## Specimen Collection Information

### Table of Contents

- Order of Draw
- Specimen Collection by Venipuncture
- Specimen Collection by Skin Puncture
- Collection and Transport: Proper Specimen Handling (Chemistry, Immunology & Hematology)
- Collection and Transport: Proper Specimen Handling (Microbiology)
- Patient Collection Instructions: Midstream Clean Catch Urine
- Collection Device by Test
- Stool Collection Device by Test: Microbiology
- Specimen Collection Instructions: RSV, Influenza A/B or Respiratory Pathogen panel
- Criteria for Rejection of Unsatisfactory Specimens (Microbiology)
- Specimen Identification
### ORDER OF DRAW

#### BD Vacutainer® Order of Draw for Multiple Tube Collections

*Designed for Your Safety*

<table>
<thead>
<tr>
<th>Closure Color</th>
<th>Collection Tube</th>
<th>Mix by Inverting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>BD Vacutainer® Blood Collection Tubes</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(glass or plastic)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Blood Cultures - SPS</td>
<td>8 to 10 times</td>
</tr>
<tr>
<td></td>
<td>• Citrate Tube*</td>
<td>3 to 4 times</td>
</tr>
<tr>
<td></td>
<td>• BD Vacutainer® SST™ Gel Separator Tube</td>
<td>5 times</td>
</tr>
<tr>
<td></td>
<td>• Serum Tube (glass or plastic)</td>
<td>5 times (plastic) none (glass)</td>
</tr>
<tr>
<td></td>
<td>• BD Vacutainer® Rapid Serum Tube (RST)</td>
<td>5 to 6 times</td>
</tr>
<tr>
<td></td>
<td>• BD Vacutainer® PST™ Gel Separator Tube</td>
<td>8 to 10 times</td>
</tr>
<tr>
<td></td>
<td>With Heparin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Heparin Tube</td>
<td>8 to 10 times</td>
</tr>
<tr>
<td></td>
<td>• EDTA Tube</td>
<td>8 to 10 times</td>
</tr>
<tr>
<td></td>
<td>• BD Vacutainer® PPT™ Separator Tube</td>
<td>8 to 10 times</td>
</tr>
<tr>
<td></td>
<td>K₂EDTA with Gel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Fluoride (glucose) Tube</td>
<td>8 to 10 times</td>
</tr>
</tbody>
</table>

*When using a winged blood collection set for venipuncture and a coagulation (citrate) tube is the first specimen tube to be drawn, a discard tube should be drawn first. The discard tube must be used to fill the blood collection set tubing’s “dead space” with blood but the discard tube does not need to be completely filled. This important step will ensure proper blood-to-additive ratio. The discard tube should be a nonadditive or coagulation tube.*

**Note:** Always follow your facility’s protocol for order of draw

---

**BD Technical Services**

1.800.631.0174

**BD Customer Service**

1.888.237.2762

[www.bd.com/vacutainer](http://www.bd.com/vacutainer)

---

BD, BD Logo and all other trademarks are property of Becton, Dickinson and Company. © 2010 BD

1 Becton Drive
Franklin Lakes, NJ 07417

www.bd.com/vacutainer
SPECIMEN COLLECTION BY VENIPUNCTURE

PURPOSE:
To provide instructions for obtaining a blood sample by Venipuncture.

MATERIALS:

<table>
<thead>
<tr>
<th>SUPPLIES</th>
<th>EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol prep pad</td>
<td>Blood collection needles or butterfly collection set</td>
</tr>
<tr>
<td>ChloraPrep One-Step for blood culture</td>
<td>Gloves</td>
</tr>
<tr>
<td>Povidone-iodine swab for blood culture for infants &lt;2 months of age, patients allergic to ChloraPrep or ETOH collections</td>
<td>Tourniquet</td>
</tr>
<tr>
<td>Gauze</td>
<td>Sharps container</td>
</tr>
<tr>
<td>Blood collection tubes</td>
<td>Micropore tape or adhesive bandages</td>
</tr>
</tbody>
</table>

*All blood collection tubes and supplies must be used within their expiration date and stored per manufacturer’s instructions.

PROCEDURE:
1. Identify the patient using at least two standard patient identifiers (name, date of birth, medical record number)
2. Wash your hands.
3. Organize supplies and equipment and put on gloves
4. Extend the patient’s arm to form a straight line between the shoulder and the wrist. Use a pillow if necessary to support the arm.
5. Apply a tourniquet around the upper arm, three to four inches above the venipuncture site.
6. Instruct the patient to make a fist to make the veins more prominent. Do not allow hand-pumping which can cause changes in the concentration of certain analytes in the blood.
7. Select a collection site. See “Notes” below for additional considerations when choosing a site. Under normal circumstances, venipuncture should be limited to the three veins located in the antecubital fossa: the median cubital, the cephalic, and the basilic vein.
8. Release the tourniquet
9. Clean and dry the site
10. Reapply the tourniquet and perform venipuncture
11. Collect Vacutainer® tubes in the following order:
   - Blood cultures
   - Blue top (citrate)
   - Serum tube with or without clot activator, with or without gel
   - Green top (heparin)
   - Lavender (EDTA)
   - Other tubes, i.e. grey (sodium fluoride), black (ESR)
   Mix additive tubes as they are collected
12. After removing the last tube from the holder, release the tourniquet.
13. Place gauze over the needle, remove needle and apply pressure to the site
14. Close the needle using the safety device.
15. Dispose of the needle and hub as one unit in an approved sharps container.
16. Examine the site and apply a bandage.
17. Label specimens at the bedside.
18. Dispose of remaining supplies
19. Remove gloves and wash hands
NOTES:

