Table of Contents

[**INTRODUCTION** 4](#_Toc32396106)

[**SPECIMEN** 5](#_Toc32396107)

[**REJECTION CRITERIA** 5](#_Toc32396108)

[**ABSCESS PUS & ABSCESS MATERIAL (NON-STERILE) (NOT SWABS) SPECIMENS** 7](#_Toc32396109)

[**Aerobic/Anaerobic, Fungal or AFB Culture and Smear** 7](#_Toc32396110)

[**AUTOPSY SPECIMENS (LAB ORDERABLE ONLY)** 8](#_Toc32396111)

[**Aerobic/Anaerobic Culture** 8](#_Toc32396112)

[**BLOOD SPECIMENS** 8](#_Toc32396113)

[**Acid Fast Bacilli or Fungal Culture** 8](#_Toc32396114)

[**Aerobic/Anaerobic Culture (Including Transfusion Reactions)** 9](#_Toc32396115)

[**HBV DNA Quantitative PCR or HIV-1 RNA Quantitative PCR Testing** 9](#_Toc32396116)

[**HCV RNA Quantitative PCR or HCV Genotype PCR Testing** 10](#_Toc32396117)

[**Herpes Simplex 1 & 2 PCR Testing (INPATIENT INFANTS ONLY)** 10](#_Toc32396118)

[**BODY FLUID (STERILE)** 10](#_Toc32396119)

[**Amniotic, Bursa, Disc Space, Pancreatic, Pericardial, Peritoneal, Pleural, Synovial, etc. for Aerobic/Anaerobic, Fungal or AFB Culture and Smear** 10](#_Toc32396120)

[**Peritoneal Dialysis Fluid for Aerobic/Anaerobic Culture** 11](#_Toc32396121)

[**BONE MARROW** 11](#_Toc32396122)

[**Aerobic/Anaerobic, Fungal or AFB Culture and Smear** 11](#_Toc32396123)

[**CATHETER TIP** 12](#_Toc32396124)

[**Aerobic Culture** 12](#_Toc32396125)

[**CEREBRAL SPINAL FLUID** 12](#_Toc32396126)

[**Lumbar Puncture ONLY for Aerobic, Fungal, AFB Culture and Smear; Herpes Simplex 1 & 2 PCR, Varicella-Zoster PCR or Enterovirus PCR Testing** 12](#_Toc32396127)

[**Shunt Fluid for Aerobic/Anaerobic, Fungal, AFB Culture and Smear** 12](#_Toc32396128)

[**CUTANEOUS SPECIMENS** 13](#_Toc32396129)

[**Infant Screen (Eye, Nasal, Mouth, and /Rectal) for Herpes Simplex I & II PCR Testing** 13](#_Toc32396130)

[**Hair, Nail, Skin Specimens for Fungal Culture** 13](#_Toc32396131)

[**Vesicle/Skin for Varicella-Zoster PCR or Herpes Simplex I & II PCR Testing** 13](#_Toc32396132)

[**EAR SPECIMENS** 14](#_Toc32396133)

[**Ear (External) Swab for Aerobic or Fungal Culture and Smear** 14](#_Toc32396134)

[**Ear Swab for Herpes Simplex Virus I or II PCR Testing** 14](#_Toc32396135)

[**Tympanocentesis Fluid for Aerobic/Anaerobic or Fungal Culture and Smear** 15](#_Toc32396136)

[**ENTERIC SPECIMENS** 15](#_Toc32396137)

[**Rectal Swab for Herpes Simplex Virus I or II PCR Testing** 15](#_Toc32396138)

[**Rectal Swab for HPV PCR Testing** 16](#_Toc32396139)

[**Rectal Swab for MRSA Screen or Group A *Streptococcus* Testing** 16](#_Toc32396140)

[**Rectal Swab for *Neisseria gonorrhea*, *Chlamydia trachomatis* or *Trichomonas vaginalis* Probe Testing** 17](#_Toc32396141)

[**Stool for Basic or Extended Gastro-intestinal PCR Panel** 18](#_Toc32396142)

[**Stool for *Clostridium difficile* Toxin PCR Testing** 18](#_Toc32396143)

[**Stool for Full Ova and Parasite (O&P) Testing** 19](#_Toc32396144)

[**Stool for Parasite PCR Testing** 19](#_Toc32396145)

[**EYE SPECIMENS** 20](#_Toc32396146)

[**Cornea/ Corneal Scraping for Acanthamoeba or Viral Testing** 20](#_Toc32396147)

[**Cornea/ Corneal Scraping for Aerobic, Fungal or AFB Culture** 20](#_Toc32396148)

[**Eye** **for Herpes Simplex I & II PCR Testing** 21](#_Toc32396149)

[**Eye for *Neisseria gonorrhea* or *Chlamydia trachomatis* Probe Testing** 21](#_Toc32396150)

[**Vitreous Fluid for Aerobic/Anaerobic, Fungal or AFB Culture and Smear** 21](#_Toc32396151)

[**FOREIGN BODIES** 22](#_Toc32396152)

[**Aerobic/Anaerobic or Fungal Culture and Smear** 22](#_Toc32396153)

[**GASTRIC ASPIRATES** 22](#_Toc32396154)

[**AFB Culture and Smear** 22](#_Toc32396155)

[**GENITAL SPECIMENS** 23](#_Toc32396156)

[**Cervical or Vaginal Swab for *Neisseria gonorrhea*, *Chlamydia trachomatis* or *Trichomonas vaginalis* Probe Testing** 23](#_Toc32396157)

[**Cervical Swab for HPV Genotype 16, 18/45 Probe Testing** 23](#_Toc32396158)

[**Urethral Swab for *Neisseria gonorrhea*, *Chlamydia trachomatis* or *Trichomonas vaginalis* Probe Testing**……………………………………………………………………………………………………………..24](#_Toc32396159)

[**Genital Swab for Herpes Simplex I & II PCR Testing** 24](#_Toc32396160)

[**Genital Swab for Fungal Culture and Smear or Group A *Streptococcus* Screen** 25](#_Toc32396161)

[**Vaginal Swab for Group B *Streptococcus* PCR Screen** 25](#_Toc32396162)

[**Vaginal/Endo-cervical Swab for Vaginitis Panel PCR Testing** 26](#_Toc32396163)

[**RESPIRATORY SPECIMENS** 26](#_Toc32396166)

[**Broncho alveolar Lavage (BAL) or Bronchoscopy Washings for Pneumocystis Smear by DFA, Legionella, Aerobic, Fungal or AFB Culture and Smear** 26](#_Toc32396167)

[**Bronchial Brush for Pneumocystis Smear by DFA, Legionella, Aerobic, Fungal or AFB Culture and Smear** 27](#_Toc32396168)

[**Bronchial Specimens for CMV Testing** 27](#_Toc32396169)

[**Bronchial Wash for Pneumocystis Smear by DFA, Legionella, Aerobic, Fungal or AFB Culture and Smear** 27](#_Toc32396170)

[**Nasal Swab for Methicillin Resistant Staphylococcus aureus (MRSA) Screen** 28](#_Toc32396171)

[**Nasal Swab for Pre-Admit/Surgical, MSSA/MRSA by PCR Testing** 28](#_Toc32396172)

[**Nasopharyngeal Swabs for *Neisseria gonorrhea*, *Chlamydia trachomatis* or *Trichomonas vaginalis* Probe Testing (INFANTS ONLY)** 29](#_Toc32396173)

[**Nasopharyngeal Swabs for Respiratory Pathogen Panel, Rapid FLU, Rapid RSV PCR Testing** 29](#_Toc32396174)

