

# SHARP

## Microbiology Laboratory Specimen Collection Manual

**NOTE:** Because microbiology involves culturing and isolation of various pathogens, the proper specimen collection, media transport, and timely delivery to the laboratory are all essential to quality results. Please follow the instructions for proper collection, transportation, and handling of microbiology culture specimens.

### SPECIMEN COLLECTION

- A.** SWABS:
1. A dry swab would be adequate only for a throat, specifically for Group A Streptococcus Culture.
  2. *Swabs should never be used to sample fluids or exudates;* instead, submit the entire specimen in as large a volume as possible in a sterile container.
- B.** See below for detailed specimen collection directions listed by body site.

### SPECIMEN HANDLING AND LABELING

- A.** All specimens are considered to be infectious, use Universal Precautions.
- B.** All specimens submitted to the laboratory must be transported inside a sealed, leak-proof container.
- C.** The container must be enclosed in a sealed transport bag.
- D.** Never transport syringes with needles to the laboratory. Instead transfer the contents to a sterile tube, or remove the needle using a protective device, recap the syringe, and place the syringe in a sealable, leakproof plastic bag.
- E.** Do not transport leaking specimen containers to the laboratory.
- F.** All specimens must be labeled properly to include:
1. Patients first and last name, an addressograph label or computer label is preferred.
  2. Patient identification number (DOB or FIN#)
  3. Source of Specimen
  4. Date and time of collection
- G.** Specimens must be accompanied by a requisition, see below for requirements.

### SPECIMEN REQUISITIONS

- A.** Inpatient Requisitions:
1. Requests are ordered through the hospital or laboratory information system.
  2. Be sure the correct order is placed, confer with the following specimen test list to select the appropriate test(s).
  3. Orders should never be placed into the computer until the specimen has actually been collected with the exception of BLOOD CULTURES or other blood work that needs to be drawn by lab.
- B.** Manual Requisitions:
1. Use the General Laboratory Requisition Form to order tests when the computer ordering system is not available. Fill in all the appropriate information to include:
    - Patient Name
    - Date of Birth / Patient identification number
    - Requesting physicians' name
    - Date of request
    - Source of specimen
    - Date and time of collection
    - Test(s) requested
- C.** SPECIMENS TO BE SHARED WITH OTHER DEPARTMENTS, i.e., Histology, Chemistry, Cytology, etc., MUST BE RECEIVED WITH ALL THE APPROPRIATE REQUESTS ATTACHED. Failure to include all requests may result in irreversible loss of specimen.

## SPECIMEN STORAGE

- A. The detailed specimen requirements are listed for each test below. Temperature ranges are as follows:
- FROZEN specimens: -20°C or colder
  - REFRIGERATED specimens: 2-8°C
  - AMBIENT or Room Temperature specimens: 18 to 26°C

## SPECIMEN TRANSPORT

- A. All specimens are to be transported to the laboratory from the floors as soon as possible (within 2 hours of collection.)
- B. Because of the nature of certain cultures/organisms the following transport times must be followed.
1. Specimens with STAT orders must be delivered to the laboratory IMMEDIATELY.
  2. SPINAL FLUID specimens must be delivered to the laboratory IMMEDIATELY.
  3. Wounds, tissues, body fluids and specimens for anaerobic culture must be delivered within 1 hour of collection.
  4. Amniotic fluid specimens must be delivered to the laboratory immediately.
  5. Liquid stool specimens for ova and parasite exam must be delivered to the laboratory within one hour of passage or placed into preservative within one hour.

## SPECIMEN REJECTION

- A. General Rejection Criteria:
1. Unlabeled Specimens
  2. Leaking Specimens
  3. Inadequate specimens
  4. Gross external contamination of specimen container
  5. Dried swabs
  6. Incorrect use of transport media
  7. Long delays in delivery to laboratory
  8. Incorrect storage temperatures that would affect results.

In all cases, the laboratory will make every effort to salvage a specimen that is difficult or impossible to replace. In specific cases, with the physicians' approval, a specimen may be processed that is sub-optimal for culture. This will be noted on the final report.

- B. Specific Rejection Criteria: See detailed specimen requirement below.

## REPORTS

- A. STAT REPORTS:  
The nature of microbiology is such that few procedures can be done on an emergency basis, essentially only primary stains, and rapid antigen testing. When a STAT order is received, the assumption is that the results of the initial microscopic examination are to be reported as soon as possible. Reporting is to be done via the computer whenever possible, and otherwise by telephone.
- B. TELEPHONE REPORTS:
1. Certain microbiological findings could be critical to the management of the patient or could significantly affect hospital isolation procedures. Examples of results that are reported by telephone.
    - First evidence of bacteremia or infection of any normal sterile body sites
    - First evidence of tuberculosis
    - First evidence of MRSA (methicillin-resistant Staph aureus)
    - First evidence of VRE (vancomycin-resistant enterococcus).
    - Group A streptococcus from a non-pharyngeal body site.
    - Any isolate with nosocomial significance.
  2. All results are reported in the computer as soon as they are available.
  3. Additional telephone reports of any result will be made upon request.
- C. PUBLIC HEALTH REPORTS:
1. The microbiology laboratory is required to forward patient information and some isolates from new cases of certain diseases to the Department of Public Health. Refer to the *Reportable Diseases* policy for specific instruction.

## Virology Culture Collection and Transport Guide

### OVERVIEW

The ARUP reference laboratory offers comprehensive viral cultures, as well as cultures for a particular virus. When a routine comprehensive culture is requested, attempts will be made to isolate culturable viruses. The different substrates or viral isolation include up to ten different cell lines. Not all cell lines will be included in all cases; determining factors include the time of year, patient history and current epidemiology relevant to the area of the country from which the specimen originated. Specific viral cultures are usually done for HSV, CMV, and HIV. Also, many techniques for rapid diagnosis of viral disease have been developed for routine laboratory application and are available at the local Sharp HealthCare Laboratory

Refer to ARUP Test Directory for ordering options and specific collection and handling details. A general overview is given below but certain tests require special handling.

### TEST REQUEST INFORMATION

Whenever possible, the virology laboratory requests as much information as possible when viral cultures are requested. This should include source, date collected, date of onset of symptoms, and the clinical background.

### COLLECTION TIME AND VIRAL RECOVERY

Specimens for viral culture should be collected early in the acute phase of infection. Herpes Simplex virus and Varicella-Zoster virus may not be recovered from lesions beyond 5 days after onset of clinical manifestations of disease. Respiratory viruses are recovered during the 3-7 day viral shedding period following infection. Isolation of an enterovirus (Coxsackie virus, Echovirus) from the CSF is most productive within 2-3 days after onset of the CNS manifestations.

### REPORTING

Final and preliminary reports vary according to the type of culture. Preliminary negative reports on routine virus cultures are sent out after two weeks; final negative reports are sent out at the end of three weeks. Herpes culture reports are reported routinely after 48-hour test procedure. Cultures for CMV are stained for presence of early nuclear antigen, reported in 48 hours.

### COLLECTION, TRANSPORTATION AND STORAGE GUIDELINES

- Most viral specimens should be held at 2-8°C rather than frozen for short term, <48 hours, transit and storage. For delays exceeding 48 hours, freeze viral specimens at -70°C or below. Do not freeze at -20°C.
- Sterile body fluids such as cerebrospinal fluid do not require any transport medium and should not be diluted.
- Many suitable holding media for use with swabs and washings are commercially available as an immediate alternative to in-house transport media.
- Avoid calcium alginate swabs with Herpes and Chlamydia cultures. The fibers may inactivate these agents.
- Avoid any wooden shafted swabs, which may be inhibitory to viruses.
- It is usually not possible to isolate Arboviruses from clinical specimens. In such cases, serological studies are helpful.
- Chlamydial specimens should be held at 2-8°C for short term, <48 hours, transit and storage. For delays exceeding 48 hours, freeze at -70°C or below.

