workflow and comparing performance through benchmarking internal and external quality indicators and proficiency testing.

Data generated by quality indicators drives process improvement initiatives to seek resolutions to system-wide problems. Mayo Clinic Laboratories utilizes “Failure Modes and Effects Analysis (FMEA),” “Plan Do Study Act (PDSA),” “LEAN,” “Root Cause Analysis,” and “Six Sigma” quality improvement tools to determine appropriate remedial, corrective, and preventive actions.
**Quality Indicators**—Mayo Clinic Laboratories produces hundreds of Key Performance Indicators for our business and operational areas, and we review them regularly to ensure that we continue to maintain our high standards. A sampling of these metrics includes:

- **Pre-analytic performance indicators**
  - Lost specimens*
  - On-time delivery
  - Special handling calls
  - Specimen acceptability*
  - Specimen identification*
  - Incoming defects*

- **Analytic performance indicators**
  - Proficiency testing
  - Quality control
  - Turnaround (analytic) times
  - Quantity-not-sufficient (QNS) specimens*

- **Post-analytic performance indicators**
  - Revised reports*
  - Critical value reports*

- **Operational performance indicators**
  - Incoming call resolution*
  - Incoming call abandon rate
  - Call completion rate
  - Call in-queue monitoring
  - Customer complaints
  - Customer satisfaction surveys

The system provides a planned, systematic program for defining, implementing, monitoring, and evaluating our services.

*Measured using Six Sigma defects per million (dpm) method.

**HIPAA Compliance**
 Mayo Clinic Laboratories is fully committed to compliance with all privacy, security, and electronic transaction code requirements of the Health Insurance Portability and Accountability Act of 1996 (HIPAA). All services provided by Mayo Clinic Laboratories that involve joint efforts will be done in a manner which enables our clients to be HIPAA and the College of American Pathologists (CAP) compliant.

**Infectious Material**
 The Centers for Disease Control (CDC) in its regulations of July 21, 1980, has listed organisms and diseases for which special packaging and labeling must be applied. Required special containers and packaging instructions can be obtained from us by using the “Request for Supplies” form or by ordering from the online Supply Catalog at mayocliniclabs.com/customer-service/supplies/index.php.

Shipping regulations require that infectious substances affecting humans be shipped in a special manner. See “Infectious Material.” A copy of the regulations can be requested from the International Air Transport Association (IATA); they may be contacted by phone at 514-390-6770 or by fax at 514-874-2660.

**Informed Consent Certification**
 Submission of an order for any tests contained in this catalog constitutes certification to Mayo Clinic Laboratories by ordering physician that: (1) ordering physician has obtained “Informed Consent” of subject patient as required by any applicable state or federal laws with respect to each test ordered; and (2) ordering physician has obtained from subject patient authorization permitting Mayo Clinic Laboratories to report results of each test ordered directly to ordering physician.
On occasion, we forward a specimen to an outside reference laboratory. The laws of the state where the reference laboratory is located may require written informed consent for certain tests. Mayo Clinic Laboratories will request that ordering physician pursue and provide such consent. Test results may be delayed or denied if consent is not provided.

**Non-Biologic Specimens**
Due to the inherent exposure risk of non-biologic specimens, their containers, and the implied relationship to criminal, forensic, and medico-legal cases, Mayo Clinic Laboratories does not accept nor refer non-biologic specimen types. Example specimens include: unknown solids and liquids in the forms of pills, powder, intravenous fluids, or syringe contents.

**Patient Safety Goals**
One of The Joint Commission National Patient Safety goals for the Laboratory Services Program is to improve the accuracy of patient identification by using at least 2 patient identifiers when providing care, treatment, or services.

Mayo Clinic Laboratories uses multiple patient identifiers to verify the correct patient is matched with the correct specimen and the correct order for the testing services. As a specimen is received at Mayo Clinic Laboratories, the client number, patient name, and patient age date of birth are verified by comparing the labels on the specimen tube or container with the electronic order and any paperwork (batch sheet or form) which may accompany the specimen to be tested. When discrepancies are identified, Mayo Laboratory Inquiry will call the client to verify discrepant information to assure Mayo Clinic Laboratories is performing the correct testing for the correct patient. When insufficient or inconsistent identification is submitted, Mayo Clinic Laboratories will recommend that a new specimen be obtained, if feasible.