[**Oral Swabs for Herpes Simplex I & II PCR Testing** 30](#_Toc32396175)

[**Sinus/ Antral Specimens for Aerobic/Anaerobic Culture** 30](#_Toc32396176)

[**Sputum- Cystic Fibrosis for Aerobic, Fungal or AFB Culture and Smear** 30](#_Toc32396177)

[**Sputum- Cystic Fibrosis on Swab for Aerobic, Fungal or AFB Culture and Smear** 31](#_Toc32396178)

[**Sputum (Expectorated) for Aerobic, Fungal or AFB Culture and Smear, Legionella Culture, MRSA Screen, MTB PCR Testing** 31](#_Toc32396179)

[**Sputum (Induced) for Aerobic, Fungal or AFB Culture and Smear, Legionella Culture, Pneumocystis Smear by DFA, MRSA Screen, MTB PCR Testing** 31](#_Toc32396180)

[**Throat Swabs for Group A Streptococcus PCR Testing** 32](#_Toc32396181)

[**Throat Swab for *Neisseria gonorrhea*, *Chlamydia trachomatis* or *Trichomonas vaginalis* Probe Testing** 32](#_Toc32396182)

[**URINE SPECIMENS** 33](#_Toc32396183)

[**Aerobic Culture** 33](#_Toc32396184)

[***Neisseria gonorrhea*, *Chlamydia trachomatis* or *Trichomonas vaginalis* Probe Testing** 33](#_Toc32396185)

[**TISSUE SPECIMENS** 34](#_Toc32396186)

[**Aerobic/Anaerobic, Fungal or AFB Culture and Smear** 34](#_Toc32396187)

[**WOUND SPECIMENS** 34](#_Toc32396188)

[**Wound/Abscess Swabs and Drainages for Aerobic or Fungal Culture and Smear** 34](#_Toc32396189)

**INTRODUCTION**

The Laboratory will perform tests and examine specimens only by the request of appropriate individuals. Proper specimen selection, collection, transport and processing is integral to the physician receiving quality, meaningful results from the Microbiology Laboratory.

Prompt delivery of the specimen to the laboratory aids with the recovery of organisms. The appropriate way to handle specific specimens for culture is completely detailed in the Microbiology Receiving & Order Entry Procedure, Planting Procedure, and Department of Pathology Guide to Laboratory Services. The *Administrative Manual* contains policies for sample handling, pre-analytical considerations and specimen rejection policies. Any specimen that does not follow these guidelines should be brought up to the Manager or Senior Technologist for guidance on properly processing a non-traditional request.

Specimens should not be processed unless they are properly labelled. This includes the patient’s name, another identifier such as date of birth or Medical record number, and initials/ signature of collector. Specimens that are not collected appropriately may compromise true results and potentially risk rejection. Specimens should always be handled in a safe manner. Specimens should be tightly sealed to prevent any spillage.

Requests for special or dangerous pathogens should be called to the laboratory prior to its receipt. Other laboratories within the department should be notified about suspicious specimens.

Specimens should not be processed if received in an inappropriate containers or improper transport medium. They should not be processed if received after a prolonged delay. Proper collection/preservation methods and criteria for specific specimen sources can be found in the Microbiology Receiving & Order Entry Procedure*,* Microbiology Specimen Collections Poster, and the Department of Pathology Guide to Laboratory Services. If a problem arises the physician or ward nurse must be called and follow proper rejection procedure in the *Specimen Rejection* policy.

If a specimen cannot be recollected and is processed in a manner that may lead to erroneous results, then this information needs to be noted in the test result. The report should clearly indicate the specimen inadequacy and the results that might not be valid or complete. For example: “The specimen was received in the lab 12 hours after collection; results may be compromised.”

If specimen processing is to be delayed, then the specimen should be preserved by means to maintaining its integrity. Blood and cerebral spinal fluid should be held at room temperature until media can be inoculated. Urine, eSwabs, stool (Cary-Blair) and viral testing (UTM) specimens should be placed in the refrigerator until they can be processed.

A second specimen obtained from the same site within 24-hrs should not be processed unless there are specific orders by the physician.

*Refer to the Microbiology and Infectious Disease Molecular Diagnostics website on the Intranet for procedural details.*

# **SPECIMEN**

All specimens should be processed immediately after its receipt. STAT specimens should have priority over other specimens. The following is listed by priority:

1. STAT specimens:
   * + 1. Blood (positive)
       2. Cerebral spinal fluid
       3. Trans-tracheal aspirate
       4. Bone marrow
       5. Pericardial fluid
       6. Amniotic fluid
       7. Surgical - from ICU/OR
       8. Joint fluid - if diagnosis of septic arthritis
       9. Eye/corneal scrapings submitted directly by physician
       10. Respiratory specimens for molecular testing
2. Routine
3. All other specimen types

# **REJECTION CRITERIA**

All rejected specimens must be ordered, notified, canceled and documented appropriately.

Refer to *RIH Microbiology Order Entry Procedure* & *Cancels and Credits Procedure*.

The *Specimen Identification Incident Reporting Form* must be completed if specimen qualifies for rejection.

Unique specimens that cannot be recollected must be processed with a disclaimer. This could include: tissue, CSF, bone marrow, body fluid, special procedure urine and samples affected by the start of antibiotics.

Unique specimens considered for rejection and can be identified per collector must have C*onfirmation of Specimen Identification Form* filled and signed.

Potential Reasons for Rejection:

1. Unlabeled or improperly labeled specimen
2. Test not indicated on Requisition form
3. Discrepancy between identification on container and requisition form
4. Prolonged transport time- Refer to *Appendix AP1- Microbiology Order Entry*
   1. Unpreserved Urine > 2 hours, unrefrigerated
   2. Culture swabs, sputum or tissue > 24 hours
   3. Body Fluids > 2 hours
   4. Unpreserved Stool > 2 hours
   5. Blood Culture Bottles
5. Specimen received in fixative – exception Ova and Parasite request
6. Improper or non-sterile container or transport medium
   1. Stool received in containers other that Cary and Blair (Inpatient/Outreach) or Sterile (inpatient)
   2. Molecular specimen not received in UTM
   3. Aptima collection tube sent for urine culture
7. Leaking or broken collection container
8. Outside of container contaminated with specimen
9. Obvious foreign contamination
10. Duplicate specimens on same day/same source (OR specimens, sputum for AFB culture, Bronchial specimens are some exceptions)
11. Specimens unsuitable for culture request:
    1. Vaginal specimen for aerobic culture and Gram Stain
       1. Fungal culture and smear is acceptable
       2. Wound culture acceptable if verified as a wound
       3. For Group B Strep Testing is performed by PCR and should be vaginal/rectal collection
       4. For Bacterial vaginosis/Candida/Trichomonas testing collect with BD UVE kit
       5. For Gonorrhea/Chlamydia/Trichomonas testing collect with Hologic Aptima kit
    2. Anaerobic culture from inappropriate sources (Refer to *Appendix* AP3- Specimen types of submitted for Anaerobic culture)
       1. Urine- unless a suprapubic aspirate and if an anaerobe is suspected
       2. Feces
       3. Swab sent for culture (except for OR specimens) unless eSwab used for collection and source is appropriate
    3. Urine sent for culture
       1. Collected from Indwelling catheter bags
       2. Unpreserved urine >24 hours (refrigerated)
    4. Sputum with a low Q Score – Refer to [Gram Stain Procedure](file:///\\LSFILE04\Microbiolab$\Micro%20Procedures\2018%20Micro%20Procedures\GRAM%20STAIN%20BINDER%202018\GRAM%20STAINS%20PROCEDURE%202018.doc)
    5. CF throat sample on swab submitted for AFB culture
12. Specimens submitted on a dry swab
13. Specimens submitted on E-swab or UTM absent of preservative liquid in container
14. Specimens submitted in expired collection and transport media
15. Fecal swab without obvious feces
16. UTM tube submitted without a swab/ or with a wooden swab
17. Improper collection of Hologic Aptima specimens for Gonorrhea/Chlamydia/Trichomonas
    1. Aptima tube not submitted with a blue swab
    2. Aptima tube with punctured foil cap
    3. Aptima urine collection tube received overfilled or under-filled
    4. Urine received NOT in a Hologic Aptima tube
18. Blood isolator tubes with short draw (anything under the yellow band)
19. Stool specimens from Inpatients after 3rd day of stay

**ABSCESS PUS & ABSCESS MATERIAL (NON-STERILE) (NOT SWABS) SPECIMENS**

## **Aerobic/Anaerobic, Fungal or AFB Culture and Smear**

Source and site must be indicated.