## Viral Culture Specimen Collection and Transportation

### GENERAL STATEMENTS

Some samples can be submitted without utilizing a transport media, with a reasonable expectation of virus viability. Specimens in this category include, sterile fluids such as; cerebrospinal fluid, pleural fluid, blood submitted in EDTA, urine, as well as some non-sterile specimens such as; nasopharyngeal washings, sputum, bronchoalveolar lavage, and feces. Whenever there is a question of stability, the specimen should be placed into viral transport media, the laboratory uses Universal Viral Transport Media (UVT).

Swabs that are made of calcium alginate and wood are known to interfere with the recovery of some viruses and are not accepted for viral culture. These can also act as PCR inhibitors and are not appropriate for this type of testing. Dry swabs and swabs in gel transport are also not accepted for viral culture.

- Specimens for Viral Culture must not be frozen. Transport at 2-8°C.
- Specimens for Chlamydia culture are accepted in UVT media, transported at 2-8°C.
- Specimens for Chlamydia culture are accepted in UVT media, but if transport time will exceed 24 hours, the sample must be frozen and shipped on dry ice.

### COLLECTION GUIDELINES

1. Tissue and biopsy material can be placed directly into the UVT media. Each sample need not be more than 1-2 cm in diameter.
2. Abscess material, bullae, pustules, vesicles, lesions, and skin scrapings can be collected a swab and placed directly into the UVT media. If the material has been aspirated, place no more than 3 mL (equal to the amount of transport media) in the vial of UVT.
3. CSF should be submitted in a sterile container or no more than 3 mL added to the UVT media.
4. Urine should be submitted in a sterile container or no more than 3 mL added to the UVT media.
5. Bronchoalveolar washings, nasopharyngeal washings, sputums, and other sterile body fluids can be submitted in sterile containers or no more than 3 mL added to the UVT media.
6. Stool should be submitted in a sterile container, or a small aliquot the size of a walnut can be placed in the UVT tube.
7. Blood should be submitted in an EDTA tube. Do not extract the buffy coat.

# SHARP

## Routine Bacteriology and Mycology Specimen Collection

SPECIMEN TYPE	COLLECTION PROCEDURE	VOLUMES	TRANSPORT CONTAINER	STORAGE AND TRANSPORT TO LAB	STORAGE PRIOR TO PROCESSING	COMMENTS
<b>ABSCESS</b>	<b>OPEN ABSCESS</b> Remove surface exudate by wiping with sterile saline or 70% ethanol. Disinfect area with iodine. Aspirate if possible, or pass swab deep into lesion and firmly sample lesion's advancing edge. Remove iodine from skin with alcohol.	As much fluid as possible, ≥ 1 ml	1. eSwab 2. Syringe WITHOUT needle attached.	≤ 2 hours, RT	Plate immediately upon receipt. Max ≤ 24 hours, RT	Tissue or fluid is always superior to swab specimens.
	<b>CLOSED ABSCESS</b> Remove surface exudate by wiping with sterile saline or 70% ethanol. Disinfect area with iodine. Aspirate abscess wall material with needle and syringe. Remove iodine from skin with alcohol.	As much fluid as possible, ≥ 1 ml	1. eSwab 2. Syringe WITHOUT needle attached.	≤ 2 hours, RT	≤ 24 hours, RT	Sampling of surface area can introduce colonizing bacteria not involved in infectious process.
<b>BITE WOUND</b>	<b>See ABSCESS</b>					Do not culture animal bite wounds ≤ 12 h old (agents are not usually recoverable) unless they are on face or hand or unless signs of infection are present.
<b>BIOPSY</b>	Physician will aseptically perform biopsy.	Entire specimen	Use eSwab, 0.5mL saline or submit in sterile container without formalin.	≤ 1 hours, RT	≤ 24 hours, RT	Keep specimen moist with a <i>small</i> amount of sterile physiological saline or the eSwab kit.

SPECIMEN TYPE	COLLECTION PROCEDURE	VOLUMES	TRANSPORT CONTAINER	STORAGE AND TRANSPORT TO LAB	STORAGE PRIOR TO PROCESSING	COMMENTS
<b>BLOOD CULTURE</b>	<p>Disinfection of culture bottle: Apply 70% isopropanol to rubber stoppers and wait 1 min.</p> <p><b>Adult site Prep:</b></p> <ol style="list-style-type: none"> <li>Remove the ChloraPrep from the package. Pinch the wings on the applicator to break the ampule and release ChloraPrep antiseptic into the sponge pad. Be careful not to touch the sponge pad.</li> <li>Press the sponge against the skin to be cleaned until liquid is visible on the skin. Use a back and forth motion and gently scrub the area for 30 seconds. Allow the area to dry for about 30 seconds. Do not blow or fan the area to hasten drying.</li> <li><i>Do not palpate the vein at this point.</i></li> <li>Collect blood.</li> </ol>	<p><b>Adult:</b> 16 to 20 ml/set for bacteria/ yeast</p> <p><b>Peds:</b> 1-3ml/bottle for bacteria/yeast</p> <p><b>Myco/F Lytic:</b> 3-5 ml for AFB Blood Culture 3-5 ml for Fungus blood Culture: One bottle required for each order.</p>	<p>Send blood culture to the laboratory as soon as possible. Bottles have a delayed entry capability but still must be placed into the Bactec instrument in <math>\leq 48</math> hours if bottles have been held at room temperature. Although drawing blood cultures before the fever spike is optimal, <b>volume</b> is more important than timing for recovery.</p>	<p><math>\leq 2</math> hours, RT</p>	<p>DO NOT Refrigerate</p> <p>Place into Bactec instruments ASAP. Max within 24 hours</p>	<p><i>Acute Sepsis, meningitis, etc. requiring immediate institution of therapy:</i></p> <p>Two blood cultures of max vol drawn before therapy from separate sites <i>FUO, SBE or other continuous bacteremia/ fungemia:</i> Three sets total, two sets are drawn consecutively from separate sites, and the third set can be drawn an hour or more later. <i>"Culture negative" or patient on therapy:</i> Maximum of an additional 2-3 sets drawn on day 2 or 3.</p>
	<p><b>Infant site Prep:</b></p> <ol style="list-style-type: none"> <li>For patients under 2 months of age, do not use the Chloraprep scrub. Use Medi Flex Blood Culture Prep Kit II containing iodine.</li> <li>Break the ampule in the sponge.</li> <li>Scrub the area using a back and forth motion for 60 seconds.</li> <li>Allow area to dry.</li> <li>Break iodine ampule.</li> <li>Swab iodine onto the drawing site in a concentric circle.</li> <li>Allow this to dry before collecting specimen.</li> <li><i>Do not palpate the vein at this point.</i></li> <li>Collect blood.</li> <li>After venipuncture, remove iodine from skin with alcohol.</li> </ol>		<p>Send blood culture to the laboratory as soon as possible.</p> <p>Although drawing blood cultures before the fever spike is optimal, <b>volume</b> is more important than timing for recovery.</p>	<p><math>\leq 2</math> hours, RT</p>	<p>DO NOT Refrigerate</p> <p>Place into Bactec instruments ASAP. Max within 24 hours</p>	<p><i>Acute Sepsis, meningitis, etc. requiring immediate institution of therapy:</i></p> <p>Two blood cultures of max vol drawn before therapy from separate sites. <i>FUO, SBE or other continuous bacteremia/ fungemia:</i> Three sets total, two sets are drawn consecutively from separate sites, and the third set can be drawn an hour or more later. <i>"Culture negative" or patient on therapy:</i> Maximum of an additional 2-3 sets drawn on day 2 or 3.</p>