In addition, Anatomic Pathology consultation services require the Client Pathology Report. The pathology report is used to match the patient name, patient age and/or date of birth, and pathology case number. Since tissue blocks and slides have insufficient space to print the patient name on the block, the pathology report provides Mayo Clinic Laboratories another mechanism to confirm the patient identification with the client order and labels on tissue blocks and slides.

**Parallel Testing**
Parallel testing may be appropriate in some cases to re-establish patient baseline results when converting to a new methodology at Mayo Clinic Laboratories. Contact your Regional Manager at 800-533-1710 or 507-266-5700 for further information.

**Proficiency Testing**
We are a College of American Pathologists (CAP)-accredited, CLIA-licensed facility that voluntarily participates in many diverse external and internal proficiency testing programs. It is Mayo Clinic Laboratories’ expectation that clients utilizing our services will adhere to CLIA requirements for proficiency testing (42 CFR 493.801), including a prohibition on discussion about samples or results and sharing of proficiency testing materials with Mayo Clinic Laboratories during the active survey period.

Mayo Clinic Laboratories’ proficiency testing includes participation in CMS-approved programs. Mayo Clinic Laboratories also performs alternative assessment using independent state, national, and international programs when proficiency testing is not available. Mayo Clinic Laboratories also conducts comparability studies to ensure the accuracy and reliability of patient testing, when necessary. We comply with the regulations set forth in Clinical Laboratory Improvement Amendments (CLIA-88), the Occupational Safety and Health Administration (OSHA), or the Centers for Medicare & Medicaid Services (CMS).

It is Mayo Clinic Laboratories’ expectation that clients utilizing our services will adhere to CLIA requirements for proficiency testing including a prohibition on discussion about samples or results and sharing of proficiency
testing materials with Mayo Clinic Laboratories during the active survey period. Referring of specimens is acceptable for comparison purposes when an approved proficiency-testing program is not available for a given analyte.

Radioactive Specimens
Specimens from patients receiving radioactive tracers or material should be labeled as such. All incoming shipments arriving at Mayo Clinic Laboratories are routed through a detection process in receiving to determine if the samples have any levels of radioactivity. If radioactive levels are detected, the samples are handled via an internal process that assures we do not impact patient care and the safety of our staff. This radioactivity may invalidate the results of radioimmunoassays (RIA).

Record Retention
Mayo Clinic Laboratories retains all test requisitions and patient test results at a minimum for the retention period required to comply with and adhere to the CAP. A copy of the original report can be reconstructed including reference ranges, interpretive comments, flags, and footnotes with the source system as the Department of Laboratory Medicine’s laboratory information system.

Referral of Tests to Another Laboratory
Mayo Clinic Laboratories forwards tests to other laboratories as a service to its clients. This service should in no way represent an endorsement of such test or referral laboratory or warrant any specific performance for such test. Mayo Clinic Laboratories will invoice for all testing referred to another laboratory at the price charged to Mayo Clinic Laboratories. In addition, Mayo Clinic Laboratories will charge an administrative fee per test for such referral services.

Reflex Testing
Mayo Clinic Laboratories identifies tests that reflex when medically appropriate. In many cases, Mayo Clinic Laboratories offers components of reflex tests individually as well as together. Clients should familiarize themselves with the test offerings and make a decision whether to order a reflex test or an individual component. Clients, who order a reflex test, can request to receive an “Additional Testing Notification Report” which indicates the additional testing that has been performed. This report will be faxed to the client. Clients who wish to receive the “Additional Testing Notification Report” should contact their Regional Manager or Regional Service Representative.

Reportable Disease
Mayo Clinic Laboratories, in compliance with and adherence to the College of American Pathologists (CAP) Laboratory General Checklist (CAP GEN. 20373) strives to comply with laboratory reporting requirements for each state health department regarding reportable disease conditions. We report by mail, fax, and/or electronically, depending upon the specific state health department regulations. Clients shall be responsible for compliance with any state specific statutes concerning reportable conditions, including, but not limited to, birth defects registries or chromosomal abnormality registries. This may also include providing patient address/demographic information. Mayo Clinic Laboratories’ reporting does not replace the client or physician responsibility to report as per specific state statues.