**Container:** White top vacutainer tube or a clean sterile container may be used. Alternatively, specimen may be sent in syringe, but must have needle removed. Copan eSwab container is recommended for off-site surgical locations.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Collect purulent material aseptically from an undrained abscess using a sterile needle and syringe.
2. Transfer to collection container.
3. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Collection using Copan eSwab container:**

1. Open the eSwab sample collection pouch and remove the tube and swab.
2. Collect the sample from the patient.
3. Unscrew and remove the cap from ESwab tube making sure not to spill the medium.
4. Insert material into the tube.
5. Replace cap on the tube and secure tightly.
6. Swab may be discarded.
7. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**AUTOPSY SPECIMENS (LAB ORDERABLE ONLY)**

## **Aerobic/Anaerobic Culture**

An autopsy case number is required before processing.

**Container:** White top vacutainer tube or a clean sterile container may be used. Alternatively, specimen may be sent in syringe, but must have needle removed. Copan eSwab container is recommended for off-site surgical locations.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Place specimen into container.
2. For preservation, specimen should be kept moistened by using saline.
3. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Collection using Copan eSwab container:**

1. Open the eSwab sample collection pouch and remove the tube and swab.
2. Collect the sample from the patient.
3. Unscrew and remove the cap from ESwab tube making sure not to spill the medium.
4. Insert material into the tube.
5. Replace cap on the tube and secure tightly.
6. Swab may be discarded.
7. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

For blood culture: collect blood using Trek bottles. Refer to the *Blood Specimen* section of this procedure for further details on collection.

**BLOOD SPECIMENS**

**Acid Fast Bacilli or Fungal Culture**

Testing must be approved by Infectious Disease prior to acquiring an isolator tube**.**

**Container:** Gold topIsolator tube. May be acquired by calling the laboratory 401-444-5273.

**Storage requirements:** Transport to laboratory immediately after collection. Maintain Isolator tubes at room temperature for up to 16 hours. DO NOT REFRIGERATE ISOLATOR TUBES.

**Collection:**

1. A syringe and needle method of obtaining specimen for the 10 mL microbial tube.
2. Assemble sterile needle onto 20 mL plastic syringe or use sterile needle-syringe combination.
3. Loosen, but do not remove needle shield.
4. Use 10% PVP Iodine solution for disinfecting stopper of the tube.
5. Prepare venipuncture site as previously described.
6. Collect 11 mL of blood for isolator. Must be filled to yellow line.
7. Replace needle with a new sterile needle.
8. Add appropriate volume of blood to the isolator tube by puncturing the stopper with the needle.
9. Add 10 mL to the isolator tube.
10. DO NOT FORCE THE BLOOD INTO THE TUBE. The stopper may be dislodged and you will lose sterility.
11. After removal of the needle from the tube, gently invert the tube 4-5 times to mix the blood with the contents of the tube.
12. Replace the protective cover on the needle and discard in the appropriate manner.
13. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Alternate Syringe and Needle Method of Obtaining Specimens for Blood Isolator 1.5 microbial tube**

1. Assemble a sterile needle onto a 3 mL syringe or use sterile needle syringe combinations. Loosen, but do not remove the needle shield.
2. Use 10% PVP iodine solution for disinfecting the stopper of the tube.
3. Prepare the venipuncture site as previously described.
4. Remove needle shield and perform venipuncture. After blood flow begins, remove tourniquet and withdraw 1.6mL of blood.
5. Add 1.5 mL of blood to then WAMPOLE ISOLATOR 1.5 microbial tube by puncturing the stopper with the needle. Do not force the blood into the tube. This will cause the top to pop off the ISOLATOR 1.5 tube.
6. After removal of the needle from the tube, immediately mix blood with the contents in tube by **gently inverting four or five times.**
7. Replace the protective cover on the needle and discard in an appropriate manner.
8. **BUTTERFLY DRAWS ARE NOT RECOMMENDED BECAUSE BLOOD CLOTTING MAY BE INITIATED PRIOR TO ENTRY INTO THE TUBE.**
9. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Aerobic/Anaerobic Culture (Including Transfusion Reactions)**

**Container:** Two TREK blood bottles, one for aerobic and the other for anaerobic culture taken from a single venipuncture site.

**Storage Requirements:** Transport specimens to laboratory immediately. If there is a delay in transport DO NOT refrigerate bottles.

**Collection:** For detailed instructions on proper collection refer to [*Blood Culture Collection*](https://intranet.lifespan.org/sites/default/files/Path%2009%20-%20Blood%20Culture%20Collection%20-%20Rev%2012.19.pdf) (File under: Pathology PATH-09) found on the Pathology website in Lifespan Intranet.

Be sure to write patient information on the container or apply patient identification label. Send the sample to the test laboratory

**Special Requests:**

Call laboratory at 444-5273 for special requests pertaining to blood cultures**.**

**HBV DNA Quantitative PCR or HIV-1 RNA Quantitative PCR Testing**

**Container:**  6 mL (required) or 3 mL (for pediatrics) EDTA lavender vacutainer

**Storage Requirements:** Send specimen immediately to laboratory. Must be transported within 6 hours after collection.

**Collection:** Clean arm prior to obtaining. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **HCV RNA Quantitative PCR or HCV Genotype PCR Testing**

**Container:** 6 mL (required) or 3 mL (for pediatrics) EDTA lavender vacutainer

OR Pearl, PPT top vacutainer

**Storage Requirements:** Send specimen immediately to laboratory. Must be transported within 6 hours after collection.

**Collection:** Clean arm prior to obtaining. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

.

## **Herpes Simplex 1 & 2 PCR Testing (NEONATES ONLY ≤ 8 WEEKS)**

**Container:**  3 or 6 mL EDTA lavender vacutainer

**Storage Requirements:** Send specimen immediately to laboratory. Must be transported within 6 hours after collection.

**Collection:** Clean arm prior to obtaining. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**BODY FLUID (STERILE)**

**Amniotic, Bursa, Disc Space, Pancreatic, Pericardial, Peritoneal, Pleural, Synovial, etc… for Aerobic/Anaerobic, Fungal or AFB Culture and Smear**

*\*Orthopedic specimens maybe be held for 14 days upon request, or by application of “Hold 14 Day” sticker on specimen container.*

**Container:** White top vacutainer tube or a clean sterile container may be used. Alternatively, specimen may be sent in syringe, but must have needle removed. Copan eSwab container (without use of swab) is recommended for off-site surgical locations.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Decontaminate the surface prior to collection.
2. Collect fluid using a needle and syringe.
3. Transfer to container.
4. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Collection using Copan eSwab container:**

1. Open the eSwab sample collection pouch and remove the tube and swab.
2. Collect the sample from the patient.
3. Unscrew and remove the cap from ESwab tube making sure not to spill the medium.
4. Insert material into the tube.
5. Replace cap on the tube and secure tightly.
6. Swab may be discarded.
7. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Peritoneal Dialysis Fluid for Aerobic/Anaerobic Culture**

**Container:** White top vacutainer tube or a clean sterile container may be used. Alternatively, specimen may be sent in syringe, but must have needle removed. Copan eSwab is recommended for off-site surgical locations; VersaTREK blood bottles (collected onsite).