• Special considerations when choosing a site for venipuncture
  • When antecubital veins are not acceptable or unavailable, veins on the back of the hand are acceptable for venipuncture. Veins on the underside of the wrist must not be used, as nerves and tendons are close to the surface of the skin in this area.
  • IV lines – Specimens should not be collected from an arm with an IV site unless there is no other alternative and the tests are critical to the care of the patient, as determined by the physician or nurse. In such cases, blood drawn distal to (below) the IV site will be accepted using the procedure below. Blood draws above an IV site are not recommended even with the IV turned off.
  • The IV should be turned off (by a nurse) for two minutes.
  • Place a tourniquet below the IV line.
  • Draw the blood below the IV site.
  • Fistula – a fistula is an artificial shunt connection done by a surgical procedure to fuse the vein and artery together. It is to be used for dialysis only. An arm with a fistula should not be used for blood collection, unless permission is received from the physician. The use of a tourniquet may lead to complications.
  • Alternative sites such as ankles or lower extremities, must not be used without permission of the physician. There is a potential for significant medical complications (phlebitis, thrombosis, tissue necrosis.)
  • Scarring - Avoid healed burn areas
  • Mastectomy – permission from a physician must be obtained before drawing blood from the side on which a mastectomy was performed because of the potential for complications due to lymphostasis.
  • Hematoma – specimens collected through a hematoma may cause erroneous test results.
  • The tourniquet should be released after no more than one minute during specimen collection to prevent erroneously high values for protein-based analytes, packed cell volume and other cellular elements.
  • Adhesive bandages are not to be used on children under the age of two (2).
  • If only a coagulation tube is drawn, for routine testing (PT and PTT) the first tube drawn may be used for testing. For special testing, (Factor VIII) a discard tube should be drawn first.
  • Order of draw must be followed in order to avoid cross-contamination from additives. Never pour blood from one tube to another, as results may be compromised.

NOTE: Life Labs explicitly prohibits the recapping, purposeful bending, breaking, removal from disposable syringes or other manual manipulation of needles.

REFERENCES:

RELATED DOCUMENTS:
• Life Laboratories Patient Identification Policy
• Life Laboratories Specimen Identification Policy
• Unsuccessful Venipuncture Policy
SPECIMEN COLLECTION BY SKIN PUNCTURE

PURPOSE:
To provide instructions for obtaining a blood sample by skin puncture.

MATERIALS:

<table>
<thead>
<tr>
<th>SUPPLIES</th>
<th>EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol prep pad</td>
<td>Skin Puncture Device</td>
</tr>
<tr>
<td>Gauze</td>
<td>Heel Warmer Pack</td>
</tr>
<tr>
<td>Microcollection Tubes</td>
<td></td>
</tr>
<tr>
<td>Sharps Container</td>
<td></td>
</tr>
</tbody>
</table>

PROCEDURE:
1. Identify the patient
2. Organize supplies and equipment, put on gloves
3. Select a collection site; warm if necessary
4. Clean and dry the site
5. Perform puncture and drop puncture device into Sharps container
6. Wipe away first drop of blood
7. Collect the hematology specimen first, followed by the other additive specimens
   • Specimens requiring Serum are last
   • Mix the specimens as necessary
8. Apply pressure until bleeding has stopped
9. Label specimen
10. Dispose of remaining supplies
11. Remove gloves and wash hands

NOTES:
• Acceptable sites are limited to the palmar surface of the finger and, in children less than one year old, specific areas of the heel.
• Microcollection devices containing anticoagulants must be mixed immediately to prevent clotting. Care must be taken not to overfill since clot formation can occur. Under filling can result in changes in cell morphology due to the effect of the anticoagulant.
• Holding the puncture site downward and applying gentle, intermittent pressure to the surrounding tissue may enhance blood flow from the puncture site. Strong repetitive pressure (milking) must not be applied; it may cause hemolysis or tissue fluid contamination of the specimen.
• After blood has been collected from an infant’s heel, the foot should be elevated above the body and a clean gauze pad pressed against the puncture site until bleeding stops.
• Adhesive bandages are not to be used on children under the age of two (2).
• Skin puncture must not be performed
  • On the central area of an infant’s foot
  • Fingers of newborns
  • Swollen or previously punctured sites
• When sampling from a finger, the puncture should be made across the fingerprint and at a 45° angle to the midline.

REFERENCES:

COLLECTION AND TRANSPORT:  
PROPER SPECIMEN HANDLING  

Chemistry, Immunology & Hematology

The accuracy of any test procedure is dependent upon the quality of the specimen received. Variables which affect specimen quality include proper patient identification, specimen collection according to directions listed in the test directory, timely specimen processing, packaging and transport to the laboratory, and delivery to the laboratory under environmental conditions that will not compromise the integrity of the specimen. The following is meant as a general guideline for delivering your specimens to the laboratory in the safest manner possible. Please call the laboratory at 413-748-9500 if you have any questions about specimen collection and transport.

PROPER IDENTIFICATION OF SPECIMENS

A. Specimens will be accepted for testing labeled with the following information
   1. Patient’s full name printed in ink and spelling is consistent with the test requisition
   2. Unique identification number e.g. medical record number, social security number, Typenex® number, LIS generated number, DOB
   3. Date and Time of collection
   4. Collector’s initials

Note: A minimum of two (2) patient identifiers (other than location) must be on all specimens prior to testing.

B. Transfer Vials - When submitting a specimen in a container other than the tube used to draw the sample (e.g., transfer vials), also indicate specimen type on the label (e.g., serum, plasma, urine, etc.).

C. Microbiological Testing - When submitting specimens for microbiological testing (e.g., cultures, bacterial antigen, microscopic examination), the nature and anatomic source of the sample and the specific organism(s) to be detected, if any, should be specified. See “Collection and Transport: Proper Specimen Handling (Microbiology) as well as the individual test in the directory for detailed instructions.
COLLECTION AND TRANSPORT: PROPER SPECIMEN HANDLING

Chemistry, Immunology & Hematology cont.