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<b>BONE MARROW</b>	Physician aseptically obtains the specimen via standard protocol	0.5 to 1.5 ml	<b>Bacteria:</b> 1.5ml in Sodium Heparin Vial <b>Fungus:</b> 1.5ml in Sodium Heparin Vial. <b>AFB:</b> 1.5ml in Sodium Heparin Vial. <b>Viral:</b> M4 Transport (no min. vol.)	≤ 2 hours, RT	≤ 24 hours, RT	DO NOT allow marrow to clot.
<b>BONE</b>	Obtain bone specimen in surgery	Entire specimen	Submit in sterile container without formalin.	≤ 30 min, RT	Plate immediately upon receipt. Max: ≤ 24 hours, 2-8°C	Keep specimen moist with a <i>small</i> amount of sterile physiological saline.
<b>CATHETER</b>	Cleanse skin around catheter site with alcohol. Aseptically cut the section of line which was immediately beneath the skin, (not necessarily the tip).	2-inches (5 cm) of catheter	Sterile, dry container	≤ 30 min, RT	Plate immediately upon receipt. Max: ≤ 24 hours, 2-8°C	Acceptable I.V. catheters: central, CVP, Hickman, Broviac, peripheral, arterial, umbilical, hyperalimentation, Swan-Ganz Unacceptable: Foley
<b>CSF</b>	Spinal Fluid Physician aseptically collects the specimen via conventional aspiration, or ventricular shunt.	Bacteria: ≥ 1 ml Fungi: ≥ 2 ml AFB: ≥ 2 ml Virus: ≥ 1 ml Molecular testing: ≥ 1 ml	Sterile spinal fluid collection tube Transport immediately to the laboratory for processing	Bacteria: never refrigerate: ≤ 15 min, RT Viral: transport on ice; ≤ 15 min, 2-8°C	Plate immediately upon receipt. Max: ≤ 24 hours, RT ≤ 72 hours, 2-8°C	Samples that need to be shared with other departments must have ALL paperwork included with the specimen
<b>DECUBITUS ULCER</b>	Cleanse surface with sterile saline. Vigorously swab base of lesion. Place swab in appropriate transport system.		eSwab	≤ 2 hours, RT	≤ 24 hours, RT	Tissue biopsy sample or needle aspiration is specimen of choice. <b>Swab:</b> Dubious microbiological value.
<b>DENTAL SPECIMENS</b> GINGIVAL PERIODONTAL PERIAPICAL	1. Carefully cleanse gingival margin and supragingival tooth surface to remove saliva, debris and plaque. 2. Using periodontal scaler, carefully remove subgingival lesion material and transfer it to anaerobic transport system. 3. Prepare smears (fusospirochaetal disease) collected in same manner.	Min volumes accepted	eSwab	≤ 2 hours, RT	≤ 24 hours, RT	

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<b>EAR</b>	<b>INNER:</b> Tympanocentesis is reserved for complicated, recurrent or chronic persistent otitis media. 1. For intact eardrum, clean ear canal, and collect fluid via syringe aspiration technique. 2. For ruptured eardrum, collect fluid on flexible-shaft swab via auditory speculum.		1. eSwab with Mini-Tip swab 2. Syringe WITHOUT needle attached	≤ 2 hours, RT	≤ 24 hours, RT	Throat or nasopharyngeal cultures are not predictive of agents responsible for otitis media.
	<b>OUTER:</b> Use moistened swab to remove any debris or crust from ear canal. Obtain sample by firmly rotating swab in outer ear canal.		eSwab	≤ 2 hours, RT	≤ 24 hours, 2-8°C ≤ 24 hours, RT	For otitis externa, vigorous swabbing is required because surface swabbing may miss streptococcal cellulitis
<b>EYE</b>	<b>CONJUNCTIVA:</b> Sample both eyes with separate swabs (pre-moistened with sterile saline) by rolling swab over each conjunctiva.	Direct inoculation or swab transport.	1. eSwab with Mini-Tip swab 2. CT/NG: PCR Media	Plates: ≤ 15 min, RT Swabs: ≤ 2 hours, RT	≤ 24 hours, RT	Sample both conjunctiva to determine indigenous microflora. Uninfected eye serves as control.
	<b>CORNEAL SCRAPINGS:</b> 1. Obtain conjunctival specimen first. 2. Instill local anesthetic. 3. Using sterile spatula, scrape ulcers or lesions and inoculate directly onto media. 4. Prepare slide.	Direct inoculation: Bacteria: BAP, CA, ABA Fungi: BHI, IMA		≤ 15 min, RT	Plate immediately upon receipt ≤ 24 hours, RT	Take conjunctival swabs prior to anesthetic application; corneal scrapings can be obtained after.
<b>FECES</b>	<b>ROUTINE CULTURE</b> <b>FECAL LACTOFERRIN:</b> 1. Pass stool directly into a container OR pass stool into clean bedpan, and transfer the specimen into a container. 2. Transport to the laboratory within 1 hour of collection.	Unpreserved, ≥ 2 grams or ≥ 2 ml minimum	Sterile, leak-proof container with tight fitting lid.	Unpreserved: ≤ 1 hour, RT Swab transport: ≤ 24 hours, RT	≤ 24 hours, 2-8°C ≤ 48 hours, RT or 2-8°C	Stool cultures are not routinely performed for workup of diarrhea developing after 3 days of hospitalization. Clostridium difficile is the most common bacterial agent of diarrhea in hospitalized patients.
	<b>OCCULT BLOOD:</b> Pass stool directly into a container OR pass stool into clean bedpan, and transfer the specimen into a container.	Unpreserved, ≥ 2 grams or ≥ 2 ml minimum	Sterile, leak-proof container with a tight fitting lid.	Unpreserved: ≤ 1 hour, RT	≤ 24 hours, 2-8°C	Interfering Substances: Blood from menstrual cycle or hemorrhoids. Avoid aspirin and other anti-inflammatory 7 days prior to testing. Avoid red meat and Vitamin C 3 days prior to testing.

SPECIMEN TYPE	COLLECTION PROCEDURE	VOLUMES	TRANSPORT CONTAINER	STORAGE AND TRANSPORT TO LAB	STORAGE PRIOR TO PROCESSING	COMMENTS
<b>FECES (Cont.)</b>	<b>GIARDIA EIA:</b>	Unpreserved, ≥ 10 grams or ≥ 10 ml min  5 grams or 5 ml into each preservative vial	1. Sterile, leak-proof container with a tight fitting lid. 2. O&P: Total Fix single vial collection kit.	Unpreserved: ≤ 2 hours, RT, Preserved: RT	Unpreserved: < 24 hours at 2-8°C Preserved: RT	
	<b>CRYPTOSPORIDIUM /GIARDIA RAPID AG:</b>	Unpreserved, ≥ 10 grams or ≥ 10 ml min  5 grams or 5 ml into each preservative vial	1. Sterile, leak-proof container with a tight fitting lid. 2. O&P: Total Fix single vial collection kit.	Unpreserved: ≤ 2 hours, RT, Preserved: RT	Unpreserved: < 24 hours at 2-8°C Preserved: RT	
	<b>CLOSTRIDIUM DIFFICILE TOXIN:</b> Pass liquid or soft stool directly into clean, dry container. Soft stool is defined as stool assuming the shape of its container. Sample must be received in the laboratory within 24 hours of the test order time or the order will be automatically canceled.	Unpreserved, ≥ 5 grams or ≥ 5 ml minimum	Sterile, leak-proof container with a tight fitting lid.	≤ 1 hour, RT 1-24 hours, 2-8°C > 24 hours, -20C	3 days, 2-8°C > 72 hours, 70°C	Patients often are passing ≥5 stools with liquid or soft consistency per 24 hours. Formed stools are rejected. More than one sample per 24 hour period is rejected.
	<b>OVA AND PARASITE EXAM:</b> 1. Have patient pass stool directly into a container 2. OR pass stool into clean bedpan, and transfer the specimen into a container. 3. Transport to the laboratory within 1 hour of collection or immediately place into preservative	Unpreserved, ≥ 10 grams or ≥ 10 ml min  5 grams or 5 ml into each preservative vial	1. Sterile, leak-proof container with a tight fitting lid. 2. O&P: Total Fix single vial collection kit.	Liquid stool: < 1 hour RT before being placed into preservative Soft or Formed stool: < 2 hours RT before being placed into preservative	Place into preservative within 1 hour of passage  Place into preservative within 2 hours of passage	Outpatient: Collect 3 specimens over 6 days. Infections with <i>E. histolytica</i> may require up to six specimens for detection. Inpatient: Seldom useful for patients hospitalized > 3 days.
	<b>RECTAL SWAB:</b> 1. Pass the tip of a sterile swab approximately 1-inch beyond the anal sphincter. 2. Carefully rotate the swab to sample the anal crypts. 3. Remove the swab and place in transport system.		1. eSwab 2. CT/NG: PCR Media	< 2 hours, RT	< 24 hours, RT	Reserved for detecting gonorrhoea, enteric pathogens, and for anal carriers of Group B strep and VRE. Feces should be evident on the swab. (Minimum 3-4 mm pellet)