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Decontaminate the surface prior to collection.
2. Collect fluid using a needle and syringe.
3. Transfer to container.
4. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Collection using Copan eSwab container:**

1. Open the eSwab sample collection pouch and remove the tube and swab.
2. Collect the sample from the patient.
3. Unscrew and remove the cap from ESwab tube making sure not to spill the medium.
4. Insert material into the tube.
5. Replace cap on the tube and secure tightly.
6. Swab may be discarded.
7. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

# **BONE MARROW**

## **Aerobic/Anaerobic, Fungal or AFB Culture and Smear**

**Container:** White top vacutainer or Pedi Isolator tube. Isolator can be obtained by calling Microbiology at 444-5273

**Storage Requirements:** If delay in transport or processing, specimen should be kept at room temperature for up to 16 hours.

**Collection:**

1. Begin by preparing the skin as for blood cultures.
2. Drape the surrounding skin with sterile linen.
3. Aspirate marrow percutaneously using a sterile needle and syringe.
4. Using sterile technique, transfer 1 - 2 ml into container.
5. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**CATHETER TIP**

**Aerobic Culture**

Blood culture should be order when catheter tip is being submitted for culture.

**Container:** Acceptable tips: swan ganz, subclavian, arterial, IV, intra-catheter, CVP, antio-catheter, cordis sheath. All other tips will be rejected. Sterile, leak-proof container, without additive.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Cleanse the catheter site as for blood culture collection.
2. After the ChloroPrep dries, carefully remove the catheter with sterile forceps, making sure it does not touch the skin.
3. With sterile scissors, cut the terminal (1.5 - 2 inches) of the catheter into container.
4. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory

**CEREBRAL SPINAL FLUID**

**Lumbar Puncture ONLY for Aerobic, Fungal, AFB Culture and Smear; Herpes Simplex 1 & 2 PCR, Varicella-Zoster PCR or Enterovirus PCR Testing**

**Container:** Sterile leak-proof tube without additive.

**Storage Requirements: Send to laboratory immediately.** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Begin collection by, decontaminating the skin following the blood culture collection procedure.
2. Drape sterile linen over the skin surrounding the puncture site.
3. Insert the needle.
4. Collect 1mL of the fluid and place into sterile CSF collection tubes. Preferably, test requests for Microbiology, Hematology, Chemistry, etc. should have their own tube.
5. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory

**For Meningitis/Encephalitis Panel please call laboratory for add-on. This is Lab orderable only test. Request must be approved by Infectious disease or Microbiology Lab Director.**

**Shunt Fluid for Aerobic/Anaerobic, Fungal, AFB Culture and Smear**

**Container:** Sterile leak-proof tube without additive.

**Storage Requirements: Send to laboratory immediately.** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Begin collection by, decontaminating the skin following the blood culture collection procedure.
2. Drape sterile linen over the skin surrounding the puncture site.
3. Insert the needle.
4. Collect 1mL of the fluid and place into sterile CSF collection tubes. Preferably, test requests for Microbiology, Hematology, Chemistry, etc. should have their own tube.
5. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

# **CUTANEOUS SPECIMENS**

## **Infant Screen (Eye, Nasal, Mouth, and /Rectal) for Herpes Simplex I & II PCR Testing**

**Container:** 1 mL Universal Transport Media (UTM) collection kit

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept refrigerated for up to 7 days.

**Collection:**

1. Expose the base of the lesion by un-roofing the vesicle.
2. Swab the vesicle
3. Aseptically remove cap from tube
4. Insert swab into the tube with UTM-RT medium
5. Break swab shaft by bending it against the tube wall
6. Replace cap to tube and close tightly
7. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Hair, Nail, Skin Specimens for Fungal Culture**

**Container:** Sterile leak-proof tube without additive.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:** Hair, nail and skin scrapings are to be placed in a dry, sterile container.

Area should be wiped down with 70% alcohol to remove surface bacterial contaminants. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

1. Skin: skins lesions should be sampled from the erythematous, peripheral, actively growing margins of typical “ringworm” infections. Skin scales may be flaked off using a surgical blade.
2. Nail: Scrape away the superficial portions with the side of a surgical blade before collecting a deeper sample.
3. Hair: Infected hairs can be plucked with surgical forceps.

## **Vesicle/Skin for Varicella-Zoster PCR or Herpes Simplex I & II PCR Testing**

**Container:** 1 mL Universal Transport Media (UTM) collection kit

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept refrigerated for up to 7 days.

**Collection:**

1. The patient should be informed that the sampling of the lesion is very painful. Creams, lotions, sitz baths should not be used prior to collection.
2. Expose the base of the lesion by un-roofing the vesicle.
3. Swab the vesicle
4. Aseptically remove cap from tube
5. Insert swab into the tube with UTM-RT medium
6. Break swab shaft by bending it against the tube wall
7. Replace cap to tube and close tightly
8. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**EAR SPECIMENS**

**Ear (External) Swab for Aerobic or Fungal Culture and Smear**

**Container:** Copan eSwab

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Cleanse external ear.
2. Swab area of active margin, preferably including fresh secretion deeper areas.
3. Aseptically remove cap from tube.
4. Insert swab into the tube with UTM-RT medium.
5. Break swab shaft by bending it against the tube wall.
6. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Ear Swab for Herpes Simplex Virus I or II PCR Testing**

**Container:** 1 mL Universal Transport Media (UTM) collection kit

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept refrigerated for up to 7 days.

**Collection:**

1. Swab the eye.
2. Aseptically remove cap from tube.
3. Insert swab into the tube with UTM-RT medium.
4. Break swab shaft by bending it against the tube wall.
5. Replace cap to tube and close tightly.
6. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Tympanocentesis Fluid for Aerobic/Anaerobic or Fungal Culture and Smear**

**Container:** White top vacutainer tube or a clean sterile container may be used. Alternatively, specimen may be sent in syringe, but must have needle removed. Copan eSwab is recommended for off-site surgical locations.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:** Begin collection by cleansing external canal. For intact ear drum, aspirate with syringe and place fluid intosterile container. For ruptured ear drum, collect on flexible-shaft swab using auditory speculum. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Collection using eSwab:**

1. Open the ESwab sample collection pouch and remove the tube and swab.
2. Collect the sample from the patient.
3. Unscrew and remove the cap from ESwab tube making sure not to spill the medium.
4. Insert the swab into the tube until the red marked breaking point is at the level of the tube opening.
5. Bend and break the swab at the red marked breaking point holding the tube away from your face.
6. Discard the broken handle part of the swab shaft into an approved medical waste disposal container.
7. Replace cap on the tube and secure tightly.
8. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**ENTERIC SPECIMENS**

## **Rectal Swab for Herpes Simplex Virus I or II PCR Testing**

**Container:** 1 mL Universal Transport Media (UTM) collection kit

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept refrigerated for up to 7 days.

