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# Specimens – Southwestern Vermont Medical Center

## COLLECTION PROTOCOLS

### FOR BLOOD BANK SPECIMEN COLLECTION PROTOCOLS

- Please see the Blood Bank Section

### FOR CYTOLOGY SPECIMEN SUBMISSION PROTOCOLS

- Please see the Cytology Section

### FOR PATHOLOGY SPECIMEN SUBMISSION PROTOCOLS

- Please see the Pathology Section

## *SPECIMEN LABELING*

- Persons collecting a specimen should label the sample at the time of collection. The specimen label should contain (at a minimum) full name, date of birth and date of collection. If there is a problem with the size of the label on the tube, larger labels may be requested from the SVMC for labeling purposes.
- Two patient identifiers must be on each specimen – the patient identifiers chosen for outpatient specimens are the full name and date of birth (DOB).
- For Blood Bank testing, the complete name, DOB and red Typenex band number (usually one of the small red identification/tracking labels from the band) MUST match exactly. Date of collection and initials of person collecting the specimen are also required for tube labeling.
- Although a request for Blood Bank work (Type and Cross, Crossmatch or blood product request) on an outpatient is rare, these requests are received and it is mandatory that all phases of patient identification be explicitly followed. If there is any discrepancy, the specimen will be discarded and a new specimen requested.

**\*\*\*SPECIMENS WILL BE REJECTED IF NOT LABELED PROPERLY**

## *CENTRIFUGATION AND STORAGE INSTRUCTIONS*

Allow specimens to fully clot at room temperature before centrifugation. Most samples may be stored refrigerated until the laboratory courier picks them up or they are delivered to the laboratory. Follow specific collection protocols for each test.

## *TEST SUBMISSION AND PACKAGING*

For Outpatient Collections

1. Complete the patient information and insurance information sections of an Outpatient Laboratory Requisition. Please check which party will be responsible for payment. Enter all ICD-9 diagnosis code(s) that reflect the patient's diagnoses for that date of service. Have the patient sign the requisition at the bottom.
2. Collect the specimen(s) in proper transport container(s).
3. Fold the requisition in half widthwise with the patient's name facing out. Place the specimen and the requisition into the appropriate pockets of the transport bag provided.
4. Ship the specimen to the laboratory according to the collection protocol.

### *VENIPUNCTURE Collection Protocol*

1. The patient should be placed in a sitting or lying position. The sitting position is the easiest method for obtaining a venous sample.
2. Ask patient to be seated in a chair with arm rests. Support the extended arm with a small pillow or a roll of towels.
3. The phlebotomist should make every effort to make the patient feel comfortable, relaxed and at ease. Try to keep his mind off the drawing procedure.
4. Inspect the area you plan to use. You may be able to see the vein. They appear blue and are slightly raised above the skin surface, except in obese people.
5. Apply the tourniquet 3-4 inches above the intended draw site and have the patient clench their hand.
  - a. The tourniquet must be applied with enough tension to compress the vein but not the artery.
  - b. Clenching the hand pumps blood into the vein and makes it bigger.
6. Palpate or feel the vein, even when the vein is seen. The vein will feel like an elastic tube that gives under the pressure of your finger.
  - a. Arteries pulsate so make certain the structure you feel is not pulsating.
  - b. If the vein feels cord-like, such a vein should not be used, as it may be difficult to obtain blood from it.
7. If the vein is difficult to find, the following measures may be taken:
  - a. Massaging the arm from the wrist to the elbow may force blood into the vein.
  - b. Tapping the area sharply with the index or second finger two or three times may cause the vein to dilate.
  - c. If the above measures do not help try looking at the other arm.

\*NOTE: If the tourniquet has been applied for more than a minute while searching for a vein, release it for a minute or two and then relocate the vein. Prolonged obstruction of blood flow by the tourniquet changes some test results.

\*NOTE: Gloves are to be worn at all times during a venipuncture procedure.
8. Scrub the area for venipuncture with an alcohol pad and allow to air dry.
9. Attach a 21-gauge safety needle to either a vacutainer holder or the appropriate size syringe. Safety needles are to be used at all times for phlebotomy procedures.
10. The syringe/vacutainer is held between the thumb and the three fingers. The index finger is placed on the hub of the needle and is used as a guide.
11. Hold the vein firmly taut by placing your free thumb about an inch below where the needle is to enter and press down on the arm and at the same time pull the skin toward the patient's hand.
12. Before the actual puncture check the following:
  - The needle should be in line with the vein.
  - The needle should be at about a 15-degree angle with the skin.
  - The bevel of the needle should be up.
13. Puncture the vein. If using a vacutainer, insert appropriate tube into the holder and firmly yet gently push the vacutainer onto the needle in holder. Entry into the vein is accomplished when blood enters the hub of the syringe or when blood flows into the vacutainer tube.

- When finished drawing the blood, be sure to release the tourniquet before the needle is withdrawn from the arm. Once the needle is withdrawn, apply pressure to the venipuncture sight with sterile gauze square for several minutes until the bleeding has stopped.

### ***GLUCOSE TOLERANCE TESTS Standard Protocols***

#### **PATIENT PREPARATION:**

- The patient should be otherwise healthy and ambulatory with a carbohydrate intake of at least 150 grams/day for three days prior to test. The patient should not be subject to acute medical or surgical stress. The physician should evaluate all medications for possible interference with the test.
- Prior to the test, the patient should fast 10-16 hours.
- During the test, the patient should remain sedentary, continue fasting (except water) and not smoke.
- If the patient is to have test conducted by SVMC Lab, instruct patient that he/she should arrive at the SVMC Lab no later than 11:00 a.m. Monday - Friday only, no Glucose Tolerance Tests can be done on Saturday.

