

**TABLE 1 - MICROBIOLOGY SPECIMEN COLLECTION GUIDELINES 38.15.T01**

SPECIMEN OR TEST TYPE	COLLECTION		COMMENTS
	GUIDELINES	DEVICE AND/OR MINIMUM VOLUME	
<b>Abscess - Open</b>	<p>Remove surface exudate by wiping with sterile saline or 70% alcohol</p> <p>Aspirate if possible, or pass swab deep into lesion and firmly sample lesion's advancing edge.</p>	<p>Culturette transport swab or Port-A-Cul Swab transport tube for anaerobes.</p> <p>Port-A-Cul vial anaerobic transport media for fluid or tissue.</p>	<p>Tissue or fluid is always superior to swab specimen. Sampling of surface area can introduce colonizing bacteria not involved in the infectious process.</p>
<b>Abscess - Closed</b>	<p>Aspirate abscess wall material with needle and syringe. Aseptically transfer all material into anaerobic transport device or vial.</p>	<p>Port-A-Cul vial anaerobic transport media.</p>	
<b>Bite Wound</b>	<p>See abscess.</p>		
<b>Blood Culture</b>	<p><u>Disinfection of culture bottle:</u> Apply 70% alcohol to rubber stoppers</p> <p><u>Disinfection of venipuncture site:</u> 1. Cleanse site with 70% alcohol. 2. Swab concentrically, starting at center, with iodophor (alternatively, cleanse with chloraprep). 3. Allow iodine to dry. 4. Do not palpate vein at this point. 5. Collect blood with a syringe or butterfly and direct draw adapter. 6. After venipuncture, remove iodine from skin with alcohol.</p>	<p>Bacteria: BacT/Alert Plus Aerobic and Anaerobic blood culture bottles.</p> <p>Adult, 8-10 mL/bottle.</p> <p>Infant or short-draws: 0.5-4 mL Pediatric Blood Culture Bottle.</p> <p>Fungi: Lysis centrifuge (Isolator tube).</p> <p>Mycobacterium: 10 mL isolator tube or two 4 mL sodium heparin tubes.</p>	<p>Acute sepsis: 2 sets from 2 separate sites (if possible).</p> <p>Fever of unknown origin: 2 sets from separate sites if negative at 24 hours, obtain 2 more sets.</p> <p>Endocarditis, acute: 3 sets from 3 sites over 24 hours.</p> <p>Additional blood culture bottles may be drawn when indicated by clinical symptoms or diagnosis.</p>

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<b>Catheter - I.V.</b>	<ol style="list-style-type: none"> <li>1. Cleanse skin around catheter site with alcohol.</li> <li>2. Aseptically remove catheter, and clip 5 cm distal tip of catheter directly into sterile tube.</li> <li>3. Transport directly to microbiology laboratory to prevent drying.</li> </ol>	Sterile screw-cap tube or cup.	Acceptable I.V. catheters for semiquantitative culture (Maki method): central, CVP, Hickman, Broviac, peripheral, arterial, umbilical, hyperalimentation, Swan-Ganz.
<b>Catheter-Foley</b>	Do not culture, since growth represents distal urethral flora.		Not acceptable for culture
<b>Cellulitis</b>	<ol style="list-style-type: none"> <li>1. Cleanse site by wiping with sterile saline or 70% alcohol.</li> <li>2. Aspirate area of maximum inflammation (commonly center rather than leading edge) with fine needle and syringe.</li> <li>3. Draw small amount of sterile saline into syringe.</li> <li>4. Aseptically transfer to Port-A-Cul vial.</li> </ol>	Sterile Tube or Port-A-Cul vial anaerobic transport media.	Yield of potential pathogens is only 25-35%.
<b>Chlamydia Culture</b>	<ol style="list-style-type: none"> <li>1. The larger swab is used to clear mucous from the endocervix.</li> <li>2. Collect cervical or urethral specimen using the smaller swab in the kit.</li> <li>3. Leave the smaller swab in the M4 transport media.</li> <li>4. Specimen is sent to .Sioux Falls, SD</li> </ol>	M4RT transport kit	Must be done in suspected cases of abuse or for sources other than genital and urine (ie., eye, anal, throat).
<b>CSF</b>	<ol style="list-style-type: none"> <li>1. Disinfect site with Iodophor.</li> <li>2. Insert needle with stylet at L3-L4, L4-L5 or L5-S1 interspace.</li> <li>3. Upon reaching subarachnoid space, remove stylet, and collect 1-2 mL of fluid into each of 3 leak-proof tubes.</li> </ol>	Sterile screw-cap tube #2. Bacteria, 1 mL. Fungi, 1 mL. AFB, 1 mL. Virus, 1 mL.	Obtain blood cultures also. If only 1 tube of CSF is collected, submit it to microbiology laboratory first. Do not transport in the pneumatic tube.