**Collection:**

1. The patient should be informed that the sampling of the lesion is very painful. Creams, lotions, sitz baths should not be used prior to collection.
2. Insert the specimen collection swab into the rectum.
3. Gently rotate the swab for 10 - 30 seconds to ensure adequate sampling.
4. Aseptically remove cap from tube
5. Insert swab into the tube with UTM-RT medium
6. Break swab shaft by bending it against the tube wall
7. Replace cap to tube and close tightly.
8. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Rectal Swab for HPV Genotype 16, 18/45 Probe Testing**

**Container:** Thin-Prep collection kit

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept at room temperature for up to 7 days.

**Collection:**

* 1. Obtain an adequate sampling by using either the spatula/brush combo or the broom.
  2. Rinse the devices as quickly as possible in the PreservCyt solution.
  3. Tighten the cap so the torque line on the cap passes the torque line on the vial.
  4. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Rectal Swab for MRSA Screen or Group A *Streptococcus* Testing**

**Container:** Copan eSwab

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Open the eSwab sample collection pouch and remove the tube and swab.
2. Collect the sample from the patient. Insert swab into rectal/ perirectal.
3. Unscrew and remove the cap from ESwab tube making sure not to spill the medium.
4. Insert the swab into the tube until the red marked breaking point is at the level of the tube opening.
5. Bend and break the swab at the red marked breaking point holding the tube away from your face.
6. Discard the broken handle part of the swab shaft into an approved medical waste disposal container.
7. Replace cap on the tube and secure tightly.
8. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Rectal Swab for *Neisseria gonorrhea*, *Chlamydia trachomatis* or *Trichomonas vaginalis* Probe Testing**

**Container:** *Aptima Unisex Swab Specimen Collection Kits for Endocervical and Male Urethral Swab Specimens*

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept refrigerated for up to 7 days.

**Collection:**

1. Partially peel open the swab package
2. Remove the swab. Do not touch the soft tip or lay the swab down. If the soft tip is touched, the swab is laid down, or the swab is dropped, request a new Aptima Multitest Swab Specimen Collection Kit.
3. Hold the swab (blue) by placing your thumb and forefinger in the middle of the swab shaft covering the score line. Do not hold the swab shaft below the score line.
4. Carefully insert the swab into your rectum about 1-2 inches (3-5 cm) past the anal margin (the outside of the anus) and gently rotate the swab for 5 to 10 seconds
5. Withdraw the swab without touching your skin.
6. While holding the swab in the same hand, unscrew the cap from the tube
7. Do not spill the contents of the tube. If the contents of the tube are spilled, use a new Aptima Multitest Swab Specimen Collection Kit.
8. Immediately place the swab into the transport tube so that the score line is at the top of the tube
9. Carefully break the swab shaft at the score line against the side of the tube
10. Immediately discard the top portion of the swab shaft
11. Tightly screw the cap onto the tube.
12. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Stool for Basic or Extended Gastro-intestinal PCR Panel**

**Container:** Carey-Blair (Yellow Top). If inpatient, a clean vial may be sent. If collection is difficult a Fecal swab may be used.

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept at refrigerated for up to 24 hours.

**Collection:**

1. Specimen should be collected in a clean, dry, wide-mouthed container. A bedpan is ideal.
2. Using the spoon built into the cap, small samples should be added to the vial. Pay particular attention to areas that appear bloody or watery. Add sufficient sample to raise the liquid level to the red fill line on the label.
3. Use the spoon to mix the sample. Recap the vial, making sure that the lid is securely fastened. Firmly shake the vial until the contents appear homogenous.
4. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Fecal Swab Collection:**

1. Use the flocked swab and Insert through the rectal sphincter 2 to 3 cm (1-1.5 inches) and gently rotate.
2. Withdraw and examine to make sure there is fecal material visible on the tip.
3. Transfer swab into the tube and visually check that the maximum line is not exceeded.
4. Mix the stool specimen against the side of the tube.
5. Break the remainder of the shaft by break it at the red line located on swab.
6. Place the screw cap on the tube and tighten.
7. Shake the vial until the sample appears homogeneous.
8. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Stool for *Clostridium difficile* Toxin PCR Testing**

**Container:** Sterile leak-proof tube without additive.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Specimen should be collected in a clean, dry, wide-mouthed container.
2. A bedpan is ideal.
3. Place stool into sterile container.
4. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Stool for Full Ova and Parasite (O&P) Testing**

Test must have initial testing for Parasite PCR Testing before reference lab testing.

**Container:** Total-Fix (Formalin-fixative, Black Top) Container. If inpatient, a clean vial may be sent.

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept at room temperature for up to 24 hours if in additive.

**Collection:**

1. Specimen should be collected in a clean, dry, wide-mouthed container. A bedpan is ideal.
2. Using the spoon built into the cap, small samples should be added to the vial. Pay particular attention to areas that appear bloody or watery. Add sufficient sample to raise the liquid level to the red fill line on the label.
3. Use the spoon to mix the sample. Recap the vial, making sure that the lid is securely fastened. Firmly shake the vial until the contents appear homogenous.
4. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Stool for Parasite PCR Testing**

**Container:** Total-Fix (Formalin-fixative, Black Top) Container. If inpatient, a clean vial may be sent.

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept at room temperature for up to 24 hours if in additive.

**Collection:**

1. Specimen should be collected in a clean, dry, wide-mouthed container. A bedpan is ideal.
2. Using the spoon built into the cap, small samples should be added to the vial. Pay particular attention to areas that appear bloody or watery. Add sufficient sample to raise the liquid level to the red fill line on the label.
3. Use the spoon to mix the sample. Recap the vial, making sure that the lid is securely fastened. Firmly shake the vial until the contents appear homogenous.
4. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**EYE SPECIMENS**

## **Cornea/ Corneal Scraping for Acanthamoeba or Viral Testing**

**Container:** 1 mL Universal Transport Media (UTM) collection kit, tested at a reference laboratory.

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept at refrigerated for up to 24 hours.

**Collection:**

1. Collect corneal scrapings using a scalpel or other sharp device to remove the outer layer of cells from the eye.
2. Remove the scalpel from the UTM before submitting to the lab. Specimens containing scalpel blades will be cancelled.
3. **\***Swabs are not the preferred specimen for this test and may yield false negative results. If a swab is necessary, use the Copan flocked swab provided.
4. Swish the collection device (i.e. scalpel) in 1mL of UTM. If Copan swab is used, leave swab inside the UTM collection tube
5. Apply patient identification label on the UTM tube and refrigerate specimen.
6. Submit a completed requisition form, indicating which viruses are suspected, to Central Collections specimen drop off window located at APC 11th, Room 1124Contact the Microbiology lab at 401-444-5273 with any questions.

**Cornea/ Corneal Scraping for Aerobic/Anaerobic, Fungal or AFB Culture**

**Container:** Collection kits can be acquired through the Microbiology laboratory. Please call 444-5273

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Begin collection by, cleansing skin around eye. For scrapings, use local anesthetic and platinum spatula.
2. Use a clean smooth spatula to obtain specimen.
3. Directly inoculate a chocolate agar plate, inhibitory mold agar.
4. Apply specimen onto the slides supplied in kit, for gram stain and/or fungal smear.
5. And finally use the eSwab supplied to swab area and place into respective container.
6. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Collection using eSwab:**

1. Open the ESwab sample collection pouch and remove the tube and swab.
2. Collect the sample from the patient.
3. Unscrew and remove the cap from ESwab tube making sure not to spill the medium.
4. Insert the swab into the tube until the red marked breaking point is at the level of the tube opening.
5. Bend and break the swab at the red marked breaking point holding the tube away from your face.
6. Discard the broken handle part of the swab shaft into an approved medical waste disposal container.
7. Replace cap on the tube and secure tightly.
8. Write patient information on the tube label or apply patient identification label.
9. Submit a completed requisition form and all collections to Central Collections specimen drop off window located at APC 11th, Room 1124

## **Eye** **for Herpes Simplex I & II PCR Testing**

**Container:** 1 mL Universal Transport Media (UTM) collection kit

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept refrigerated for up to 7 days.