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<b>FLUIDS</b> Abdominal amniotic ascites bile joint paracentesis pericardial peritoneal pleural synovial thoracentesis	<ol style="list-style-type: none"> <li>Physician will aseptically perform percutaneous aspiration to obtain fluid.</li> <li>Expel any air bubbles from syringe.</li> <li>Transport specimen to the lab immediately.</li> </ol>	Send as much fluid as possible. Bacteria: ≥ 1 ml Fungus: ≥ 10 ml Mycobacteria: ≥ 10 ml	Syringe WITHOUT needle attached  eSwab  <b>DO NOT SEND SWABS when fluid is available.</b>	≤ 30 min, RT	Plate immediately upon receipt. Max: ≤ 24 hours, RT Fluids for fungal cultures; ≤ 24 hours, 2-8°C	Transport to laboratory immediately. Synovial fluid specimens received in heparin are acceptable. Reject all samples received in EDTA or any other anti-coagulant besides heparin.
<b>GANGRENOUS TISSUE</b>	See <b>TISSUE Instructions</b>					
<b>GASTRIC</b> Wash or lavage fluid	Collect in early morning before patients eat and while they are still in bed. <ol style="list-style-type: none"> <li>Introduce nasogastric tube orally or nasally into the stomach.</li> <li>Perform lavage with 25-50 ml of chilled, sterile distilled water.</li> <li>Place sample in sterile, leakproof container.</li> <li>Before removing tube, release suction and clamp it.</li> </ol>	Entire specimen	Sterile leakproof container	≤ 30 min, RT, Neutralize within 1 hour of collection	Neutralize within 1 hour of collection with sodium carbonate  ≤ 24 hours, 2-8°C	For proper collection of samples for AFB Culture, specimen must be neutralized with sodium carbonate in the lab within one hour of collection because mycobacteria die rapidly in gastric washings.
<b>GENITAL MALE</b>	<b>PROSTATE:</b> <ol style="list-style-type: none"> <li>Clean glans with soap and water.</li> <li>Massage prostate through rectum.</li> <li>Collect fluid in sterile tube</li> </ol>	Entire specimen	Sterile screw cap tube	< 2 hours, RT	Plate immediately upon receipt Max; < 24 hours, RT	More relevant results may be obtained by also using urine specimens collected immediately before or after massage.
	<b>URETHRA:</b> <ol style="list-style-type: none"> <li>Insert appropriate swab 2-4 cm into urethral lumen, rotate swab and leave it in place for at least 2 seconds.</li> <li>Remove swab and place in appropriate transport media.</li> </ol>		Routine culture/GC Screen: eSwab	< 2 hours, RT	< 24 hours, RT	Chlamydia/GC PCR: Collect first voided urine for CT/NG PCR testing.
	<b>PENILE LESION:</b> Aspiration of vesicle fluid is optimal; Swabbing of lesion is adequate			eSwab w/ Mini-Tip swab For HSV use Viral Transport Media	< 2 hours, RT	< 24 hours, RT

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<b>GENITAL FEMALE</b>	<b>AMNIOTIC FLUID:</b> Aspirate via amniocentesis, cesarean section, or intrauterine catheter	≥ 1 ml fluid	eSwab Syringe without needle Sterile container	< 30 minutes, RT	Plate immediately upon receipt. Max: < 24 hours, RT	Swabbing or aspiration of vaginal membranes is <i>not</i> acceptable because of vaginal contamination.
	<b>BARTHOLIN:</b> Disinfect skin, Aspirate fluid from ducts	≥ 1 ml fluid	eSwab Syringe without needle Sterile container	< 2 hours, RT	< 24 hours, RT	
	<b>CERVIX:</b> Visualize cervix with speculum. Remove mucus from cervix with swab, discard swab. Firmly sample endocervical canal with sterile swab.	Swabs	Culture: eSwab CT/NG: PCR media	< 2 hours, RT	< 24 hours, RT	Best specimen for GC or Chlamydia.
	<b>ENDOMETRIUM:</b> Collect transcervical aspirate via telescoping catheter.	≥ 1 ml fluid	eSwab Syringe without needle Sterile container	< 2 hours, RT	< 24 hours, RT	Likelihood of external contamination is high for cultures obtained through vagina
	<b>IUD:</b>	Submit entire device	Sterile container	< 2 hours, RT	< 24 hours, RT	
	<b>PLACENTA:</b> Submit a portion of tissue, NOT a swab		Sterile container	< 2 hours, RT	< 24 hours, RT	Submit ASAP at room temperature
	<b>PRODUCTS OF CONCEPTION</b> Submit a portion of tissue, NOT a swab		Sterile container	< 2 hours, RT	< 24 hours, RT	Do not process Lochia
	<b>URETHRA:</b> Remove exudate from urethral orifice Collect discharge material on swab by massaging urethra against pubic symphysis through vagina.		eSwab	< 2 hours, RT	< 24 hours, RT	If no discharge can be obtained, wash external urethra, then insert urethro-genital swab 2-4 cm into urethra and rotate for 2 sec.
<b>VAGINA:</b> Wipe away excess amount of secretion or discharge. Obtain secretions from mucosal membrane of vaginal vault with sterile swabs		1. Ambient Temperature Transport System (ATTS) for Bacterial Vaginosis DNA panel. 2. CT/NG: PCR Media	< 2 hours, RT	< 24 hours, RT	Vaginal specimens on adult women is used for detection of trichomonads and Candida, to diagnose bacterial vaginosis and to screen for chlamydia and gonorrhoea.	

SPECIMEN TYPE	COLLECTION PROCEDURE	VOLUMES	TRANSPORT CONTAINER	STORAGE AND TRANSPORT TO LAB	STORAGE PRIOR TO PROCESSING	COMMENTS
	<p><b>VAGINAL/RECTAL:</b>  <b>Use for Group B strep screening of pregnant women only.</b>            Collect specimen at 35-37 weeks gestation.            Swab lower vagina (vaginal introitus), followed by the rectum (i.e., insert a swab through the anal sphincter) using the same swab or two different swabs.            Place both swabs into the same transport medium.</p>		Group B Strep Molecular Amplification: eSwab	< 2 hours, RT	< 4 days, RT	This procedure is to be used for the universal prenatal screening for GBS colonization and recommended for all pregnant women 35-37 weeks gestation. Indicate if patient is allergic to penicillin (clindamycin and vancomycin susceptibility testing will be performed)
<b>RESPIRATORY</b> BAL, Bronchial brushing/ washing Lung biopsy Tracheal aspirate Bronch brush	<p><b>TRACT- LOWER:</b>            Place aspirate or washing into sterile container.            Place bronchial brush or biopsy in 0.5 BHI Broth or .85% saline, available through microbiology.</p>	Routine Bacteriology: >1 ml  AFB and Fungus: > 10 ml	Sterile container	< 2 hours, RT	< 24 hours, 2-8°C	
	<p><b>TRACT - UPPER:</b>  <b>ORAL:</b>            1. Rinse mouth with sterile saline.            2. Wipe lesion with dry sterile gauze.            3. Swab or scrape areas of ulceration or exudation.</p>		eSwab	< 2 hours, RT	< 24 hours, RT	For isolation of Candida.
	<p><b>NASAL:</b>            1. Insert a pre-moistened sterile swab into the nose.            2. Rotate against nasal mucosa.</p>		eSwab	< 2 hours, RT	< 24 hours, RT	For isolation of staphylococcus
			Saline	< 2 hours, RT	< 72 hours, 2-8°C	For COVID testing
	<p><b>NASOPHARYNX:</b>            1. Gently insert swab into posterior nasopharynx via nose.            2. Rotate swab slowly 5 times to absorb secretions.            3. Remove swab and place in transport media.</p>		eSwab with Mini-Tip swab for bacteria (except Bordetella). Use Viral Transport Media for Bordetella, Viral Respiratory Pathogen, or COVID testing	< 2 hours, RT	< 24 hours, RT	For detection of Bordetella and Viral Respiratory Pathogens of the upper respiratory tract.  For COVID testing
	<p><b>THROAT:</b>            1. Depress tongue with tongue depressor.            2. Sample posterior pharynx, tonsils, and inflamed areas with sterile swab.</p>		eSwab	< 2 hours, RT	< 24 hours, RT	For detection of Group A strep, N. meningitidis, and A. haemolyticum.