TEST REQUISITION

Outpatient specimens must be accompanied by a paper requisition, prepared either by hand or printed from an electronic ordering system. The requisition, at a minimum should contain the information specified below.

A. Patient and Provider Information
   1. Adequate patient identification information (e.g., name, address, telephone number)
   2. Patient gender
   3. Patient date of birth
   4. Name and address of physician ordering the test
   5. Physician signature

B. Insurance Information
   1. Name of primary insurance company as well as secondary if appropriate.
   2. Policy number
   3. Subscriber name
   4. Subscriber relationship to patient
   5. Enter the ICD diagnosis code that reflects the patient’s symptoms, condition, or diagnosis and provide medical justification for the tests ordered.

C. Specimen and Test Information
   1. Test(s) requested
   2. Covering diagnosis codes (ICD10)
   3. Date and time of specimen collection
   4. Collector’s initials
   5. Source and type of specimen and time of collection, when appropriate
   6. Special requests to fax reports or send additional copies to another provider.

SPECIMEN COLLECTION

Refer to Test Directory for specific collection instructions for each individual test.
COLLECTION AND TRANSPORT: PROPER SPECIMEN HANDLING

Chemistry, Immunology & Hematology cont.

PACKAGING

The following are the minimum specimen packaging guidelines that should be followed when submitting specimens:

A. Individual Specimens collected by client
   1. Ensure that test requisitions are properly completed.
   2. Ensure that all specimens are labeled properly.
   3. Ensure that all specimen caps are properly secured.
   4. Remove and dispose of all sharps before packaging.
   5. Fold the top copy (original) of the test requisition in half widthwise (top to bottom). Retain the second copy for your files.
   6. The specimen transport bag has two pouches. Place the specimen container(s) in the large re-sealable pocket. Insert the requisition into the smaller unsealed outside pocket.
   7. Frozen specimens should be transported in plastic screw-cap containers only. Frozen specimens must be placed in a separate specimen bag along with a separate test requisition. Frozen specimens cannot be split for other tests. If more than one test is ordered on a single frozen sample, we will call you to authorize which of the tests ordered you want performed before testing can proceed.

B. Specimens collected at Life Laboratories Patient Service Centers
   1. Ensure that test requisitions are properly completed.
   2. Ensure that all specimens are labeled properly.
   3. Ensure that all specimen caps are properly secured.
   4. Print a specimen transport list from the LIS.
   5. Line up specimens in a cardboard transport box according to the transport list. Holding the box with the long rows facing you, add specimens in the following order:
      a) Row 1 – CBC’s
      b) Row 2 – Chemistries
      c) Row 3 – A1C’s
      d) Row 4 – Immunology
      e) Row 5 – Reference
      f) Row 6 – Urines in plastic vials

Note: Samples for PT/INR testing should be individually packaged in blue biohazard bags with their test requisitions. See instructions for specimens collected by client above.
6. Collect all patient requisitions and place into a sealed plastic bag.
7. Insert requisitions and specimens into a larger bag and seal it closed.
8. Affix a uniquely numbered barcode label to the outside of the large bag and to the patient log for scanning by courier at pick-up.
9. Frozen specimens should be transported in plastic-screw-cap containers only. Frozen specimens must be placed in a separate specimen bag along with a separate test requisition. Frozen specimens cannot be split for other tests. If more than one test is ordered on a single frozen sample, we will call you to authorize which of the tests ordered you want performed before testing can proceed.

HOLDING AND SECURING SPECIMENS

A. Clients with a regularly scheduled courier pick-up
   1. While awaiting pick-up by a courier, maintain specimens at room temperature or on cold packs unless otherwise noted under the “Transport Temperature” or other specimen requirement in the Test Listing.
   2. Life Laboratories will provide a lock box for specimens awaiting pick-up by a courier. Clients are responsible for the security of specimens prior to pick-up. We recommend that the lockbox be placed in a location that is not subject or exposed to extreme temperatures.

B. Clients who do not have a regularly scheduled courier pick-up, may call Crosstown Courier at 413-594-7900 to arrange delivery.
COLLECTION AND TRANSPORT: PROPER SPECIMEN HANDLING

MICROBIOLOGY

COLLECTION AND TRANSPORT: PROPER SPECIMEN HANDLING

The laboratory diagnosis of infectious diseases begins with the collection of a clinical specimen for examination and culture. The following general rules apply to the collection and transport of any specimen for culture.

- Strictly aseptic technique must be applied throughout the procedure.
- Wash your hands before the collection.
- Collect the specimen at the optimum time as ordered by the provider. The timing of collection with relation to the patient’s symptoms may be vital to the success of recovering the causative organism(s) in the culture.
- Make certain the specimen is representative of the infectious process.
- Collect and place the specimen aseptically in an appropriate sterile container provided by the laboratory.
- After the collection, make certain the outside of the specimen container is clean and uncontaminated. If the collection container has been soiled, it must be carefully cleansed with an effective germicide, to eliminate infectious material that would pose hazard to those who will come in further contact with the specimen.
- Make certain the container is tightly closed to prevent leakage while in transport.
- Check whether enough material has been collected to perform all tests that are requested.
- Specimens must have at least 2 pieces of identification: patient’s full name and date of birth. If possible, label container with patient’s identification label that includes full name, DOB, medical record number or, if inpatient, hospital admission number. Date and time of collection should be noted.
- Individually bag each specimen to be sent to the laboratory.
- Wash your hands after the collection.