**Collection:**

1. Swab the eye with the collection swab.
2. Gently rotate the swab for 10 - 30 seconds to ensure adequate sampling.
3. Aseptically remove cap from tube
4. Insert swab into the tube with UTM-RT medium
5. Break swab shaft by bending it against the tube wall
6. Replace cap to tube and close tightly
7. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Eye for *Neisseria gonorrhea* or *Chlamydia trachomatis* Probe Testing**

**Container:** *Aptima Unisex Swab Specimen Collection Kits for Endocervical and Male Urethral Swab*

*Specimens*

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept refrigerated for up to 7 days.

**Collection:**

1. Remove the swab. Do not touch the soft tip or lay the swab down. If the soft tip is touched, the swab is laid down, or the swab is dropped, request a new Aptima Multitest Swab Specimen Collection Kit.
2. Swab the eye with the collection swab (blue shaft).
3. Gently rotate the swab for 10 - 30 seconds to ensure adequate sampling.
4. Place swab into tube, avoiding spill contents in tube.
5. Break the swab shaft at the score line against the side of the tube
6. Immediately discard the top portion of the swab shaft.
7. Tightly screw the cap onto the tube.
8. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory..

## **Vitreous Fluid for Aerobic/Anaerobic, Fungal or AFB Culture and Smear**

**Container:** White top vacutainer tube or a sterile leak-proof tube without additive may be used. Alternatively, specimen may be sent in syringe, but must have needle removed.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Begin collection by using sterile technique for needle aspiration.
2. Aspirate from needle and syringe inoculated into sterile container.
3. Specimen should be sent in a clean, sterile tube.
4. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

# **FOREIGN BODIES**

## **Aerobic/Anaerobic or Fungal Culture and Smear**

Specimen will NOT be processed if tissues or body fluid are also received, Exception may be made if approved by Director of Microbiology.

**Container:** Sterile leak-proof tube without additive.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:** Place specimen into container. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

# **GASTRIC ASPIRATES**

## **AFB Culture and Smear**

**Container:** Sterile leak-proof tube without additive.

**Storage Requirements:** Specimen should be sent in a clean, sterile container and sent to laboratory immediately for neutralizing (within 4 hours).

**Collection:** Aspirate gastric fluid and place into container. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

# **GENITAL SPECIMENS**

## **Cervical or Vaginal Swab for *Neisseria gonorrhea*, *Chlamydia trachomatis* or *Trichomonas vaginalis* Probe Testing**

**Container:** *Aptima Unisex Swab Specimen Collection Kits for Endocervical and Male Urethral Swab Specimens.*

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept refrigerated for up to 7 days.

**Collection:**

1. Partially peel open the swab package. Remove the swab. Do not touch the soft tip or lay the swab down. If the soft tip is touched, the swab is laid down, or the swab is dropped, request a new Aptima Multitest Swab Specimen Collection Kit.
2. Remove excess mucus from the cervical and surrounding mucosa using the cleaning swab (white shaft). Discard this swab.
3. Hold the swab in your hand by placing your thumb and forefinger in the middle of the swab shaft covering the score line (black line). Do not hold the swab shaft below the score line (black line).
4. Carefully insert the swab (blue shaft) into vagina/ or cervical about 2 inches and gently rotate the swab for 10 to 30 seconds. Make sure the swab touches the walls of the vagina so that moisture is absorbed by the swab and then withdraw the swab without touching the skin.
5. While holding the swab in the same hand, unscrew the cap from the tube. Do not spill the contents of the tube. If the contents of the tube are spilled, request a new Aptima Multitest Swab Specimen Collection Kit.
6. Immediately place the swab into the transport tube so that the score line (black line) is at the top of the tube.
7. Carefully break the swab shaft at the score line (black line) against the side of the tube.
8. Immediately discard the top portion of the swab shaft.
9. Tightly screw the cap onto the tube.
10. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Cervical Swab for HPV Genotype 16, 18/45 Probe Testing**

**Container:** Thin-Prep collection kit

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept at room temperature for up to 7 days.

**Collection:**

1. Obtain an adequate sampling by using either the spatula/brush combo or the broom.
2. Rinse the devices as quickly as possible in the PreservCyt solution.
3. Tighten the cap so the torque line on the cap passes the torque line on the vial.
4. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Urethral Swab for *Neisseria gonorrhea*, *Chlamydia trachomatis* or *Trichomonas vaginalis* Probe Testing**

**Container:** *Aptima Unisex Swab Specimen Collection Kits for Endocervical and Male Urethral Swab Specimens.*

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept refrigerated for up to 7 days.

**Collection:**

1. The patient should not have urinated for 1 hour prior to sample collection
2. Partially peel open the swab package. Remove the swab. Do not touch the soft tip or lay the swab down. If the soft tip is touched, the swab is laid down, or the swab is dropped, request a new Aptima Multitest Swab Specimen Collection Kit.
3. Hold the swab in your hand by placing your thumb and forefinger in the middle of the swab shaft covering the score line (black line). Do not hold the swab shaft below the score line (black line).
4. Insert the specimen collection swab (blue shaft) 2-4 cm into the urethra.
5. Gently rotate the swab for 2-3 seconds to ensure adequate sampling.
6. While holding the swab in the same hand, unscrew the cap from the tube.
7. Do not spill the contents of the tube. If the contents of the tube are spilled, request a new Aptima Multitest Swab Specimen Collection Kit.
8. Immediately place the swab into the transport tube so that the score line (black line) is at the top of the tube.
9. Carefully break the swab shaft at the score line (black line) against the side of the tube as shown in.
10. Immediately discard the top portion of the swab shaft as shown in.
11. Tightly screw the cap onto the tube.
12. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Genital Swab for Herpes Simplex I & II PCR Testing**

**Container:** 1 mL Universal Transport Media (UTM) collection kit

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept refrigerated for up to 7 days.

**Collection:**

1. If there is a vesicle, un-roof vesicle and collect fluid with a sterile swab or aspirate the fluid with a needle and syringe.
2. Collect specimen with swab
3. Aseptically remove cap from tube
4. Insert swab into the tube with UTM-RT medium
5. Break swab shaft by bending it against the tube wall
6. Replace cap to tube and close tightly
7. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Genital Swab for Fungal Culture and Smear or Group A *Streptococcus* Screen**

**Container:** Copan eSwab

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. With a large swab, clear away vaginal mucous and exudate.Moisten speculum.
2. Insert eSwab through the speculum and sample endo-cervical canal and anorectal areas.
3. Avoid the vaginal walls during collection.
4. Place swab into tube.
5. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Vaginal Swab for Group B *Streptococcus* PCR Screen**

Specimen should be collected from the vagina and rectum.

**Container:** Copan eSwab

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection**:

1. With a large swab, clear away vaginal mucous and exudate.Moisten speculum.
2. Open the ESwab sample collection pouch and remove the tube and swab.
3. Insert eSwab through the speculum and sample endo-cervical canal and anorectal areas. Avoid the vaginal walls during collection.
4. Unscrew and remove the cap from ESwab tube making sure not to spill the medium.
5. Insert the swab into the tube until the red marked breaking point is at the level of the tube opening.
6. Bend and break the swab at the red marked breaking point holding the tube away from your face.
7. Discard the broken handle part of the swab shaft into an approved medical waste disposal container.
8. Replace cap on the tube and secure tightly.
9. Write patient information on the tube label or apply patient identification label. Send the sample to the test laboratory.