Request for Physician Name and Number
Mayo Clinic Laboratories endeavors to provide high quality, timely results so patients are able to receive appropriate care as quickly as possible. While providing esoteric reference testing, there are times when we need to contact the ordering physician directly. The following are 2 examples:

When necessary to the performance of a test, the ordering physician’s name and phone number are requested as part of “Specimen Required.” This information is needed to allow our physicians to make timely consultations or seek clarification of requested services. If this information is not provided at the time of specimen receipt, we will call you to obtain the information. By providing this information up front, delays in patient care are avoided.
In some situations, additional information from ordering physician is necessary to clarify or interpret a test result. At that time, Mayo Clinic Laboratories will request physician’s name and phone number so that one of our staff can consult with the physician.

We appreciate your rapid assistance in supplying us with the ordering physician’s name and phone number when we are required to call. Working together, we can provide your patients with the highest quality testing services in the shortest possible time.

Special Handling
Mayo Clinic Laboratories serves as a reference laboratory for clients around the country and world. Our test information, including days and time assays are performed as well as analytic turnaround time, is included under each test listing in the Test Catalog on mayocliniclabs.com. Unique circumstances may arise with a patient resulting in a physician request that the specimen or results receive special handling. There are several options available. These options can only be initiated by contacting Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700 and providing patient demographic information.

There is a nominal charge associated with any special handling.

- **Hold:** If you would like to send us a specimen and hold that specimen for testing pending initial test results performed at your facility, please call Mayo Laboratory Inquiry. We will initiate a hold and stabilize the specimen until we hear from you.
- **Expedite:** If you would like us to expedite the specimen to the performing laboratory, you can call Mayo Laboratory Inquiry and request that your specimen be expedited. Once the shipment is received in our receiving area, we will deliver the specimen to the performing laboratory for the next scheduled analytic run. We will not set up a special run to accommodate an expedite request.
- **STAT:** In rare circumstances, STAT testing from the reference laboratory may be required for patients who need immediate treatment. These cases typically necessitate a special analytic run to turn results around as quickly as possible. To arrange STAT testing, please have your pathologist, physician, or laboratory director call Mayo Laboratory Inquiry. He/she will be connected with one of our medical directors to consult about the patient’s case. Once mutually agreed upon that there is a need for a STAT, arrangements will be made to assign resources to run the testing on a STAT basis when the specimen is received.

Specimen Identification Policy
In compliance with and adherence to the CAP and the Joint Commission’s 2008 Patient Safety Goals (1A), Mayo Clinic Laboratories’ policy states that all specimens received for testing must be correctly and adequately labeled to assure positive identification. Specimens must have 2 person-specific identifiers on the patient label. Person-specific identifiers may include: accession number, patient’s first and last name, unique identifying number (eg, medical record number), or date of birth. Specimens are considered mislabeled when there is a mismatch between the person-specific identifiers on the specimen and information accompanying the specimen (eg, computer system, requisition form, additional paperwork).

When insufficient or inconsistent identification is submitted, Mayo Clinic Laboratories will recommend that a new specimen be obtained, if feasible.

Specimen Rejection
All tests are unique in their testing requirements. To avoid specimen rejection or delayed turnaround times, please check the “Specimen Required” field within each test. You will be notified of rejected or problem specimens upon receipt.

Please review the following conditions prior to submitting a specimen to Mayo Clinic Laboratories:
- Full 24 hours for timed urine collection
• pH of urine
• Lack of hemolysis/lipemia
• Specimen type (plasma, serum, whole blood, etc.)
• Specimen volume
• Patient information requested
• Proper identification of patient/specimen
• Specimen container (metal-free, separation gel, appropriate preservative, etc.)
• Transport medium
• Temperature (ambient, frozen, refrigerated)

**Specimen Volume**

The “Specimen Required” section of each test includes 2 volumes - preferred volume and minimum volume. Preferred volume has been established to optimize testing and allows the laboratory to quickly process specimen containers, present containers to instruments, perform test, and repeat test, if necessary. Many of our testing processes are fully automated; and as a result, this volume allows hands-free testing and our quickest turnaround time (TAT). Since patient values are frequently abnormal, repeat testing, dilutions, or other specimen manipulations often are required to obtain a reliable, reportable result. Our preferred specimen requirements allow expeditious testing and reporting.