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<b>Cyst</b>	See Abscess.		
<b>Ear - Inner</b>	Tympanocentesis is reserved for complicated, recurrent, or chronic persistent otitis media. 1. For intact ear drum, clean ear canal with soap solution, and collect fluid via syringe aspiration technique. 2. For ruptured ear drum, collect fluid on flexible-shaft swab via auditory speculum.	Sterile tube, swab transport medium, or Port-A-Cul vial or anaerobic transport media.	If aspirate or biopsy, use anaerobic transport system. Throat or nasopharyngeal cultures are not predictive of agents responsible for otitis media.
<b>Ear - Outer</b>	1. Use moistened swab to remove any debris or crust from ear canal. 2. Obtain sample by firmly rotating swab in outer canal.	Culturette transport swab.	For otitis externa, vigorous swabbing is required because surface swabbing may miss streptococcal cellulitis.
<b>Eye - Conjunctiva</b>	1. Sample both eyes with separate swabs (premoistened with sterile saline or broth by rolling swab over each conjunctiva). 2. Inoculate medium at time of collection.	Culturette transport swab.  For GC, inoculate Modified Thayer Martin plate or use Amies Charcoal swab. Transport to lab immediately.	Sample both conjunctiva to determine indigenous microflora. Uninfected eye serves as control.
<b>Eye - Corneal</b>	1. Obtain conjunctival swab specimens as described above. 2. Instill 2 drops of local anesthetic Using sterile spatula, scrape ulcers or lesions, and inoculate scraping directly onto medium.	Direct culture inoculation: BAP, CHOC, and inhibitory mold agar IMA.  Transport plates <15 minutes, room temp.	Take swabs for culture prior to anesthetic application; corneal scrapings can be obtained after.

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<b>Feces – Basic Enteric Pathogen Panel, Screen for Single Organism, Rotavirus and Norovirus.</b>	Pass directly into clean, dry container.	Enteric Plus stool transport solution.	Do not routinely perform stool testing for patients whose length of stay was >3 days and admitting diagnosis was not gastroenteritis. However, consider <i>Clostridium difficile</i> .
<b>Feces - Ova and Parasite</b>	Pass directly into clean, dry container. Transport to microbiology laboratory within 20 minutes of collection, or transfer to ova and parasite transport system (10% formalin and/or PVA).	10% Formalin and PVA.	Do not routinely perform ova and parasite test for patients whose length of stay was >3 days and admitting diagnosis was not gastroenteritis.
<b>Feces - Giardia</b>	Collect a routine fecal specimen as described above.		
<b>Fistula</b>	See Abscess.		

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<b>Fluids - abdominal, ascites, bile, joint, pericardial, peritoneal, pleural, synovial</b>	<ol style="list-style-type: none"> <li>1. Disinfect overlying skin with Iodophor.</li> <li>2. Obtain specimen via percutaneous needle aspiration or surgery.</li> <li>3. Transport immediately to laboratory.</li> <li>4. Always submit as much fluid as possible; never submit swab dipped in fluid.</li> </ol>	Port-A-Cul vial anaerobic transport media or sterile screw cap tube.	
<b>Gangrenous Tissue</b>	See Abscess.		Do not sample superficial tissue; tissue biopsy samples or aspirates are preferred.
<b>Gastric - wash or lavage fluid</b>	<p>Collect in early morning before patients eat and while they are still in bed.</p> <ol style="list-style-type: none"> <li>1. Introduce nasogastric tube orally or nasally to stomach.</li> <li>2. Perform lavage with 25-50 mL of chilled, sterile, distilled water.</li> <li>3. Recover sample and place in leak-proof, sterile container.</li> <li>4. Before removing tube, release suction and clamp it.</li> </ol>	Sterile leak-proof container.	<p>Add 100 mg sodium carbonate when received in Microbiology Lab within 4 hours of collection, because mycobacteria die rapidly in gastric washings.</p> <p>Collect specimens between 7 am and 5 pm weekdays.</p>
<b>Genital - Female Amniotic</b>	<ol style="list-style-type: none"> <li>1. Aspirate via amniocentesis, cesarean section, or intrauterine catheter.</li> <li>2. Transfer fluid to anaerobic transport system.</li> </ol>	Port-A-Cul vial anaerobic transport media.	Swabbing or aspiration of vaginal membrane is not acceptable because of vaginal contamination.
<b>Genital - Female Cervix</b>	<ol style="list-style-type: none"> <li>1. Look at cervix through speculum without lubricant.</li> <li>2. Remove mucus and/or secretions from cervix with swab, and discard swabs.</li> <li>3. Firmly yet gently, sample endocervical canal with sterile swab.</li> </ol>	Culturette transport swab. Port-A-Cul vial anaerobic transport media.	