## **Vaginal/Endo-cervical Swab for Vaginitis Panel PCR Testing**

**Container:** BD MAXUVE (Vaginal/Endo-cervical) Kit

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept at room temperature for up to 24 hours.

**Collection:**

1. Collect swab prior to pelvic, speculum, or bimanual exam.
2. No lubricant is used for the sample technique.
3. Gently slide the swab 2 inches (5 cm) into the vagina. If the swab does not slide easily, gently rotate the swab as you push. If it is still difficult, do not attempt to continue.
4. Rotate the swab for 10 to 15 seconds.
5. Withdraw the swab without touching the skin outside the vagina.
6. *PRECAUTION: : if a speculum will be inserted prior to collecting the Vaginal Panel swab*
   1. Do not collect specimen at the posterior fornix.
   2. Lukewarm water may be used to warm and lubricate the speculum.
   3. If lubricant must be used, lubricant should be used sparingly (1.8 mm) and applied only to the exterior sides of the speculum blades, avoiding contact with the tip of the speculum.
   4. Avoid contact between the swab and the speculum or lubricant.
   5. Insert the MAX Vaginal Panel collection swab to contact the vaginal sidewall, 2 inches (5 cm) within the vagina, rotate gently for 10-15 seconds; withdraw the swab without touching the speculum.
7. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

# **RESPIRATORY SPECIMENS**

## **Broncho alveolar Lavage (BAL) (Quantitative) for Pneumocystis Smear by DFA; Legionella Culture; Aerobic, Fungal or AFB Culture and Smear**

**Container:** Sterile leak-proof tube without additive.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. BAL samples are collected from the distal bronchioles and alveoli after the bronchoscope has been wedged into the distal airway in one or more segments.
2. Pass the bronchoscope trans-nasally or trans-orally in non-intubated patients or via the ET tube in intubated patients.
3. Collect BAL samples by carefully wedging the tip of the bronchoscope into an airway lumen and instilling as large a volume of 0.85% non-bacteriostatic saline as possible per aliquot. Several aliquots may be used in the same lung location to wash the alveoli in order to collect enough fluid to perform all the required tests.
4. Place specimen into container.
5. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Bronchial/Bronch Brush for Pneumocystis Smear by DFA; Legionella Culture; Aerobic, Fungal or AFB Culture and Smear**

**Container:** Sterile leak-proof tube without additive.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Collect the bronchial brush specimen via double - lumen catheter.
2. The use of shielded catheters is essential to obtain proper specimens.
3. Place specimen into container.
4. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Bronchial Specimens for CMV Testing**

**Container:** 1 mL Universal Transport Media (UTM) collection kit. Testing will be sent to Reference laboratory.

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept at refrigerated for up to 24 hours.

**Collection:** Aspirate bronch specimen in UTM container. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Bronchial Wash for Pneumocystis Smear by DFA; Legionella Culture; Aerobic, Fungal or AFB Culture and Smear**

**Container:** Sterile leak-proof tube without additive.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Bronch wash samples are collected from the major bronchi, including the main bronchus at the bifurcation of the right and left bronchi
2. Pass the bronchoscope transnasally or transorally in nonintubated patients or via the ET tube in intubated patients.
3. Inject sterile nonbacteriostatic 0.85% NaCl (generally 20-30ml aliquots in adults and 5ml aliquots in children) from a syringe through a biopsy channel of the bronchoscope.
4. Gently suction the recovered bronchial wash into a sterile container.
5. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Nasal Swab for Methicillin Resistant Staphylococcus aureus (MRSA) Screen**

**Container:** Copan eSwab

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Collect by sweeping around the interior surface of the anterior nares.
2. Unscrew and remove the cap from ESwab tube making sure not to spill the medium.
3. Insert the swab into the tube until the red marked breaking point is at the level of the tube opening.
4. Bend and break the swab at the red marked breaking point holding the tube away from your face.
5. Discard the broken handle part of the swab shaft into an approved medical waste disposal container.
6. Replace cap on the tube and secure tightly.
7. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Nasal Swab for Pre-Admit/Surgical, MSSA/MRSA by PCR Testing**

**Container:** Copan Double Swab ONLY

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Peel apart the plastic film layers.
2. Remove plug from transport tube.
3. Remove swab and collection specimen.
4. Collect by sweeping around the interior surface of the anterior nares.
5. Insert swab in tube and close cap.
6. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Nasopharyngeal Swabs for *Neisseria gonorrhea*, *Chlamydia trachomatis* or *Trichomonas vaginalis* Probe Testing (INFANTS ONLY)**

**Container:** *Aptima Unisex Swab Specimen Collection Kits for Endocervical and Male Urethral Swab Specimens.*

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept refrigerated for up to 7 days.

**Collection:**

1. Remove the swab. Do not touch the soft tip or lay the swab down. If the soft tip is touched, the swab is laid down, or the swab is dropped, request a new Aptima Multitest Swab Specimen Collection Kit.
2. Insert swab (blue shaft) through the nostril into nasopharynx and rotate swab gently a few times.
3. Place swab into tube, avoiding spill contents in tube.
4. Break the swab shaft at the score line against the side of the tube
5. Immediately discard the top portion of the swab shaft.
6. Tightly screw the cap onto the tube.
7. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Nasopharyngeal Swabs for Respiratory Pathogen Panel, Rapid FLU, Rapid RSV PCR Testing**

**Container:** 1 mL Universal Transport Media (UTM) collection kit

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept at 2-8C for up to 7 days.

**Collection:**

1. Gently insert the swab along the nasal septum just above the floor of the passage to the nasopharynx until resistance is met
2. Rotate the swab gently against the nasopharyngeal mucosa for 10 - 15 seconds then gently remove swab
3. After the swab is removed from the patient place it into the tube of UTM transport medium all the way to the bottom of the tube. Holding the swab shaft close to the rim of the tube, break the applicator shaft at the colored breakpoint indication line. Hold the tube opening away from your face.
4. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Oral Swabs for Herpes Simplex I & II PCR Testing**

**Container:** 1 mL Universal Transport Media (UTM) collection kit

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept refrigerated for up to 7 days.

**Collection:**

1. The patient should be informed that the sampling of the lesion is very painful.
2. Expose the base of the lesion by un-roofing the vesicle.
3. Swab the vesicle
4. Aseptically remove cap from tube
5. Insert swab into the tube with UTM-RT medium
6. Break swab shaft by bending it against the tube wall
7. Replace cap to tube and close tightly
8. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Sinus/ Antral Specimens for Aerobic/Anaerobic, Fungal or AFB Culture and Smear**

**Container:** Sterile leak-proof tube without additive.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:** Aspirate specimen into container. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Sputum- Cystic Fibrosis for Aerobic, Fungal or AFB Culture and Smear**

Specimens received on Swab will not receive Smear

**Container:** Sterile leak-proof tube without additive.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Do not have the patient rinse their mouth and gargle with nonsterile water to collect specimens since this can introduce contamination bacteria.
2. Instruct the patient not to expectorate saliva or post nasal discharge into the container.
3. Collect expectorated sputum into a sterile container with a screw cap that is tightly secured.
4. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Sputum- Cystic Fibrosis on Swab for Aerobic, Fungal or AFB Culture and Smear**

Specimens received on swab will not receive smear.