All Microbiology specimens must be labeled with the following information:
- A minimum of two (2) patient identifiers (other than location) must be on all specimens.
  - Patient’s full name printed in ink and spelling is consistent with the test requisition
  - Date of birth (or) an alternate traceable unique identification number, (e.g. Mercy medical record number, social security number, Typenex® number, Meditech label with LIS generated number)
- Date and time of collection
- Specimen source (e.g. throat, vaginal, etc.)
- Collector’s initials

All specimens to the Microbiology laboratory must be accompanied by a properly filled out requisition slip. Requests for testing should include source of specimen, test(s) requested, and when appropriate type of infection and/or organism expected.
COLLECTION AND TRANSPORT: PROPER SPECIMEN HANDLING
MICROBIOLOGY cont.

Arrange for immediate transport of the specimen to the laboratory. If at any time a specimen cannot be transported to the laboratory within a certain time period, then the laboratory should be notified so as to direct certain information regarding proper storage of the specimen.

TRANSPORT OF SPECIMENS TO THE LABORATORY

- Transport of the specimen to the laboratory must be done promptly, preferably within 1 to 2 hours of collection. If transport is delayed, specimens can be stored under conditions suitable for each specimen type. Refer to section on Specimen collection for details on specific transport criteria listed by source.

- In general:
  - Do not store specimens not in holding medium for bacterial culture for more than 24 hours. Viruses, however, usually remain stable for 2-3 days at 4°C.
  - Urine specimens must be kept refrigerated.
  - Material on swabs should be carried in a transport swab with holding medium. It is acceptable to store swabs up to 72 hours.
  - Body fluids for anaerobes should be transported in a tube that is specifically designed for the transportation of anaerobic cultures in order to minimize exposure to oxygen.

- Never refrigerate spinal fluid, genital, eye, internal ear, or respiratory specimens. Some environmentally sensitive organisms include N. gonorrhoeae, N. meningitides, and Haemophilus influenzae; never refrigerate any specimens suspected with these organisms.

NOTE: The below chart is a summary of collection guidelines. For more specific collection guidelines and information on sources and tests not listed below, please refer to the Test Directory.
# Microbiology Specimen Collection

**Guidelines for Bacteriology, Mycology, and Parasitology**

<table>
<thead>
<tr>
<th><strong>Specimen</strong></th>
<th><strong>Collection Device</strong></th>
<th><strong>Collection Instructions</strong></th>
<th><strong>Specimen Storage &amp; Optimal Transport Time Limits</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaerobe</td>
<td>Anaerobe Transport swab</td>
<td><em>collect as per specimen site using anaerobic transport swab</em></td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Blood cultures</td>
<td><strong>Adults:</strong> 1 set = 2 Vials 1 Bactec Plus Aerobic/F vial and 1 Lytic/10 Anaerobic vial</td>
<td>Disinfect vial tops &amp; patient with 70% isopropyl alcohol. Disinfect patient with Chloraprep One-Step &amp; allow to dry. Use Povidone-iodine swab on infants &lt;2 months of age or patients allergic to Chloraprep. Without touching site collect blood directly into Bactec vials using butterfly/Blood culture adapter(syringe may also be used) to optimal fill line.</td>
<td>≤ 12 h, RT</td>
</tr>
<tr>
<td></td>
<td><strong>Children:</strong> 1 Bactec Peds Plus vial</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sets should be drawn from different sites at least 10 min. apart, or as directed by provider. Obtain before antibiotic therapy begins.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body Fluids</td>
<td>Syringe with cap Sterile screw capped tube Sterile leak-proof specimen cup Sterile vacuum bottle Sterile plain red top vacutainer tube* Fluid transport vial* If anaerobe culture requested: Anaerobe Transport swab/vial also required</td>
<td>Disinfect overlying skin with Chloraprep. Obtain specimen via percutaneous needle aspiration. Submit as much fluid as possible, best if &gt; 1 ml. *If transfer from syringe to another vial, disinfect with alcohol wipe or iodine the rubber top on vial before transferring. <strong>Note:</strong> Transport swabs are not recommended for aerobic culture, since they provide inadequate sample amounts.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Bone Marrow</td>
<td>A set of blood culture vials: 1 aerobic &amp; 1 anaerobic Bactec vial</td>
<td>Prepare site as for surgical incision. Disinfect Bactec blood culture rubber tops with alcohol wipes before transferring.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Bronchial Washings Aspirate</td>
<td>Sterile sputum Aspirate collector</td>
<td>Aspirate washings into a sputum trap. Best if ≥1ml and received within ≤2 h.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Bronchial Brush</td>
<td>Sterile leak-proof specimen cup.</td>
<td>Place brush in sterile container with sterile saline.</td>
<td>≤ 24 h, RT</td>
</tr>
</tbody>
</table>
# Microbiology Specimen Collection