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<b>Genital - Female Endometrium</b>	<ol style="list-style-type: none"> <li>1. Collect transcervical aspirate via telescoping catheter.</li> <li>2. Transfer entire amount to anaerobic transport system.</li> </ol>	Sterile tube or Port-A-Cul vial anaerobic transport media.	Do not process lochia.
<b>Genital - Female Products of Conception</b>	<ol style="list-style-type: none"> <li>1. Submit portion of tissue in sterile container.</li> <li>2. If obtained by cesarean section, immediately transfer to anaerobic transport system.</li> </ol>		
<b>Genital - Female Urethral</b>	<ol style="list-style-type: none"> <li>1. Remove exudate from urethral orifice.</li> <li>2. Collect discharge material on swab by massaging urethra against pubic symphysis through vagina.</li> </ol>	Culturette transport swab.	If no discharge can be obtained, wash external urethra with betadine soap, and rinse with water. Then insert urethrogenital swab 2-4 cm into urethra, and rotate swab for 2 seconds. Collect at least 1 hour after urination.
<b>Genital - Female Vaginal</b>	<ol style="list-style-type: none"> <li>1. Wipe away excessive amount of secretion or discharge.</li> <li>2. Obtain secretions from mucosal membrane of vagina vault with sterile swab or pipette.</li> <li>3. If smear is also requested, use a second swab.</li> </ol>	Culturette transport swab.	
<b>Genital - Male Prostate</b>	<ol style="list-style-type: none"> <li>1. Clean glans with soap and water.</li> <li>2. Massage prostate through rectum.</li> <li>3. Collect fluid on sterile swab or in sterile tube.</li> </ol>	Culturette transport swab or sterile tube.	More relevant results may be obtained by also culturing urine specimens obtained immediately before and after massage. Ejaculate may also be cultured.

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<b>Genital - Male Urethral</b>	Insert urethrogenital swab 2-4 cm into urethral lumen, rotate swab, and leave it in place for at least 2 seconds	Minitip culturette transport swab.	
<b>Hair - Dermatophytosis</b>	<ol style="list-style-type: none"> <li>1. With forceps, collect at least 10-12 affected hairs with bases of shafts intact.</li> <li>2. Place in clean tube or container.</li> </ol>	Sterile container.	Do not use a swab to collect specimen.
<b>Herpes (Varicella) zoster</b>		Culturette.	
<b>Lesion Vesicle</b>	<ol style="list-style-type: none"> <li>1. Clean surface with sterile saline.</li> <li>2. Carefully open vesicle with needle or scalpel blade.</li> <li>3. Collect fluid and cellular material by vigorously swabbing the base of the lesion.</li> <li>4. For Tzanck prep, vigorously scrape the base of the lesion and smear cells on a glass slide, transport to Cytology in a petri dish or slide holder.</li> </ol>	Culturette transport swab can be used for both bacterial and viral cultures. If the viral cultures are needed and transport >2 hours, inoculate viral transport M4 with the culturette swab.	Tzanck preps should have a Cytology requisition. Tzanck preps (smears) are stained and examined in Cytology.
<b>Nail - Dermatophytosis</b>	<ol style="list-style-type: none"> <li>1. Wipe nail with 70% alcohol. Use gauze (not cotton).</li> <li>2. Clip away generous portions of affected area, and collect material or debris from under nail.</li> <li>3. Place material in sterile container.</li> </ol>	Sterile container with enough scrapings to cover head of thumbtack.	Do not use a swab to collect the specimen.
<b>Pinworm</b>	Dab the patient's perianal area with the adhesive side of the paddle.	Pinworm Paddle Collector.	Collect early morning specimen before bathing.