When venipuncture is technically difficult or the patient is at risk of complications from blood loss (eg, pediatric or intensive care patients), smaller volumes may be necessary. Specimen minimum volume is the amount of sample necessary to provide a clinical relevant result as determined by the Testing Laboratory.

When patient conditions do not mandate reduced collection volumes, we ask that our clients submit preferred volume to facilitate rapid, cost-effective, reliable test results. Submitting less than preferred volume may negatively impact quality of care by slowing TAT, increasing the hands-on personnel time (and therefore cost) required to perform test.

Mayo Clinic Laboratories makes every possible effort to successfully test your patient’s specimen. If you have concerns about submitting a specimen for testing, please call Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700. Our staff will discuss the test and specimen you have available. While in some cases specimens are inadequate for desired test, in other cases, testing can be performed using alternative techniques.

**Supplies**

Shipping boxes, specimen vials, special specimen collection containers, and request forms are supplied without charge. Supplies can be requested using one of the following methods: use the online ordering functionality available at mayocliniclabs.com/supplies or call Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700.

**Test Classifications**

Analytical tests offered by Mayo Clinic Laboratories are classified according to the FDA labeling of the test kit or reagents and their usage. Where appropriate, analytical test listings contain a statement regarding these classifications, test development, and performance characteristics.

**Test Development Process**

Mayo Clinic Laboratories serves patients and health care providers from Mayo Clinic, Mayo Health System, and our reference laboratory clients worldwide. We are dedicated to providing clinically useful, cost-effective testing strategies for patient care. Development, validation, and implementation of new and improved laboratory methods are major components of that commitment.

Each assay utilized at Mayo Clinic, whether developed on site or by others, undergoes an extensive validation and performance documentation period before the test becomes available for clinical use. Validations follow a standard protocol that includes:

• Accuracy
• Precision
• Sensitivity
• Specificity and interferences
• Reportable range
• Specimen stability
• Specimen type comparisons, if applicable
• Urine preservative studies: stability at ambient, refrigerated, and frozen temperatures and with 7 preservatives; at 1, 3, and 7 days
• Comparative evaluation with current and potential methods, if applicable
• Reference intervals: reference intervals provided by Mayo Clinic Laboratories are derived from studies performed in our laboratories or adopted from the manufacturer package insert after internal verification. When reference intervals are obtained from other sources, the source is indicated in the “Reference Values” field.
• Workload recording
• Limitations of the assay
• Clinical utility and interpretation: written by Mayo Clinic medical experts, electronically available (MayoAccess™)

**Test Result Call-Backs**
Results will be phoned to a client when requested from the client (either on Mayo Clinic Laboratories’ request form or from a phone call to Mayo Clinic Laboratories from the client).

**Time-Sensitive Specimens**
Please contact Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700 prior to sending a specimen for testing of a time-sensitive nature. Relay the following information: facility name, account number, patient name and/or Mayo Clinic Laboratories’ accession number, shipping information (ie, courier service, FedEx®, etc.), date to be sent, and test to be performed. Place specimen in a separate Mayo Clinic Laboratories’ temperature appropriate bag. Please write “Expedite” in large print on outside of bag.

**Turnaround Time (TAT)**
Mayo Clinic Laboratories’ extensive test menu reflects the needs of our own health care practice. We are committed to providing the most expedient TAT possible to improve diagnosis and treatment. We consider laboratory services as part of the patient care continuum wherein the needs of the patient are paramount. In that context, we strive to fulfill our service obligations. Our history of service and our quality metrics will document our ability to deliver on all areas of service including TAT.

Mayo Clinic Laboratories defines TAT as the analytical test time (the time from which a specimen is received at the testing location to time of result) required. TAT is monitored continuously by each performing laboratory site within the Mayo Clinic Department of Laboratory Medicine and Pathology. For the most up-to-date information on TAT for individual tests, please visit us at mayocliniclabs.com or contact Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700.

**Unlisted Tests**
Mayo Clinic Laboratories does not list all available test offerings in the paper catalog. New procedures are developed throughout the year; therefore, some tests are not listed in this catalog. Although we do not usually accept referred tests of a more routine type, special arrangements may be made to provide your laboratory with temporary support during times of special need such as sustained instrumentation failure. For information about unlisted tests, please call Mayo Laboratory Inquiry at 800-533-1710 or 507-266-5700.