**Guidelines for Bacteriology, Mycology, and Parasitology**

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Collection Device</th>
<th>Collection Instructions</th>
<th>Specimen Storage &amp; Optimal Transport Time Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cath Tip</td>
<td>Sterile specimen cup.</td>
<td>Cleanse area around catheter with alcohol. Aseptically remove catheter and clip 5 cm of distal tip. Transport immediately to prevent drying.</td>
<td>≤ 24 h, 4°C</td>
</tr>
<tr>
<td>CSF</td>
<td>Sterile screw-capped tube Tube # 2 submit to micro</td>
<td>Disinfect site with hospital approved antiseptic. Collect 1-2 ml into screw-capped sterile tubes Transport immediately to lab.</td>
<td>Bacteria: ≤ 24 h, RT Viruses: ≤ 72 h, 4°C</td>
</tr>
<tr>
<td>Ear</td>
<td>Transport Swab with Amies or Stuart medium For internal ear: If anaerobe requested: Anaerobe Transport swab also</td>
<td>Outer ear: Use moistened swab to remove debris from canal. Obtain sample by rotating swab in outer ear canal Inner Ear: Intact eardrum- cleanse canal, collect by needle aspirate Ruptured drum- collect fluid on flexible shaft swab using auditory speculum</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Environmental Culture Screen</td>
<td>Transport Swab with Amies or Stuart medium</td>
<td>Swab surface of object.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Eye</td>
<td>Transport Swab with Amies or Stuart medium Direct planting to SB/CHOC/THIO/slide</td>
<td>Conjunctiva: Collect specimen before anesthetic is applied. Pre-moistened with sterile saline and roll swab Corneal scrapings: Apply anesthetic first. Use sterile spatula to scrape ulcers or lesions. Plate material directly.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>GC Specimen</td>
<td>Transport Swab with charcoal Transport Swab with Amies or Stuart medium, not ideal but acceptable if processed immediately</td>
<td>Vaginal &amp; Cervix: remove excess mucous with swab, then with second swab obtain specimen. (Lubricant should not be used with speculum) Urethra: using urethrogenital(mini-tip) swab, insert &amp; rotate swab Other sources: eye, rectal, Bartholin gland abscess, Prostatic fluid, throat, synovial fluid, etc.; collect specimen as for routine culture of that source.</td>
<td>≤ 24 h, RT</td>
</tr>
</tbody>
</table>
## MICROBIOLOGY SPECIMEN COLLECTION
### GUIDELINES FOR BACTERIOLOGY, MYCOLOGY, AND PARASITOLOGY

<table>
<thead>
<tr>
<th>SPECIMEN</th>
<th>COLLECTION DEVICE</th>
<th>COLLECTION INSTRUCTIONS</th>
<th>SPECIMEN STOR-AGE &amp; OPTIMAL TRANS-PORT TIME LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Genital</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaginal Cervical Urethral</td>
<td>Transport Swab with charcoal, best collector for r/o GC. Transport Swab with Amies or Stuart medium</td>
<td><strong>Vaginal &amp; Cervix:</strong> Remove excess mucous with swab, then with second swab obtain specimen. (Lubricant should not be used with speculum) <strong>Urethra:</strong> using urethrogenital swab, insert &amp; rotate swab.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Genital Prostate fluid</td>
<td>Transport Swab with Amies or Stuart medium Sterile tube</td>
<td>Clean glans with soap &amp; water, massage prostate through rectum &amp; collect fluid.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Genital other</td>
<td>Syringe with cap *If anaerobe requested: Anaerobe Transport swab also</td>
<td><strong>Bartholin:</strong> Disinfect skin &amp; aspirate fluid from ducts <strong>Endocervical:</strong> Transcervical aspirate <strong>Cul-de-sac:</strong> aspirate or fluid</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Hair</td>
<td>Sterile specimen cup.</td>
<td>With forceps collect 10-12 affected hairs with base of hair shaft still attached.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>IUD</td>
<td>Sterile leak-proof specimen cup.</td>
<td>Remove and place in sterile cup with small amount of saline. Do not allow to dry out.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Nail</td>
<td>Sterile specimen cup.</td>
<td>Cleanse area with 70% alcohol using gauze not cotton. Clip away a generous portion of the affected area.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Nose</td>
<td>Transport Swab with Amies or Stuart medium.</td>
<td>Insert swab moistened with saline &amp; rotate against nasal mucosa.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Oral</td>
<td>Transport Swab with Amies or Stuart medium.</td>
<td>Remove oral secretions with swab and discard. Using a second swab, vigorously sample lesion, avoiding areas of normal tissue.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Peritoneal Dialysate</td>
<td>Submit in two 10 mL red top vacutainer tubes (or sterile specimen container)</td>
<td></td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Pin worm</td>
<td>Pin worm paddle</td>
<td>Remove paddle with one side coated with a non-toxic mildly adhesive material (marked “sticky side”) and press the sticky surface against the perianal skin with moderate pressure. The ideal time for this procedure is early morning before arising and before emptying the bowels. Collection of 3 to 6 consecutive daily specimens is recommended.</td>
<td>≤ 24 h, RT</td>
</tr>
</tbody>
</table>
# Microbiology Specimen Collection

## Guidelines for Bacteriology, Mycology, and Parasitology

<table>
<thead>
<tr>
<th>SPECIMEN</th>
<th>COLLECTION DEVICE</th>
<th>COLLECTION INSTRUCTIONS</th>
<th>SPECIMEN STORAGE &amp; OPTIMAL TRANS-PORT TIME LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scabies</td>
<td>Scabies collection kit (supplied by Micro dept)</td>
<td>Follow the detailed collection instructions included with the collection kit.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Skin</td>
<td>Sterile container</td>
<td>Cleanse area with 70% alcohol. Scrape the surface at the active margin. Place in container or in between 2 sterile slides inside the container.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Sputum expectorate</td>
<td>Sterile leak-proof container</td>
<td>Rinse or gargle with water to remove superficial flora from mouth. Instruct patient to cough deeply to produce a lower respiratory specimen. Best if &gt;1ml, first morning specimen, and received in ≤2h</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Sputum induced aspirate</td>
<td>Sterile sputum Aspirate collector</td>
<td>Rinse with water to remove superficial flora from mouth. With Nebulizer have patient inhale ~25ml sterile saline. Collect the sputum in sterile cup or aspirate into sputum trap. Best if &gt;1ml and received in ≤2h</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Stool Routine Culture Shiga-toxin assay included for all samples properly preserved &amp; refrigerated.</td>
<td>Preservative sample is recommended: C&amp;S Para-pak Vial with cary-Blair stool preservative. Sterile cup Transport swab with Amies or Stuart medium.</td>
<td>Add sample to vial to the fill line, then refrigerate until testing. Collect directly into sterile container, test requires ~1mL. <strong>Transport unpreserved samples immediately to lab, must deliver in ≤1 hour</strong> to ensure complete testing (unable to perform Shiga-toxin testing for unpreserved samples &gt;2 hrs old) Use of transport swab (with visible amount of stool) is only recommended for infants with active diarrhea, where a full sample can’t be obtained. Please note the Shiga toxin test can’t be performed on swab samples.</td>
<td>Preserved Vial ≤ 48 h, 4°C Unpreserved ≤ 2 h, 4°C</td>
</tr>
<tr>
<td>Stool VRE-Screen (Culture to screen only for Vancomycin-Resistant Enterococcus)</td>
<td>Clean leak-proof container Transport Swab with Amies or Stuart medium.</td>
<td>Collect directly into clean dry container. Transport immediately to lab.</td>
<td>Unpreserved ≤ 24 h, RT Preserved swab ≤ 48 h, RT</td>
</tr>
</tbody>
</table>
# MICROBIOLOGY SPECIMEN COLLECTION