SPECIMEN TYPE	COLLECTION PROCEDURE	VOLUMES	TRANSPORT CONTAINER	STORAGE AND TRANSPORT TO LAB	STORAGE PRIOR TO PROCESSING	COMMENTS
	<b>SINUS WASHINGS:</b> Physician aseptically collects the specimen via standard protocol.	Entire specimen	Sterile container	< 2 hours, RT	< 24 hours, 2-8°C	
<b>SPUTUM</b>	<b>EXPECTORATED:</b> Rinse mouth and gargle with water. Collect specimen resulting from deep cough. <b>Saliva is unacceptable.</b>	Routine Bacteriology: > 2ml AFB and Fungus: 5-10 ml	Sterile specimen collection container	< 2 hours, RT	< 24 hours, 2-8°C	The best specimens should have <10 squamous cells per 100X oil field. Sub-optimal specimens will be rejected
	<b>INDUCED:</b> Usually collected by respiratory therapists using ultrasonic nebulizer.	Routine Bacteriology: > 2ml  AFB and Fungus: 5-10 ml	Sterile specimen collection container	< 2 hours, RT	< 24 hours, 2-8°C	Dimorphic yeast survive for only short periods of time once specimen is collected. Fungal recovery is primarily for Cryptococcus sp. and some filamentous fungi; other yeasts rarely cause lower respiratory tract infection.
<b>TISSUE</b>	Physician aseptically collects tissue. For small samples, use 0.5 ml BHI Broth or add several drops of sterile non-bacteriostatic saline to keep moist. Do not drown the tissue in liquid. <i>Do not allow tissue to dry out. Do not submit tissue sample in the grey-capped anaerobic swab transport device.</i>		Sterile container. A small amount of saline may be added to keep tissue moist  eSwab	< 30 minutes, RT	Plate immediately upon receipt. Max: < 24 hours, RT if properly preserved	Always submit as much tissue as possible. Never submit swabs that have simply been rubbed over the surface.
<b>URINE</b>	<b>MIDSTREAM CLEAN CATCH:</b> 1. Thoroughly clean urethral/glans area with soap and water. 2. Rinse area with wet gauze pads. 3. While holding labia/foreskin apart, begin voiding. 4. After several ml have passed, collect midstream portion without stopping flow of urine.	Routine Bacteria: ≥ 4 ml AFB and Fungus: min. 40 ml first morning voided	BD vacutainer urine C&S tube (grey top)	≤ 48 hours, RT	≤ 48 hours, RT	Do not submit 24 hours collection for any culture.

SPECIMEN TYPE	COLLECTION PROCEDURE	VOLUMES	TRANSPORT CONTAINER	STORAGE AND TRANSPORT TO LAB	STORAGE PRIOR TO PROCESSING	COMMENTS
	<b>FIRST VOID CLEAN-CATCH</b> 1. Patient must not have voided for the previous 2 hours. 2. Thoroughly clean urethral/glans area with soap and water. 3. Rinse area with wet gauze pads. 4. While holding labia/foreskin apart, begin voiding. 5. Collect the first 10-50 mls of the urine stream in a clean collection cup.	Chlamydia and GC nucleic acid testing (PCR): 10-50 mls	1. Bacteria Culture  Collect in sterile screw-cap container.  Transfer to PCR urine tube.  2. CT/NG: PCR Media	Room Temperature	Room Temperature	The first part of the stream is used for Chlamydia and GC nucleic acid testing (PCR)
	<b>STRAIGHT CATH:</b> 1. Thoroughly clean urethral area with soap and water. 2. Rinse the area with wet gauze. 3. Aseptically insert catheter into bladder. 4. Allow about 15 ml to pass; then collect urine to be submitted.	Routine Bacteria: ≥ 4 ml AFB and Fungus: submit entire collection	BD vacutainer urine C&S tube (grey top)	≤ 48 hours, RT	≤ 48 hours, RT	Do not submit urine from collection bag.
	<b>INDWELLING CATH:</b> 1. Disinfect catheter collection port with 70% alcohol. 2. Use needle and syringe to aseptically collect 5-10 ml of urine. 3. Transfer sample to sterile container	Routine Bacteria: 5-10 ml AFB and Fungus: submit entire collection	BD vacutainer urine C&S tube (grey top)	≤ 48 hours, RT	≤ 48 hours, RT	
	<b>ILEAL CONDUIT:</b> 1. Remove urinary appliance and discard contained urine. 2. Swab the stomal opening with an alcohol wipe or iodophor. 3. Aseptically insert a catheter into the stoma and catheterize the ileal conduit to a depth beyond the fascial level. 4. Collect the urine drained from the catheter into a sterile container.	Routine bacteria: > 4 ml AFB and Fungus: submit entire collection	BD vacutainer urine C&S tube (grey top)	≤ 48 hours, RT	≤ 48 hours, RT	

SPECIMEN TYPE	COLLECTION PROCEDURE	VOLUMES	TRANSPORT CONTAINER	STORAGE AND TRANSPORT TO LAB	STORAGE PRIOR TO PROCESSING	COMMENTS
	<b>SUPRAPUBIC ASPIRATE:</b> 1. Decontaminate and anesthetize the skin. 2. Introduce a 22 gauge needle into the full bladder between the symphysis pubis and the umbilicus/2 cm above the symphysis. 3. Aspirate about 20 ml of urine from the bladder. 4. Transfer the urine aseptically into a sterile container.	Routine bacteria: > 4 ml  AFB and Fungus: submit entire collection	BD vacutainer urine C&S tube (grey top)	< 48 hours, RT	< 48 hours, RT	This is an acceptable urine specimen for anaerobic culture. These specimens are frequently collected from pediatric patients and patients with spinal cord injuries.
	<b>NEPHROSTOMY:</b> Surgically Collected Specimen	Routine bacteria: > 4 ml  AFB and Fungus: submit entire collection	Sterile screw-cap container  BD vacutainer urine C&S tube (grey top)	< 2 hours, 2-8°C  < 48 hours, RT	< 24 hours, 2-8°C  < 48 hours, RT	This is an acceptable urine specimen for anaerobic culture when collected surgically as the catheter is placed.
<b>WOUND</b> CLOSED OPEN	See <b>ABSCESS or TISSUE instructions</b>					

## Microbiology Specimen Rejection Criteria

### General Microbiology

PROBLEM	ACTION TAKEN
Specimen received in fixative (formalin, CytoLyt, or Saccomano.)	Notify physician or patient's nurse and request a new specimen; indicate "received in fixative" on requisition or in computer.
Incorrect technique or method of collection: i.e., swab instead of fluid, or 24-hour urine collection etc.	Notify the physician or patient's nurse and request a new specimen.
Improper or non-sterile containers Unpreserved urines held in refrigerator >24 hours	Notify the physician or patient's nurse and request a new specimen. If physician or nurse insists specimen be processed, refer to supervisory personnel/pathologist.
Inappropriate or incorrectly used transport system i.e., non-sterile container, dry swab, UA tube submitted for urine culture, etc.	Notify the physician or patient's nurse and request a new specimen properly submitted in appropriate transport device.
Dry Swab Exception: Swabs for throat cultures	Notify the physician or patient's nurse and request a new specimen properly submitted in appropriate transport device. If physician insists dry swab be cultured, make a note on the laboratory record.
More than one specimen of urine, stool, sputum, wound or routine throat specimen submitted on the same day from the same source.	Notify the physician or patient's nurse that as stated in collection manual, only one specimen will be processed per day.
Inadequate specimen quantity or volume for multiple requests for various organisms (bacteria, AFB, fungi, virus, etc.).	Notify the physician or patient's nurse and request additional material. If additional material is unavailable, ask physician to prioritize.