#### **SPECIMEN HANDLING:**

- Collect specimens in Gold top or Marble Red top SST vacutainer tubes. Allow each specimen to clot (15-20 minutes) and spin within 45 minutes of collection. Gray top (NaF) tubes may also be used. Mix well and send un-spun tubes to the lab. These tubes minimize specimen handling but have limited use if other tests have been requested.
- Clearly label all specimens with patient's name, date, and time collected.
- Store refrigerated until specimen pickup.

#### **DOSAGE:**

Dextol Lemon-Lime Glucose Tolerance Beverage (available from Laboratory.

Client Services Department) 300mL (10oz) bottle containing 100 grams of glucose.

See individual procedures for recommended adult dose.

#### **PEDIATRIC DOSAGE CHART:**

<u>WEIGHT</u> <u>(LBS)</u>	<u>GRAMS</u> <u>GLUCOSE</u>	<u>ML (OZ)</u> <u>DEXTOL</u>
< 10	8	24 (0.8)
11-20	16	48 (1.6)
21-30	24	72 (2.4)
31-40	32	96 (3.2)
41-50	40	120 (4.0)
51-60	48	144 (4.8)
61-70	56	168 (5.6)
71-80	64	192 (6.4)
81-90	72	216 (7.2)

### **2-HOUR POST-PRANDIAL GLUCOSE (GLUPP)**

Draw blood sample two hours after patient has consumed a meal containing approximately 100 grams of carbohydrates.

Example of a 100-gram carbohydrate test meal:

- Orange Juice - 8 oz.
- Cornflakes - 3/4 cup
- Milk - 4 oz.
- Bread, toasted - 2 slices
- Butter - as desired
- Jelly - 1 tbsp.
- Sugar - 2 tsp.
- Coffee or Tea

If patient is to have test conducted by SVMC Laboratory, patient may eat meal at home or purchase test meal at SVMC coffee shop. The patient should notify lab of time of test meal so sample can be collected at proper time.

### **PREGNANCY DIABETIC SCREEN (GLUPS)**

Recommended time for testing is at 24-28 weeks gestation. If the patient is to have test conducted by SVMC Lab, instruct patient that he/she should arrive at the SVMC Lab no later than 11:00 a.m. Monday - Friday only, no Glucose Tolerance Tests can be done on Saturday.

1. It is recommended that the patient be fasting but this is not absolutely necessary.
2. Have patient drink 150ml (5oz) of Dextol Glucose Tolerance Beverage containing 50 grams of glucose. Record the time.
3. Instruct patient to remain seated and not to drink (except water), eat or smoke until test is complete.
4. Draw blood sample one hour from the time the Dextol was given.

### **2-HOUR GLUCOSE TOLERANCE (Diabetes) (GTT2HR)**

If the patient is to have test conducted by SVMC Lab, instruct patient that he/she should arrive at the SVMC Lab no later than 11:00 a.m. Monday - Friday only, no Glucose Tolerance Tests can be done on Saturday.

1. Confirm that the patient has fasted 10-16 hours.
2. Collect urine sample and run dipstick urine test. If test is positive, consult physician to determine whether to continue with tolerance test.
3. Draw fasting blood sample.
4. Have patient drink 225 ml (7.5oz) Dextol Glucose Tolerance Beverage for a dose of 75 grams of glucose. See dosage chart if patient is less than 91 lbs. Record time.
5. Patient should be instructed to remain seated, continue fasting (except water) and not to smoke during the test. Ask the patient to notify staff if he/she should feel ill.
6. Draw blood sample at 2.0 hours from the time the Dextol was given.

### **3-HOUR GESTATIONAL GLUCOSE TOLERANCE TEST (GTT3HR)**

If the patient is to have test conducted by SVMC Lab, instruct patient that he/she should arrive at the SVMC Lab no later than 11:00 a.m. Monday - Friday only, no Glucose Tolerance Tests can be done on Saturday.

1. Confirm that patient has fasted 10-16 hours.
2. Collect urine sample and run dipstick urine test. If test is positive, consult physician to determine whether to continue with a tolerance test.
3. Draw fasting blood sample.
4. Have patient drink 300ml (10oz) of Dextol Glucose Tolerance Beverage for a dose of 100 grams of glucose. Record time.
5. Patient should be instructed to remain seated, continue fasting and not to smoke during the test. Ask patient to notify staff if she should feel ill.
6. Draw blood samples at 1, 2 and 3 hours from the time the Dextol was given.

### **5-HOUR GLUCOSE TOLERANCE TEST (Hypoglycemia) (GTT5HR)**

If the patient is to have test conducted by SVMC Lab, instruct patient that he/she should arrive at the SVMC Lab no later than 11:00 a.m. Monday - Friday only, no Glucose Tolerance Tests can be done on Saturday.

1. Confirm that the patient has fasted 10-16 hours.
2. Collect urine sample and run dipstick urine test. If test is positive, consult physician to determine whether to continue tolerance test.
3. Draw fasting blood sample. Save 1 mL of serum frozen for possible insulin assay.
4. Have patient drink 225 ml (7.5oz) of Dextol Glucose Tolerance Beverage for a dose of 75 grams of glucose. See dosage chart if patient weighs less than 91 lbs. Record time.
5. Patient should be instructed to continue fasting with limited physical activity for the duration of the test. Monitor patient during test for symptoms of hypoglycemia.
6. If symptoms appear, notify physician. Insulin and glucose levels determined at the time of symptoms are most diagnostic. Physician should determine whether to obtain sample at this time and/or continue test.
7. Draw blood samples 1, 2, 3, 4 and 5 hours from the time the Dextol was given. Save 1 mL of serum from each specimen frozen for possible insulin assay.