## GUIDELINES FOR BACTERIOLOGY, MYCOLOGY, AND PARASITOLOGY

<table>
<thead>
<tr>
<th>SPECIMEN</th>
<th>COLLECTION DEVICE</th>
<th>COLLECTION INSTRUCTIONS</th>
<th>SPECIMEN STORAGE &amp; OPTIMAL TRANSPORT TIME LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>STOOL- C. Difficile Toxin</td>
<td>Clean leak-proof container</td>
<td>Collect directly into clean dry container. Transport immediately to lab, best if ≤ 1 hour. <strong>Note: Formed stools (sample that does not take form of the container) are unacceptable for testing.</strong></td>
<td>≤ 1 h, RT&lt;br&gt;≤ 72 h, 4C</td>
</tr>
<tr>
<td>STOOL- O&amp;P</td>
<td>Clean leak-proof container</td>
<td>Collect directly into clean dry container. Transport immediately to lab, best ≤ 1 hour for liquid specimens for the detection of Trophs. A minimum of 5 grams (about size of walnut) is necessary. Collect as above, transfer a portion of specimen to each vial, until fill line is reached. Cover and mix vials well.</td>
<td>Liquid &amp; soft&lt;br&gt;≤ 1 h, RT&lt;br&gt;<strong>Formed</strong>&lt;br&gt;≤ 24 h, RT&lt;br&gt;<strong>Preserved</strong>&lt;br&gt;Indefinite, RT</td>
</tr>
<tr>
<td>STOOL- Polys, Fats Occult blood</td>
<td>Clean leak-proof container</td>
<td>Collect directly into clean dry container.</td>
<td>≤ 1 h, RT&lt;br&gt;≤ 24 h, 4C</td>
</tr>
<tr>
<td>SUTURE</td>
<td>Sterile leak-proof container</td>
<td>Place in sterile container and add a small amount of sterile saline. <strong>Do not allow to dry out.</strong> Best if received &lt;15 min.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Tissue</td>
<td>Sterile leak-proof container</td>
<td>Place in sterile container. For very small samples add a small amount of sterile saline. <strong>Do not allow to dry out.</strong> Best if received &lt;15 min.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Throat</td>
<td>Transport Swab with Amies or Stuart medium</td>
<td>Depress tongue with tongue depressor Sample posterior pharynx, tonsils, and inflamed areas with sterile swab. See attachment to procedure, diagram <strong>Proper Technique for Obtaining Throat Specimens</strong></td>
<td>≤ 24 h, RT&lt;br&gt;<strong>For Beta Strep Group A DNA Probe</strong> Transport samples refrigerated (2 - 8°C) or at room temperature (21 - 27°C)</td>
</tr>
</tbody>
</table>
### MICROBIOLOGY SPECIMEN COLLECTION

**GUIDELINES FOR BACTERIOLOGY, MYCOLOGY, AND PARASITOLOGY**

<table>
<thead>
<tr>
<th>SPECIMEN</th>
<th>COLLECTION DEVICE</th>
<th>COLLECTION INSTRUCTIONS</th>
<th>SPECIMEN STORAGE &amp; OPTIMAL TRANS-PORT TIME LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wound Abscess</td>
<td>Transport Swab with Amies or Stuart medium</td>
<td>Cleanse surface exudates with 70% ETOH before specimen collection. For burns clean and debride before collection. <strong>Open Wound:</strong> Aspirate if possible, or pass swab deep into the lesion and firmly sample the lesion’s advancing edge. <strong>Closed Wound:</strong> Aspirate abscess wall material with needle. Tissue or fluid is superior to swab specimens. If tissue specimen is possible, see section on tissue collection. If swab collection is used, 2 should be collected.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Cellulitis</td>
<td>Syringe with cap</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fistulas</td>
<td>*If anaerobe requested: Anaerobe Transport swab also</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ulcers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wound Decubitus ulcer</td>
<td>Transport Swab with Amies or Stuart medium</td>
<td>Cleanse surface with sterile saline, Tissue biopsy or needle aspirate is specimen of choice. See section for tissue or closed wound collection. If unable to biopsy, pass swab deep into the lesion and vigorously sample the base.</td>
<td>≤ 24 h, RT</td>
</tr>
<tr>
<td>Urine Clean Catch</td>
<td>Sterile leak-proof specimen cup</td>
<td>Cleanse urethral area with antiseptic wipes. <strong>Women:</strong> hold labia apart  <strong>Men:</strong> if necessary, hold foreskin back. Begin voiding into toilet, after the first trickle, begin to collect the urine for culture. If using gray top tubes, transfer urine aseptically from collection cup.</td>
<td>Unpreserved: ≤ 2 h, RT  ≤ 24 h, 4C Gr ay top: ≤ 48 h, RT or 4C</td>
</tr>
<tr>
<td>Urine Foley Cath</td>
<td>Sterile leak-proof specimen cup</td>
<td>Foley and Nephrostomy: Disinfect collection port with 70% alcohol. Use sterile syringe to collect and transfer to specimen container. Straight catheter: Cleanse urethral area with soap &amp; water then with antiseptic wipes. Aseptically insert catheter into bladder. Allow 15 ml to pass before collecting urine for culture. Suprapubic: Disinfect overlying skin with ChloraPrep One-Step or alternate hospital-approved antiseptic. Obtain specimen with sterile syringe via percutaneous needle aspiration into bladder. Transfer urine aseptically to specimen container.</td>
<td>Unpreserved: ≤ 2 h, RT  ≤ 24 h, 4C Gr ay top: ≤ 48 h, RT or 4C</td>
</tr>
<tr>
<td>Straight Cath</td>
<td>Urine gray top tube with preservative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nephrostomy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suprapublic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texas catheter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>urine is not acceptable for culture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaginal/Rectal For R/O Beta Strep B</td>
<td>Transport Swab with Amies or Stuart medium</td>
<td>Insert swabs to vagina then into anus just beyond the anal sphincter.</td>
<td>≤ 24 h, RT</td>
</tr>
</tbody>
</table>
PATIENT INSTRUCTIONS:
MIDSTREAM CLEAN CATCH URINE COLLECTION

