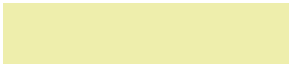









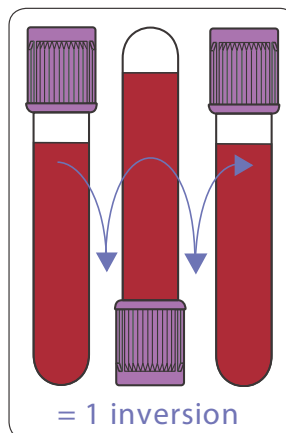


Blood Collection

Order of Drawing Multiple Tubes

In order to be consistent with NCCLS (National Committee for Clinical Laboratory Standards), the order of drawing multiple tubes is shown in the chart below.

Closure Color	Collection Tube	Mix by Inverting
BD Vacutainer® Blood Collection Tubes (glass or plastic)		
	• Blood Cultures - SPS	8 to 10 times
	• Citrate Tube*	3 to 4 times
	• Greiner Gel Separator Tube	5 times
	• Serum Tube (glass or plastic)	5 times (plastic) none (glass)
	• Heparin Tube	8 to 10 times
 or 	• BD Vacutainer® PST™ Gel Separator Tube With Heparin	8 to 10 times
 or 	• EDTA Tube	8 to 10 times
	• Fluoride (glucose) Tube	8 to 10 times



Note:
Always follow your facility's protocol for order of draw. If you have any questions, please call your Technical Supervisor.

Handle all biologic samples and blood collection "sharps" (lancets, needles, luer adapters and blood collection sets) according to the policies and procedures of your facility. Obtain appropriate medical attention in the event of any exposure to biologic samples (for example, through a puncture injury) since they may transmit viral hepatitis, HIV (AIDS), or other infectious diseases. Utilize any built-in used needle protector if the blood collection device provides one. BD does not recommend resheating used needles, but the policies and procedures of your facility may differ and must always be followed. Discard any blood collection "sharps" in biohazard containers approved for their disposal.

Cytology

Collection of Non-Gynecological Specimens

Sterile specimen cups
 Plain red top tubes
 Glass microscope slides
 ACM specimen bag
 95% alcohol
 Saccomanno Fixative (green)

Saccomanno fixative (white label)
 95% Alcohol (pink label)



Recommendation for collection of cellular samples for optimal cytologic evaluation:

- Collect all specimens in sterile containers,
- **Label all specimen containers with patient name, date of birth or medical record number (MRN) and source of specimen.** Ensure that containers are closed tightly.
- Label frosted end of all slides in pencil with patient name and specimen source.
Date of birth or (MRN) is also recommended.
- Complete ACM test requisition – clinical information is extremely important for diagnosis.
- Enclose the requisitions with specimen in ACM specimen bag.
- Contact the Cytology Department, (585) 368-4512, with any questions on obtaining samples.

URINE

Includes voided, catheterized, bladder washing.

1. 50 mL is recommended for testing.
2. Voided urine specimens can be obtained at a collection center. Otherwise, obtain a freshly voided, mid-stream urine (“clean-catch” for women) in a sterile plastic container. This should not be a first void.
3. Refrigerate prior to transport or add an equal amount of Saccomanno fluid to specimen, (preferred).

FINE NEEDLE ASPIRATION (FNA) Includes Breast Aspirates

1. Submit specimen in sterile container or plain red top tube and/or prepare slides/specimen.
2. Aspirations from different sites should be clearly designated.
3. Place a drop of aspirated material on the slide and use an additional slide to spread the collected material evenly over the front of the slide. Avoid excessive pressure when pulling apart glass slides, which can crush cells and limit diagnosis.
4. Immediately place slides in fixative container (95% alcohol) to prevent air-drying.
5. After preparing slides, rinse needle/syringe in Saccomanno Fixative.
6. If tissue fragments are aspirated, place them in a separate container with formalin.
7. If lymphoma or other hematologic malignancy is suspected, rinse needle in **RPMI cell transport media** for flow cytometry obtained by calling (585) 368-4516.