### Anaerobes

Specimens for anaerobes not received in appropriate container.	Notify the physician or patient's nurse and request properly handled specimen. If the physician insists the specimen be processed, refer to supervisory personnel or alternatively make a note on the laboratory record.
Specimens for C. Diff testing received in the laboratory >24 hours after the order was placed.	Order is automatically rejected.
Anaerobic cultures requested on improper specimen type: e.g., autopsy material, bronch wash, decubitus (not punch Bx), drain site, environmental, exudates, feces (ex C diff), gastric washings (other than newborns), urine, mouth, nose, prostatic secretions, sputum, fistula, intestinal contents, throat, vaginal secretion	Inform physician or patient's nurse that these specimens are not cultured for anaerobic bacteria since these anatomic sites harbor anaerobes normally and usually. If physician insists, refer to supervisory personnel or pathologist.

### Aerobic Bacteriology

Gram stain for Neisseria gonorrhoeae on specimen from cervix, vagina and crypts	Notify physician or patient's nurse that these smears are not examined for GC since these anatomic loci may harbor nongonococcal neisseriae.
Specimens for GC and or Chlamydia culture received in GenProbe Aptima or Roche PCR transport media	Notify physician or patient's nurse that the specimen is in a fixative that kills bacteria; only molecular testing may be offered with this fixed specimen.
Urine vacutainer tubes >48 hours old	Notify physician or patient's nurse and request a new urine sample.
Foley catheter tips Foley catheter urines collected from collection bags	Notify physician or patient's nurse that the specimen is inappropriate and needs to be recollected correctly.
Sputum specimens with <25 WBC and >10 epithelial cells/lpf	Inform physician or patient's nurse that specimen is mostly saliva and is not appropriate for culture. Exception: Immunocompromised patients.
Rectal swab received with less than minimum material (3-4 mm pellet)	Notify physician or patients nurse and request a new specimen.

### Mycobacteriology / Mycology

24 hour collection of urine or sputum for AFB or fungus culture	Notify physician or patient's nurse that as per collection manual, three separate first morning specimen of sputum or urine are the best samples for analysis; reject 24-hour specimens.
Swabs for AFB. Swabs are sub-optimal for AFB Culture. Tissue or fluid has a much higher yield. When using eSwab collection kits a separate eSwab vial is required exclusively for AFB Culture.	Notify physician or patient's nurse that specimen is inadequate in quantity for the isolation of AFB. Request properly collected specimen.

### Parasitology

O&P received in PVA or SAF.	Notify physician or patient's nurse that specimen has been improperly collected. Request new specimen collected in Total Fix vial.
Stool for Cryptosporidium and or Isospora spp. received in PVA only.	Notify physician or patient's nurse that specimen has been improperly collected. Request new specimen collected in Total Fix or 10% formalin vial.
Excess barium or oil noted in stool submitted for ova & parasite examination.	Recollect specimen after stool has cleared.

## Specimen Collection and Transport Devices

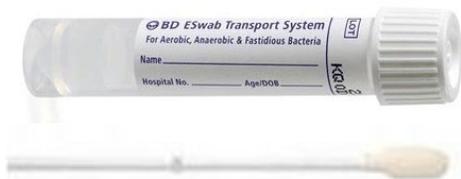
Suitable containers are usually supplied by the hospital or stocked at nursing stations. Certain specialized or less commonly used transport containers are available only from the Microbiology Laboratory. Refer to the pictures and instructions below for use of approved transport devices.

### Aerobic and Anaerobic Specimen Collector – eSwab w/Regular flocked swab (White Cap)

**When to Use:** For all routine aerobic and anaerobic swab collections for bacterial and fungal culture (throat, nasal, ear, genital, superficial wound). Liquid media allows additional material for routine and fungus culture. If AFB culture is ordered, a separate eSwab collection is required due to volume requirements.

**Description:** System consists of clear liquid Amies medium in a flat-bottomed tube with a white cap. The outfit also contains a regular flocked swab. The uninoculated kits are stored at room temperature.

**How to Use:** Peel apart protective sleeve and take out tube. Remove flocked swab and use to collect sample. Carefully place swab into original tube, break off the swab shaft at colored breakpoint indicator mark. Recap the tube tightly.



### Aerobic and Anaerobic Specimen Collector – eSwab w/Mini-tip flocked swab (Dark Blue Cap)

**When to Use:** For all routine and anaerobic swab collections of specimens from small orifices or difficult to reach areas such as nasopharyngeal, urethral, and conjunctival.

**Description:** System consists of clear liquid Amies medium in a flat-bottomed tube with a dark blue cap. The system also contains a mini-tip flocked swab. The uninoculated kits are stored at room temperature.

**How to Use:** Peel apart protective sleeve and take out tube. Remove flocked swab and use to collect sample. DO NOT POUR OUT LIQUID FROM TUBE! Carefully place swab into original tube, break off the swab shaft at colored scored indicator mark. Recap the tube tightly.



### Molecular Specimen Collector – Mswab w/Regular flocked swab (Light Blue Cap)

**When to Use:** For MRSA Molecular and Staph aureus molecular specimens only. Is not acceptable for specimens for routine culture.

**Description:** System consists of liquid molecular preservation medium in a flat-bottomed tube with a light blue cap. The system also contains a regular flocked swab. The uninoculated kits are stored at room temperature.

**How to Use:** Peel apart protective sleeve and take out tube. Remove flocked swab and use to collect sample. DO NOT POUR OUT LIQUID FROM TUBE! Carefully place swab into original tube, break off the swab shaft at colored scored indicator mark. Recap the tube tightly.



### Nares Specimen Collector – Saline w/Regular flocked swab (Various colored Caps)

**When to Use:** For SARS CoV-2 (COVID-19) specimens only.

**Description:** System consists of 3mLs of saline in various tube types. The system also includes either a regular flocked swab or a regular wound swab. The uninoculated kits are stored at room temperature.

**How to Use:** Open the package and take out tube. Remove swab and use to collect sample. Rotate the swab 5 times in each nostril. Be sure to sample from both nostrils. DO NOT POUR OUT LIQUID FROM TUBE! DO NOT PRE-MOISTEN THE SWAB!! Carefully place swab into original tube, break off the swab shaft at colored scored indicator mark. Recap the tube tightly.



## Roche cobas™ PCR Media

**When to Use:** For testing specimens collected for chlamydia, and gonorrhea testing, by molecular methods. Designed for transporting urine and female vaginal/endocervical swab, along with throat, rectal, and eye swab.

**Description:** Urine collection kit consists of a round-bottomed yellow-top tube with clear fluid and a sterile plastic pipette to be used for transferring patients' urine into the tube. Female swab collection kit consists of a round-bottomed yellow-top tube with clear fluid and 2 sterile swabs.

**To Minimize the Risk of Invalid Test Results from Vaginal and Endocervical sources:** Refrain from using carbomer-containing products to lubricate a speculum as part of the collection procedure or collect the sample prior to use of lubricant and/or performing pelvic exam. Ask patients to refrain from using feminine hygiene products for approximately 24 hours prior to the scheduled visit. If the patient is known to be using feminine hygiene products at time of collection, an alternative non-vaginal swab sample type may be considered, e.g., Urine.