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<b>Rectal Swab</b>	<ol style="list-style-type: none"> <li>Carefully insert swab approximately 1 inch beyond sphincter.</li> <li>Gently rotate swab to sample anal crypts.</li> </ol>	Culturette transport swab.  For GC, inoculate Modified Thayer Martin plate or use Amies charcoal swab. Transport to lab immediately.	Reserved for detecting gonorrhea, HSV and anal carriage of group B streptococci or Carbapenemase producing enterobacteraciae.
<b>Respiratory Tract - lower bronchoalveolar lavage (BAL); bronch wash (BRW); tracheal aspirate</b>	<ol style="list-style-type: none"> <li>Place aspirate or washing into sputum trap.</li> <li>Place brush in sterile container with saline or trypticase soy (Tsoy) broth.</li> </ol>	Sterile container.	Traps cannot be transported via the pneumatic tube.
<b>Respiratory Tract - sputum expectorate</b>	<ol style="list-style-type: none"> <li>Collect specimens under direct supervision of nurse or physician.</li> <li>Have patient rinse or gargle with water.</li> <li>Instruct patient to cough deeply to produce lower respiratory tract specimen (not postnasal fluid). Collect into sterile container.</li> </ol>	Sterile container, >1 mL.  Refrigerate if transport is >2 hours.	For patients unable to produce specimen, respiratory therapist should collect via suction. S. pneumoniae isolation may improve if plating occurs within 1 hour of collection.
<b>Respiratory Tract - sputum, induced</b>	<ol style="list-style-type: none"> <li>Have patient rinse into mouth with water after brushing gums and tongue.</li> <li>With aid of nebulizer, have patient inhale approximately 25 mL of 3-10% sterile saline.</li> <li>Collect induced sputum into sterile container.</li> </ol>	Sterile container.	<i>Histoplasma capsulatum</i> and <i>Blastomyces dermatitidis</i> survive for only short periods once specimen is obtained, transport immediately if suspected.
<b>Respiratory Tract, Upper - Oral</b>	<ol style="list-style-type: none"> <li>Remove oral secretions or debris from surface of lesion with swab, and discard swab.</li> <li>Using second swab, vigorously sample lesion, avoiding any areas of normal tissue.</li> </ol>	Culturette transport swab. Port-A-Cul vial anaerobic transport for aspirates. For GC, inoculate Modified Thayer Martin plate or use Amies Charcoal swab. Transport to lab immediately.	Do not sample superficial tissue for bacterial evaluation. Tissue biopsy samples or needle aspirates are specimens of choice.



<b>Respiratory Tract, Upper - Nasal</b>	1. Use swab pre-moistened with sterile saline. Insert swab approximately 2 cm into nares. Rotate swab against nasal mucosa.	Culturette transport swab.	Anterior nose cultures are reserved for detecting staphylococcal and streptococcal carriers or for nasal lesions.
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<b>Respiratory Tract, Upper - Nasal wash</b>	1. Instill 2-3 mL of sterile normal saline into the nasopharynx. 2. Aspirate saline with bulb syringe or secretion trap and suction device.	Sterile container or Latex-free nasal washing kit.  Refrigerate 2-8° C if testing for viruses or transport immediately to the lab.	Alternative specimen for Influenza A/B and RSV (Binax Kit).  Not acceptable for PCR Procedure.
<b>Respiratory Tract, Upper - Nasopharyngeal Swab</b>	1. Gently insert dacron or rayon minitip swab into posterior nasopharynx via nose. 2. Rotate swab slowly for 5 seconds to absorb secretions. Remove swab.	For viral testing, place swab in M4 Transport media.  For bacterial culture, transport swab in culturette.	Specimen of choice for Influenza A/B and RSV (Binax).  Required specimen for PCR Procedure.
<b>Respiratory Tract, Upper - Throat</b>	1. Depress tongue with tongue depressor. Sample posterior pharynx, tonsils, and inflamed areas with sterile swab.	Culturette transport swab.  For GC, inoculate Modified Thayer Martin plate or use Amies Charcoal swab. Transport to lab immediately.	
<b>Skin - Dermatophytosis</b>	1. Cleanse affected area with 70% alcohol. 2. Gently scrape surface of skin at active margin of lesion. Do not draw blood. 3. Place sample in sterile container.	Sterile container, enough scrapings to cover head of thumbtack.	Do not use a swab to collect the specimen.
<b>Stool</b>	See Feces.		
<b>Tissue</b>	1. Submit in sterile container. 2. For small samples, add several drops of sterile saline to keep moist. 3. Do not allow tissue to dry out.	Port-A-Cul anaerobic transport media or sterile container. Transport immediately.	Always submit as much tissue as possible. Never submit swab that has simply been rubbed over surface.