PURPOSE:
To ensure collection of a sterile urine specimen for culture.

POLICY:
Sterile urine collection cup
Castile Soap towlettes

PROCEDURE:
1. Open the collection cup and place cover face up on the counter.
2. Open packet of castile soap towlettes and set aside.
3. Thoroughly wash hands with soap and water.

<table>
<thead>
<tr>
<th>IF</th>
<th>THEN</th>
</tr>
</thead>
</table>
| Male   | 4. Cleanse the end of the penis with the first castile soap towlette beginning at the urethral opening and working away from it (the foreskin of an uncircumcised male must first be retracted).  
5. Repeat using the second towlette.  
6. Void the first portion of urine into the toilet.  
7. As you continue to void, bring the collection cup into the “midstream” to collect the urine specimen. DO NOT touch the inside or lip of the cup with the hands or any other part of the body.  
8. Void remainder of urine into the toilet. |
| Female | 1. Stand in a squatting position over the toilet.  
2. Separate the folds of skin around the urinary opening.  
3. Cleanse the area around the opening with the first castile soap towlette.  
4. Repeat using a second clean towlette.  
5. Void the first portion of urine into the toilet.  
6. As you continue to void, bring the collection cup into the “midstream” to collect the urine specimen. DO NOT touch the inside or lip of the cup with the hands or any other part of the body.  
7. Void remainder of urine into the toilet. |

4. Close the cup with the cover provided, being careful to touch only the outside surfaces of the cap and cup.

EXCEPTIONS:
None.
COLLECTION DEVICE BY TEST:

**Specimen Collection Device by Test**

### BBL Culture Swab (Bacterial Culture—Aerobic):
- Wounds (Specify site)
- Throat culture (Red top only)
- Group A Strep (throat) PCR (Red top only)
- Genital: Identification of yeast, Beta Strep Group B, Neisseria gonorrhea, Listeria, Gardnerella or other predominant pathogens
- Fungus culture r/o yeast (genital, oral or diaper rash)
- Fungus culture, other sources – Specimens such as skin scraping or toe nail for fungal culture should be submitted in a sterile specimen cup
- GBS Prenatal (Red top only)

### Multi-Collect Transport Tube (Swab or Urine):
- Used for current or past Chlamydia and Neisseria gonorrhoeae infection
- Swab can be used on both males and females
- 10 – 60ml of “dirty” urine also acceptable
- Chlamydia trachomatis and/or Neisseria gonorrhoeae DNA— for both males and females (urine, vaginal or urethral swab).

### BBL Vacutainer (Bacterial Culture—Anaerobic):
- For Anaerobic culture only, separate aerobic swab should be submitted for aerobic culture

### BD Affirm VP III Collection Tube & Swab:
- Affirm Molecular Vaginosis panel for Candida, Gardnerella, and Trichomonas (vaginal)

### Urine Culture Transport— with Culture Preservative:
- Urine Culture

### Conical Urinalysis (UA) Tube— No Preservatives:
- Urinalysis testing only
- Trichomonas screening in males only

### Swab in Sterile Tube with 0.5ml Saline:
- Vaginal wet mount for Yeast, Clue cells and Trichomonas, with reflexed Trichomonas antigen

### Round Bottom Urine Tube— No Additive:
- Urine – Chemistry

### Urinalysis (UA) Tube— with UA Preservative:
- Urinalysis testing only
- Trichomonas screening in males only

### BD Universal Viral Transport (3ml)—Standard Viral Swab:
- Chlamydia trachomatis culture
- HSV(Herpes Simplex Virus) Rapid Culture and Typing
- HSV/VZV (Varicella Zoster Virus) Rapid Culture
- Mycoplasma and Ureaplasma Culture
- Viral Culture, General

### BD Universal Viral Transport (3ml)—Nasopharyngeal Swab:
- Influenza A/B
- RSV
- Respiratory Pathogen Panel
STOOL COLLECTION DEVICE BY TEST:
MICROBIOLOGY

**Stool Collection Device by Test**

### Colorectal Screening — Stool Occult Blood
- Occult Blood, **SCREENING** for colorectal cancer (3 patient cards)
  - FOBT (1 – 3 days) immunochemical method specific for colorectal screening, with higher sensitivity for detection of lower GI bleeding associated with colon cancer

### Sterile Specimen Cup
- Occult Blood, **DIAGNOSTIC** (1 sample)
  - Guiac method, used for the diagnostic detection and monitoring of upper and lower GI bleeding
- C. difficile panel
  - (C. diff toxin & GDH antigen with reflex for indeterminate results to C. diff PCR)
  - (C. diff testing — stool must be unformed)
- Fecal Fat, qualitative
- H. pylori
- Stool for Polys
- Stool Culture (For MMC Inpatients Only) — Routine Stool culture includes: Salmonella, Shigella, Campylobacter, Yersinia, E. coli 0157:H7, and Shiga toxin assay