BODY FLUIDS:

Fresh, unfixed fluid samples are preferred. Submit all collected specimen for testing. Plain red top tubes should be used for small amounts (10 cc or less). Refrigerate until transport to Cytology.

CEREBROSPINAL FLUID:

Fresh, unfixed samples are preferred. Send the CSF sterile collection tube or use red top tube for transport. These specimens are extremely fragile - send to lab **immediately**.

RESPIRATORY TRACT:

Bronchial Brushings: Make direct smears of brush sample and **immediately** place in a container of 95% alcohol. After slides are made, agitate the brush vigorously in a 5 to 10 cc vial of saline or Saccomanno fixative. If possible, detach the brush and submit with specimen.

Bronchial Lavages (LAV)/Bronchial Washings: Send specimen fresh. Refrigerate until transport to Cytology.

SPUTUM:

1. Sputum samples must be deep cough material collected in a sterile container. Samples from three consecutive days increases the chance of obtaining diagnostic material.
2. Refrigerate until transport to Cytology.

ANAL (RECTAL)/ANAL PAP:

- Collect anal-rectal specimens using a Dacron swab.
- Moisten the swab in tap water and insert into the anal canal.
- Slowly rotate the swab in one direction with firm lateral pressure on the walls as the swab is slowly being withdrawn.
- Care should be taken to ensure that the transition zone is sampled (where columnar epithelium of rectum transitions into the squamous mucosa of the anus).

MISCELLANEOUS:

Fluids: Place the collected fluid into a plain red top tube or sterila specimen container. Refrigerate until transport to Cytology.

Smears/Brushings: After making the smears/brushings, place slides immediately into 95% alcohol.

Cytology

Conventional Pap Smear

ACM Specimen bags

PapKits include:

Slide
Cervex-brush®
Spray-fix

Other:

95% alcohol
Endocervical brush
Spatula

Safetex® PapKit



Recommendation for collection of cellular samples for optimal cytologic evaluation:

- Wear gloves
- **Label each specimen with patient name, date of birth or medical record number (MRN) and source of specimen.**
- Complete ACM test requisition
- Enclose in an ACM specimen bag

Please note: Due to regulatory requirements ACM cannot accept unlabeled slides.

Routine Patient Exam:

1) Have all of your supplies at hand before obtaining the Pap smear, including gloves, PapKit and spray-fixative.

2) Open the PapKit and **label the slide with patient name, date of birth or MRN and source of specimen** on the frosted end of the slide with a No. 2 pencil.
(Pen ink will come off in the staining solutions.)

3) Do not remove the slide from the kit. Tear kit in half along perforation and throw away right portion which does not contain the slide.

4) Using the Cervex-brush® ("broom") that comes with the kit, obtain the sample in the following manner:

- Using gentle pressure, insert the long central bristles into the cervical os until the lateral bristles bend fully against the ectocervix.

- Maintain gentle pressure and rotate the "broom" 5 full rotations in only one direction.

- Transfer the sample to the slide by a single "paint-stroke" action with each side of the brush:
 - a) apply first one side of the bristles, then turn brush over,
 - b) now "paint" the slide again in exactly the same direction.
 Always apply the brush at approximately a 45 degree angle to the slide.

5) Using the spray-fixative that comes with the PapKits, IMMEDIATELY spray the slide, holding the spray-fix bottle approximately 4-5 inches away from the slide. Also, be sure to completely coat the entire specimen with fixative - about 3 sprays.

6) Close the kit and ***label with patient name, date of birth or MRN and source of specimen.***

- Delay in fixation may cause marked distortion (drying artifact) and may result in a suboptimal or unsatisfactory diagnosis. *Spray-fix the slide immediately and completely after it has been prepared! 95% alcohol may be used to preserve the specimen instead of using spray-fix. Once the slide has been prepared, immediately place the slide into a bottle of 95% alcohol.*

SPECIMEN COLLECTION: BRUSH/SPATULA

If the cytobroom (Cervex-brush) is not used for conventional smears, the brush with spatula combination may be used to obtain the specimen.