	4. Place in anaerobic transport system.		
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	GUIDELINES	DEVICE AND/OR MINIMUM VOLUME	
<b>Tzanck Prep</b>	See Lesion.		
<b>Ulcer</b>	<ol style="list-style-type: none"> <li>1. Cleanse surface with sterile saline.</li> <li>2. If biopsy sample is not available, vigorously swab base of lesion.</li> <li>3. Place swab in appropriate transport system.</li> </ol>	Culturette transport swab transport or Port-A-Cul vial or tube for anaerobes.	Decubitus swab provides little clinical information. Tissue biopsy sample or needle aspirate is specimen of choice.
<b>Urea plasma urealyticum PCR</b>	<ol style="list-style-type: none"> <li>1. The larger swab is used to clear mucous from the endocervix.</li> <li>2. Collect cervical or urethral specimen using the smaller swab in kit.</li> <li>3. Leave the smaller swab in the M4 transport media. Tightly cap vial.</li> <li>4. Specimen is sent to Mayo</li> </ol>	M4RT transport kit	For urine, send specimen to laboratory on wet ice as soon as possible.
<b>Urine - Female Midstream</b>	<ol style="list-style-type: none"> <li>1. Thoroughly clean urethral area with towelettes.</li> <li>2. While holding labia apart, begin voiding.</li> <li>3. After several mL have passed, collect midstream portion without stopping flow of urine.</li> </ol>	<p>Urine transport tube (preserved): 48 hours, room temperature.</p> <p>Unpreserved: &lt;2 hours, room temperature.</p> <p>Refrigerated: up to 24 hours.</p>	Collection sterile container. Transfer to urine transport tube if sufficient quantity. If not, transport in sterile screw top tube on ice.
<b>Urine - Male Midstream</b>	<ol style="list-style-type: none"> <li>1. Clean glans with towelette.</li> <li>2. While holding the foreskin retracted, begin voiding.</li> <li>3. After several mL have passed, collect midstream portion without stopping flow of urine.</li> </ol>	<p>Urine transport tube (preserved): 48 hours, room temperature.</p> <p>Unpreserved: &lt;2 hours, room temperature.</p> <p>Refrigerated: up to 24 hours.</p>	Collection sterile container. Transfer to urine transport tube if sufficient quantity. If not, transport in sterile screw top tube on ice.

<b>Pediatric (Children not Bladder Trained)</b>	See Patient Care Manual, policy, "Clean Voided Urine Specimen Using U-Bag for Infants and Children not Bladder Trained".		
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<b>Urine - Straight Catheter</b>	<ol style="list-style-type: none"> <li>1. Thoroughly clean urethral area with iodophor soaked cotton balls.</li> <li>2. For females, separate labia and cleanse.</li> <li>3. For males, pull back foreskin and cleanse glans of penis starting at the tip and down.</li> <li>4. Aseptically insert lubricated catheter into bladder.</li> <li>5. Allow approximately 15 mL to pass. Then collect the urine to be submitted in sterile container.</li> </ol>	<p>Urine transport tube (preserved): 48 hours, room temperature.</p> <p>Unpreserved: &lt;2 hours, room temperature.</p> <p>Refrigerated: up to 24 hours.</p>	Not recommended for routine urine culture because of potential contamination problems. Procedure may introduce urethral flora into bladder.
<b>Urine - Indwelling Catheter</b>	<ol style="list-style-type: none"> <li>1. Disinfect catheter collection port with 70% alcohol.</li> <li>2. Use needle and syringe to aseptically collect 5-10 mL of urine.</li> <li>3. Transfer sample to sterile tube or container.</li> </ol>	<p>Urine transport tube (preserved): 48 hours, room temperature.</p> <p>Unpreserved: &lt;2 hours, room temperature.</p> <p>Refrigerated: up to 24 hours.</p>	Never collect from the bag.
<b>Urinary Diversion</b>	See Patient Care Manual policy, "Urinary Diversion: Urine Sample Collection".		
<b>Vaginal/Rectal – Group B Streptococcus Screen</b>  <b>Test performed by nucleic acid detection by the Molecular</b>	<ol style="list-style-type: none"> <li>1. Wipe away excessive amount of secretion or discharge from the vaginal area.</li> <li>2. Carefully insert the swab into the lower one-third part of the vagina, and sample secretions from the mucosa.</li> <li>3. Carefully insert the same</li> </ol>	Culturette transport swab.	Guidelines from the Centers of Disease Control and Prevention recommend screening for vaginal or rectal carriage of GBS by pregnant women at 35-37 weeks gestation to identify candidates

<b>Laboratory</b>	swab, approximately 2.5 cm beyond the anal sphincter, and gently rotate to sample anal crypts. 4. Replace the swab in its container. 5. Label the container.		for intrapartum antibiotic prophylaxis.
<b>Wound</b>	See Abscess.		