### How to Use:

#### Urine (Male and Female)

- Patient should not urinate 1 hour prior to collection.
- Instruct patient to collect first 10-50 mL of urine in sterile container (*larger volumes decrease sensitivity of test, i.e., increase false negative results.*)
- Use pipette to transfer urine into PCR Media tube, adding urine to bring the volume of sample to between the 2 urine fill lines as indicated by the arrows on the tube.
- Re-cap tube then invert X5.

#### Vaginal

- Insert ONE swab about 5 cm into vaginal opening. (Use woven swab.)
- Gently turn swab for 30 seconds against wall of vagina. Withdraw swab and immediately lower swab into tube until the dark line on shaft is aligned with the tube rim.
- Break off shaft at dark line and re-cap tube.
- Tubes received with 2 swabs will be rejected.

#### Endocervical

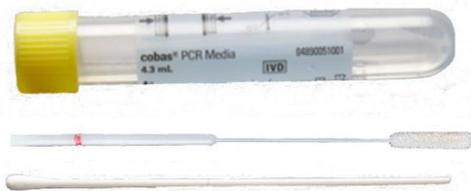
- Use first swab (woven swab) to clean excess mucus from cervical os (*mucus interferes with test and will result in an Invalid result.*) DISCARD FIRST SWAB!
- Use second swab (flocked swab) to collect sample by inserting swab into endocervical canal and gently rotating 5 times in one direction.
- Lower swab into tube until the dark line on shaft is aligned with the tube rim.
- Break off shaft at dark line and re-cap tube.
- Tubes received with 2 swabs will be rejected.

#### Urethral

No MALE collection kit for urethral samples; submit First voided Urine.



Urine Kit



Female Swab Kit

## Universal Viral Transport Medium (UVT) with Flexible Flocked Mini-tip Swabs

**When to Use:** For collection and transportation of nasopharyngeal (NP) swabs for Influenza and Respiratory Syncytial Virus (RSV) rapid antigen testing, Influenza and RSV molecular testing; other Viral Respiratory Pathogen; and Bordetella by Molecular Amplification.

**Description:** System consists of a vial of medium (pink fluid with glass beads for macerating cells) in a flat-bottomed centrifuge tube with a red cap. The outfit also contains a single swab packet with a flexible flocked mini-tip swab. The uninoculated kits are stored at room temperature.

**How to Use:** Collect NP specimen, insert into the transport medium, break off shaft (leave swab in transport), tighten lid securely and refrigerate or freeze.



## Stool Culture Transport (Para-Pak® C&S)



**When to Use:** Inpatient stool specimens should be collected in clean container and promptly delivered to laboratory within two hours. The pictured container is recommended for Outpatients as there may be a significant delay in transit. *Note:* Collection for *Clostridium difficile* toxin must be in a clean container without preservative. **Do not use this container.**

**Description:** Device consists of a single vial with an orange cap containing non-nutritive stool transport solution. A sample spoon is attached to the underside of the lid.

**How to Use:** Fill vial with stool to red line using a tongue depressor or the spoon attached to lid of vial. Cap tightly and mix or shake until stool is well emulsified.

## Ova & Parasite (O&P) Transport (MCC® Total-Fix)



**When to Use:** All patient stool collections for Ova and Parasite examinations must be placed in this container.

**Description:** Consists of a single vial with a black cap containing a proprietary and ecological fixative (no mercury, formalin, or PVA) designed to preserve specimens for staining and concentration.

**How to Use:** Fill vial with stool to red line using a tongue depressor or the spoon attached to lid of vial. This will ensure the required three to one ratio of fixative to sample. Cap tightly and mix or shake until stool is well emulsified.

## Sticky Paddle for Pinworm Collection



**When to Use:** For pinworm examination specimens.

**Description:** Individually packaged tubes contain a one-sided sticky paddle attached to the lid.

**How to Use:** Ideal collection time is early morning. Peel plastic wrap to remove tube and cap. Spread patient buttocks and apply sticky side of paddle to anal folds. Replace paddle in tube and twist to seal well. Label and deliver tube to laboratory.

## Scabies Collection Kit



**When to Use:** For collection of skin scrapings for scabies examination.

**Description:** Each kit contains a tube containing 0.5 mL of mineral oil plus a sterile scalpel and pipet to collect and submerge the parasite-infested skin scrapings.

**How to Use:** Using the pipet, place drop of mineral oil from the tube on the sterile scalpel blade and allow oil to flow onto the papule. Scrape vigorously to remove the top of the papule (there should be flecks of blood in the oil.) Using the same pipet, transfer oil and scalpel material to test tube. Tap material down to submerge scrapings in remaining oil. Cap tube securely, label and deliver to laboratory.

## Blood Culture Collection Vials (AFB Blood and Fungus Blood)



**When to Use:** The timing of blood cultures is a clinical decision. One bottle required for each order.

**Description:** Vials contain nutrient broth and lysing agents designed to optimize recovery of mycobacteria (AFB).

**How to Use:** Prior to injection of blood sample, remove colored cap from vial and prep septum with a 70% isopropyl alcohol wipe.

**Venipuncture:** Prep arm with Chloraprep<sup>®</sup> antiseptic scrubbing gently with a back and forth motion for 30 seconds and allow to dry for 30 seconds.

**Volume Recommendations:**

3 to 5 mL optimum, 1 mL minimum volume into one Myco/F Lytic vial

**If both AFB Blood and Fungus Blood Cultures are ordered, each order needs its own bottle drawn. They can be from the same venipuncture. Be sure to add optimal volume of blood to each bottle.**

## Blood Culture Collection Vials (Routine Bacteriology)

**When to Use:** The timing of blood cultures is a clinical decision. Each set of blood cultures is a separate order and should be collected via a separate venipuncture.

**Description:** Vials contain nutrient broth with anticoagulant, resins or lysing additives designed to optimize growth of pathogens.

**How to Use:** Prior to injection with blood sample, remove colored cap(s) from vials and prep septa with 70% isopropyl alcohol wipes.

**Venipuncture:** Prep arm with Chloraprep antiseptic scrubbing gently with a back and forth motion for 30 seconds and allow to dry for 30 seconds.

**Volume Recommendations:**

**Adults:**

16 to 20 mL blood distributed between two vials

8 to 10 mL into Aerobic vial

8 to 10 mL into Anaerobic Lytic vial

**Difficult Adult and Older Pediatric Patients (> 6 yrs):**

5 to 10 mL blood into Aerobic vial

3 mL to 5 mL blood into Aerobic vial – **Label as suboptimal**

Less than 3 mL blood - **Specimen rejected; re-collect**

**Infant and Young Pediatric Patients:**

1 to 3 mL into 1 vial into Peds vial

Less than 1 mL blood into one Peds vial – **Label as suboptimal**

**Note:** Collection of blood through intra-arterial or central venous lines is discouraged unless a concurrent set is collected peripherally.

**Important:** Multiple blood cultures collected from one venipuncture are considered **one** large-volume blood culture set.

**Bone Marrow:** Use 1.5 mL Sodium Heparin tube.



Aerobic vial



Anaerobic Lytic vial



Pediatric vial

↓  
**DO NOT USE FOR  
ADULTS OR OLDER  
PEDIATRICS (>6 YRS)**

## Ambient Temperature Transport System (ATTS) for Affirm Bacterial Vaginosis/Vaginitis DNA Panel

**When to Use:** For collection of vaginal specimens for Affirm™ Bacterial Vaginosis/Vaginitis DNA Panel.

**Description:** Kit includes swab, stabilizing solution (dropper), transport tube and cap plus instructions.

**How to Use:**

- Open entire ATTS kit. Tear foil pouch, break ampoule by squeezing the sides of the plastic until the glass breaks. Express the contents into the provided sample tube. Dispose of glass ampoule in a safety container.
- Place patient in position for pelvic examination
- Insert speculum into vagina to permit visualization of posterior vaginal fornix
- Use sterile swab to obtain sample from posterior vaginal fornix. Roll swab against vaginal wall two to three times ensuring entire circumference of swab makes contact. Swab lateral vaginal wall while removing swab
- Place swab into vial containing stabilizing solution and break off shaft at scored area. Cap securely for transport to Laboratory.
- Follow appropriate labeling procedures at bedside.