**Container:** Copan eSwab

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection**:

1. Open the ESwab sample collection pouch and remove the tube and swab.
2. Collect the sputum with swab from the patient.
3. Unscrew and remove the cap from ESwab tube making sure not to spill the medium.
4. Insert the swab into the tube until the red marked breaking point is at the level of the tube opening.
5. Bend and break the swab at the red marked breaking point holding the tube away from your face.
6. Discard the broken handle part of the swab shaft into an approved medical waste disposal container.
7. Replace cap on the tube and secure tightly.
8. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Sputum (Expectorated) for Aerobic, Fungal or AFB Culture and Smear, Legionella Culture, MRSA Screen, MTB PCR Testing**

**Container:** Sterile leak-proof tube without additive.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Do not have the patient rinse their mouth and gargle with nonsterile water to collect specimens since this can introduce contamination bacteria.
2. Instruct the patient not to expectorate saliva or post nasal discharge into the container.
3. Collect expectorated sputum into a sterile container with a screw cap that is tightly secured.
4. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Sputum (Induced) for Aerobic, Fungal or AFB Culture and Smear, Legionella Culture, Pneumocystis Smear by DFA, MRSA Screen, MTB PCR Testing**

**Container:** Sterile leak-proof tube without additive.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Using a wet toothbrush, and sterile water or saline, brush the buccal mucosa, tongue, and gums for 5 - 10 minutes prior to the procedure.
2. Do not use toothpaste. Rinse mouth thoroughly with sterile water or saline.
3. Using an ultrasonic nebulizer, have the patient inhale approximately 20 to 30 ml of 3% NaCl
4. Collect induced sputum specimens into a sterile container with a screw cap.
5. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

## **Throat Swabs for Group A Streptococcus PCR Testing**

**Container:** Copan eSwab

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Open the ESwab sample collection pouch and remove the tube and swab.
2. Place gentle pressure on the tongue with a tongue depressor.
3. Extend swab between the tonsillar pillars and behind the uvula, avoiding the tongue, buccal mucosa, and uvula.
4. Sweep the swabs back and forth across the posterior pharynx, tonsillar areas, and any inflamed or exudative areas.
5. Unscrew and remove the cap from ESwab tube making sure not to spill the medium.
6. Insert the swab into the tube until the red marked breaking point is at the level of the tube opening.
7. Bend and break the swab at the red marked breaking point holding the tube away from your face.
8. Discard the broken handle part of the swab shaft into an approved medical waste disposal container.
9. Replace cap on the tube and secure tightly.
10. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Throat Swab for *Neisseria gonorrhea*, *Chlamydia trachomatis* or *Trichomonas vaginalis* Probe Testing**

**Container:** *Aptima Unisex Swab Specimen Collection Kits for Endocervical and Male Urethral Swab Specimens*

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept refrigerated for up to 7 days.

**Collection:**

1. Partially peel open the swab package. Remove the swab. Do not touch the soft tip or lay the swab down. If the soft tip is touched, the swab is laid down, or the swab is dropped, request a new Aptima Multitest Swab Specimen Collection Kit.
2. Hold the swab by placing your thumb and forefinger in the middle of the swab shaft covering the score line. Do not hold the swab shaft below the score line.
3. Carefully insert the swab into your mouth, ensuring contact with bilateral tonsils (the tonsils on both sides of your mouth, unless your tonsils have been removed) and the back of your throat, then withdraw the swab without touching the inside of your cheeks or tongue.
4. Gently rotate swab for 10-30 seconds to ensure adequate sampling.
5. While holding the swab in the same hand, unscrew the cap from the tube. Do not spill the contents of the tube. If the contents of the tube are spilled, use a new Aptima Multitest Swab Specimen Collection Kit.
6. Immediately place the swab into the transport tube so that the score line is at the top of the tube.
7. Carefully break the swab shaft at the score line against the side of the tube.
8. Immediately discard the top portion of the swab shaft.
9. Tightly screw the cap onto the tube.
10. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

# **URINE SPECIMENS**

## **Aerobic Culture**

**Container:** Recommended BD Vacutainer® C&S Preservative Plus Urine Tube. Alternatively, a sterile leak-proof container may also be used.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours. If collected in BD Vacutainer® C&S Preservative Plus Urine Tube specimen may be kept at room temperature for up to 24 hours.

**Collection:**

For detailed instructions on collecting a voided urine refer to Collection of a Clean Voided Urine Specimen (File Under: PATH-08) in the Pathology website in the Lifespan Intranet. <https://intranet.lifespan.org/sites/default/files/path-08_20150511111747.pdf>

Be sure to write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**Special Requests:**

Anaerobes- Testing should be only requested for bladder suprapubic aspirates or by special procedures.

*Mycobacterium tuberculosis*

***Neisseria gonorrhea*, *Chlamydia trachomatis* or *Trichomonas vaginalis* Probe Testing**

**Container:** *Aptima Urine Specimen Collection Kit for Male and Female Urine Specimens.*

**Storage Requirements:** Transport to laboratory immediately. If delay in transport or processing, specimen should be kept refrigerated for up to 7 days.

**Collection:**

1. Patient should not have urinated for at least 1 hour prior to specimen collection
2. Direct patient to provide first-catch urine (approximately 20 to 30 mL of initial urine stream) into urine collection cup free of any preservatives. Collection of larger volumes of urine may result in specimen dilution that may reduce test sensitivity. Female patients should not cleanse labial area prior to providing specimen.
3. Remove cap from urine specimen transport tube and transfer 2 mL of urine into urine specimen transport tube using the disposable pipette provided. The correct volume of urine has been added when the fluid level is between the black fill lines on urine specimen transport tube label.
4. Re-cap urine specimen transport tube tightly.
5. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

# **TISSUE SPECIMENS**

## **Bone, Solid Organs, Soft Tissue, etc… for Aerobic/Anaerobic, Fungal or AFB Culture and Smear**

*\*Orthopedic specimens maybe be held for 14 days upon request, or by application of “Hold 14 Day” sticker on specimen container.*

**Container:** Sterile leak-proof tube without additive.

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Tissue samples should be collected from areas within and adjacent to the area of infection.
2. Large enough tissue samples should be collected to perform all of the tests required (3-4 mm biopsy samples.
3. Aseptically, place tissue into container.
4. For preservation, specimen should be kept moistened by using saline.
5. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**WOUND SPECIMENS**

**Wound/Abscess Swabs and Drainages for Aerobic or Fungal Culture and Smear**

**Container:** Copan eSwab

**Storage Requirements:** Stable at room temperature for 2 hours. If delay in transport or processing, specimen should then be kept refrigerated for up to 24 hours.

**Collection:**

1. Cleanse skin around the wound.
2. Debride if appropriate and thoroughly rinse with sterile saline prior to collection.
3. Swab wound site.
4. Unscrew and remove the cap from ESwab tube making sure not to spill the medium.
5. Insert the swab into the tube until the red marked breaking point is at the level of the tube opening.
6. Bend and break the swab at the red marked breaking point holding the tube away from your face.
7. Discard the broken handle part of the swab shaft into an approved medical waste disposal container.
8. Replace cap on the tube and secure tightly.
9. Write patient information on the container or apply patient identification label. Send the sample to the test laboratory.

**REFERENCES**

**Garcia, Lynne S. and Henry D. Isenberg**. 2010. Collection, Transport, and Manipulation of Clinical Specimens and Initial Laboratory Concerns. *Clinical Microbiology Procedures Handbook*, 3rd Edition. **2.1**: 51-80.

**ATTACHEMENTS**

*Appendix AP1- Microbiology Order Entry*

*Appendix* AP3- Specimen types of submitted for Anaerobic culture