### Routine Stool Culture Transport (orange cap)
- Includes: Salmonella, Shigella, Campylobacter, Yersinia, E. coli 0157:H7, and Shiga toxin assay
- Stool culture for Vibrio

### Para-Pak Zn-PVA/Formalin Vials (pink and grey caps)
- Cryptosporidium, Rapid EIA
- Giardia Antigen, Rapid EIA
- Ova & Parasites

### Para-Pak Formalin Vial
- Cryptosporidium, Rapid EIA
- Giardia Antigen, Rapid EIA
SPECIMEN COLLECTION INSTRUCTIONS
RSV, Influenza A/B or Respiratory Pathogen panel

SPECIMEN REQUIREMENTS:

- Nasopharyngeal (NP) Swab with fine-tipped flocked flexible shaft swab.
  Note: Wooden shaft, cotton or calcium alginate swabs not accepted.
- Place the swab into the 3 ml Universal (VTM)Viral Transport

(Do not submit samples in Remel M4 or M4RT media, as it is not recommended for these test methods)

- Store and Transport specimen refrigerated

SPECIMEN COLLECTION.........How to do a Nasopharyngeal swab

- Insert flocked, flexible fine-shafted swab into one nostril straight back (not upwards) into to the Nasopharynx and leave in place for a few seconds.
  (Note: Collection from nostril alone does not provide an adequate sample)

- The distance from the patient’s nose to the ear gives an estimate of the distance the swab should be inserted. (See diagram)
- Slowly withdraw swab with a rotating motion.
- Place swab into a vial containing 3 ml of VTM

Note: Erroneous results may occur from improper collection.

New England Journal of Medicine – Instructional video link
https://www.youtube.com/watch?v=DVJNWefmHjE

Storage &Transport
- Place VTM Specimen inside Specimen Biohazard bag and refrigerate until transported to Lab.
CRITERIA FOR REJECTION OF UNSATISFACTORY SPECIMENS

MICROBIOLOGY

- **Anaerobic request for the following sources:**
  Bronchoscopic washings (unless double catheter system used), Cervical swab, Endotracheal aspirate, Endocervical swab, Lochia, Nasopharyngeal swab, Perineum, Prostatic secretions, Sputum (expectorated and induced), Throat, Tracheostomy aspirate, Stool or rectal, Urethral, Urine (bladder, catheter, or clean catch), Vaginal or vulva
- Anaerobic culture request on swab material, unless swab has been submitted in an anaerobic transport tube.
- Blood culture with request for viral cultures.
- Discrepancy between identification on requisition form & specimen container.
- Dried-out swab
- Foley catheter tip
- Formed stool specimen (sample that does not take form of the container) for C. difficile toxin
- Improperly collected sputum (i.e. saliva) if apparent by appearance, insufficient amount, etc. See criteria for expectorated sputum.
- Less than 1 swab per request for bacterial, mycobacterial (AFB) and fungal cultures.
- Material from anus or rectum for gram stain request for gonococci.
- Multiple specimens of the following sources are not acceptable for routine culture on the same day: urine, stool, sputum or throat.
- Multiple specimens for sent for C. difficile toxin testing.
- Multiple O&P specimens with same collection date.
- **No identification** on container
- Specimen leaking from container into plastic transport bag.
- Specimen collected in improper or non-sterile container.
- Specimen not identified by specific source (e.g. wound, genital, etc.)
- Specimens for isolation of Neisseria gonorrhoeae not received in acceptable transport media; i.e. Amies medium, Jembec, charcoal swab, etc.
- Urine, not in gray top, held over 2 hours at Room temperature.
- Urine older than 24 hours, regardless of refrigeration.
- **Quantity not sufficient.**
- 24-hour urine or sputum for mycobacteria (AFB) or fungi.
- Wet Mount collected from a male.
SPECIMEN IDENTIFICATION

PURPOSE:
To ensure positive specimen identification throughout collection, analysis and storage in adherence to Patient Safety goals.

POLICY:
A properly labeled patient sample submitted to Life Laboratories must contain:

- Minimum of TWO Patient Identifiers:
  1. Patient’s last name and first name, printed in ink (spelling is consistent with test requisition)
  2. Unique patient identifier.
     - Date of Birth
     - Alternate Traceable Unique Identification Number (Mercy Medical Record Number, Social Security number, Typenex® number, Meditech label with LIS generated number)

- Specimen information also required on each specimen
  1. Date of collection
  2. Time of collection
  3. Collector’s initials
  4. Specimen source/site (For Microbiology specimens)

Employees will follow established procedures for pending or canceling tests.

Any exceptions not contained in this document must be approved either by a manager or, in their absence, the Medical Director or the Executive Director.

PROCEDURE A: BLOOD SPECIMEN COLLECTION

<table>
<thead>
<tr>
<th>IF YOU ARE DRAWING A BLOOD SAMPLE</th>
<th>THEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>And have a pre-printed label generated by the LIS</td>
<td>• Follow the procedure for patient identification</td>
</tr>
<tr>
<td></td>
<td>• Before leaving the patient’s side and before drawing another patient:</td>
</tr>
<tr>
<td></td>
<td>o Affix the computer label to the appropriate tube</td>
</tr>
<tr>
<td></td>
<td>o Put the actual time of collection and your initials on the label</td>
</tr>
<tr>
<td>And a pre-printed label is not available</td>
<td>• Follow the procedure for patient identification</td>
</tr>
<tr>
<td></td>
<td>• Label the tubes with the minimum information required by laboratory policy before drawing another patient</td>
</tr>
<tr>
<td>For transfusion service testing</td>
<td>• Follow the Typenex® procedure</td>
</tr>
</tbody>
</table>