## Urine Culture for Microbiology Culture or Urinalysis

**When to Use:** For the collection of urine for microbiology culture or urinalysis.

**Description:** Urine Complete Cup Kit (3-part) -- Includes urine cup, two urine tubes, and soap towelette.

**How to Use:** The healthcare professional obtains the cup for the patient and cautions patient not to remove the cap label to protect against needlestick from the “sharp” contained in the integrated transfer device. If a kit is used, the healthcare professional should remove the tube(s) and place them in a protected location. If kits are provided to the patient, the patient should be directed to follow instructions on the bag for proper collection of a clean-voided, midstream urine specimen. Patient is instructed to give the urine specimen to the healthcare professional immediately after collection.

To transfer the specimen into evacuated tube(s):

- Place cup upright on clean, flat surface. Container may be tipped at an angle if specimen volume is limited.
- Peel back label on cap to expose the integrated transfer device.
- Place evacuated tube into cavity on cap, stopper down. Advance the tube over puncture point to pierce stopper. BD Vacutainer® C&S Preservative Urine Tubes should be filled first when collecting multiple tubes.
- Hold tube in position until filled.
- Remove tube from integrated transfer device.
- For all BD Vacutainer® Preservative Urine Tubes, mix tubes 8-10 times by inversion.
- Repeat steps if another tube is to be filled.
- Replace label over integrated transfer device cavity and reseal. Use caution to avoid contact with needle when replacing label.
- Label tube(s) or cup for transport to laboratory.
- Treat the screw cap of the cup as a contaminated sharp and discard in biohazard container approved for sharps disposal.

**IMPORTANT NOTE:** Do not use the UA tube (yellow/red top) for urine culture or it will be rejected when submitted to the lab for culture.





# Unsuitable Transport for Microbiology Testing



Specimens submitted in CytoLyt (for cytological examination) or in formalin (for histologic testing) are inappropriate for culture because the preservatives affect the viability of microorganisms. Stains can be performed on the specimens to detect bacterial or fungal pathogens but the specimens will be rejected for culture.

**NOTE: SPILLS IN TRANSIT AND IN THE TUBE SYSTEM AFFECT THE INTEGRITY OF SPECIMENS AND THE SAFETY OF YOUR CO-WORKERS!**

**DO NOT USE THIS CONTAINER FOR ANY LIQUID SPECIMENS!**



**↑  
NO**

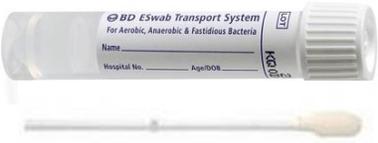
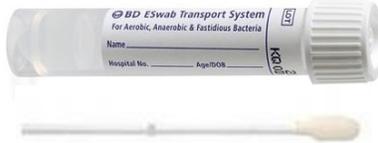
**USE THESE SCREW-CAP CONTAINERS**



**↑  
YES**

## Common Orders for Specimens From Genital Sources

TEST NAME	COMMENTS REGARDING TESTING	COLLECTION INFORMATION	COLLECTION KITS
<p><b>Chlamydia trachomatis Molecular Amp (CHLAM PCR)</b></p> <p>and/or</p> <p><b>Neisseria gonorrhoeae Molecular Amp (GC PCR)</b></p>	<p>ROCHE PCR COLLECTION KITS <i>Urine Collection:</i> consists for PCR media and sterile pipette. Patient should not urinate <u>1 hour prior to collection!</u></p> <p><b>To minimize the risk of invalid test results:</b> Refrain from using carbomer-containing products to lubricate a speculum as part of the collection procedure, or collect the sample prior to use of lubricant and/or performing pelvic exam. Ask patients to refrain from using feminine hygiene products for approximately 24 hours prior to the scheduled visit. If the patient is known to be using feminine hygiene products at time of collection, an alternative non-vaginal swab sample type may be considered, e.g., Urine.</p> <p><i>Female Collection Kit:</i> consists of PCR Media and one sterile woven swab and one sterile flocked swab</p> <p>Female sample tubes submitted with 2 swabs in the tube will be rejected. Please follow instructions for proper collection!</p> <p>NO MALE Collection kit for urethral samples; submit First voided Urine</p>	<p><u>Urine collection:</u></p> <ul style="list-style-type: none"> <li>Instruct patient to collect <u>first 10-50 mls</u> in a sterile container (larger volumes decrease sensitivity of test, i.e., false negatives.)</li> <li>Use pipette to transfer urine into PCR tube, add urine to bring the volume of sample to between the 2 urine fill lines as indicated by the arrows on the tube.</li> <li>Re-cap tube then invert X5 to mix.</li> </ul> <p><u>Female Vaginal:</u></p> <ul style="list-style-type: none"> <li>Insert woven swab about 5 cm into vaginal opening.</li> <li>Gently turn swab for 30 seconds against wall of vagina.</li> <li>Withdraw swab and immediately lower swab into tube until the dark line on shaft is aligned with the tube rim.</li> <li>Break off shaft at dark line and re-cap tube.</li> </ul> <p><u>Female Endocervical:</u></p> <ul style="list-style-type: none"> <li><u>Use woven swab</u> to clean excess mucus from cervical os (<i>mucus interferes with test and will result in an Invalid result.</i>) <b>DISCARD WOVEN SWAB!</b></li> <li><u>Use flocked swab</u> to collect sample by inserting swab into endocervical canal and gently rotating 5 times in one direction.</li> <li>Lower swab into tube until the dark line on shaft is aligned with the tube rim.</li> <li>Break off shaft at dark line and re-cap tube.</li> </ul>	 <p style="text-align: center;"><i>Urine Kit</i></p>  <p style="text-align: center;"><i>Female Swab Kit</i></p>

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<b>Bacterial Vaginosis DNA Panel (BACT VAG DNA)</b>	<p>The Bacterial Vaginosis DNA Panel using the Affirm™ VPiii Test simultaneously detects and identifies <i>Gardnerella vaginalis</i>, <i>Trichomonas vaginalis</i>, and <i>Candida</i> species organisms from a single vaginal swab.</p>	<p>Collect vaginal specimens Ambient Temperature Transport System (ATTS)</p> <ul style="list-style-type: none"> <li>• Open entire ATTS kit, tear foil pouch and break ampoule by squeezing the sides of the plastic until the glass breaks. Express the contents into the provided sample tube. Dispose of glass ampoule in a safety container.</li> <li>• Use sterile swab supplied with this kit to obtain sample from posterior vaginal fornix. Roll swab against vaginal wall two to three times, ensuring entire circumference of swab makes contact. Swab lateral vaginal wall while removing swab.</li> <li>• Place swab into vial containing stabilizing solution and break off shaft at scored area. Cap securely for transport to lab.</li> <li>• Follow appropriate labeling procedures at bedside.</li> </ul>	
<b>Group B Strep Molecular Amplification (GBS DNA) (GBS DNA_PENALLERGIC)</b> ----- <b>Yeast Culture (C YEAST)</b>		<p>Collect vaginal/cervical specimen using eSwab.</p> <p>-----</p> <p>Collect vaginal/cervical or urethral specimen using eSwab.</p>	
<b>Genital Culture (C GENITAL)</b>	<p>Used to screen for Staph, toxic shock or Listeria pathogens. The order requires a comment stating the specific pathogen to culture for.</p>	<p>Collect genital specimen using eSwab.</p>	
<b>Herpes Simplex Culture (C HERPES)</b>		<p>Collect lesion scraping using a UVT kit.</p>	