- Using the spatula, obtain the ectocervical sample by rotating the notched end around the ectocervix. Spread the material evenly and lengthwise down one half of the slide.
- Using the endocervical brush, obtain the cervix until only the bottom most fibers are exposed. Slowly rotate a quarter to a half turn in one direction. **DO NOT OVER-ROTATE.** Gently remove the brush and spread the material evenly and lengthwise down the other half of the slide. Immediately “fix” the slide(s).

MENOPAUSAL AND POST MENOPAUSAL PATIENT:

The addition of a vaginal pool aspiration in this age group may be useful in the detection of Endometrial Adenocarcinoma. Collect a sample on any patient with abnormal bleeding.

HORMONAL EVALUATION:

Collect the sample from the vaginal wall. The upper third of the lateral wall is optimal.

THE "DES" EXPOSED PATIENT:

Collect a sample from all four quadrants of the vaginal wall. Use a separate slide labeled with the patient's name, date of birth and quadrant for each sample, or Thin Prep vial ***labeled with patient name, date of birth or MRN and source of specimen/quadrant for each sample.***

See additional notes on page 3.8.

Cytology

Collection of Gynecological specimens for **ThinPrep® Pap Test™**

Gloves

PreservCyt® Solution vial

Broom-like device

or

Endocervical brush/plastic spatula

ACM Specimen bag

PreservCyt®



- Wear gloves
- **Label each ThinPrep vial with patient name, date of birth or medical record number (MRN) and source of specimen.**
- Complete ACM test requisition
- Enclose in an ACM specimen bag

TO OBTAIN USING A BROOM-LIKE DEVICE:

- INSERT the central bristles of the broom into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix. Push gently and rotate the broom in a clockwise direction five times.
- RINSE the broom into the PreservCyt solution vial by pushing the broom into the bottom of the vial 10 times, forcing the bristles apart. As a final step, swirl the broom vigorously to further release material. Discard the collection device.
- TIGHTEN the cap so that the torque line on the cap passes the torque line on the vial.
- PLACE the vial and requisition in an ACM specimen bag for transport to the laboratory.

TO OBTAIN USING ENDOCERVICAL BRUSH/PLASTIC SPATULA:

- SELECT contoured end of plastic spatula and rotate it 360° around the entire exocervix while maintaining tight contact with exocervical surface. (Do not use a wooden spatula).
- RINSE the spatula into the PreservCyt® solution vial by swirling the spatula vigorously in the vial 10 times. Discard the spatula.
- INSERT the brush into the cervix using an endocervical brush device. Insert the brush into the cervix until only the bottom-most fibers are exposed. Slowly rotate 1/4 or 1/2 turn in one direction. **DO NOT OVER-ROTATE.**
- RINSE the brush in the PreservCyt® Solution by rotating the device in the solution 10 times while pushing against the PreservCyt® vial wall. Swirl the brush vigorously to further release material. Discard the brush.
- TIGHTEN the cap so that the torque line on the cap passes the torque line on the vial.
- PLACE the vial and requisition in an ACM specimen bag for transport to the laboratory.

Additional Notes:

Lubricants increase the risk of contaminating or obscuring the cellular sample with both conventional pap smears and all liquid-based methods. The Clinical and Laboratory Standards Institute (CLSI; formerly the NCCLS) recommends that lukewarm water be used to lubricate and warm the speculum. If a lubricant must be used due to patient discomfort or other circumstances, it should be applied sparingly on the outer portion of the speculum *with great care to avoid the tip*, using a water-based lubricant such as Astroglide®.

Menstrual blood can obscure significant findings. Therefore it is preferable to avoid sample collection during menses, and ideal to schedule an exam two weeks after the first day of the last menstrual period (i.e. mid-cycle.) ACOG and CLDI guidelines state that woman should be advised to schedule the examination “two weeks after her last menstrual period and preferably when she is not menstruating.”

Tissue Pathology

Collection of **Tissue Specimens**

Gloves
Biopsy Bottle
Tissue Pathology Requisition
ACM specimen bag

Label each specimen with patient name, date of birth or medical record number (MRN) and source of specimen.

*List all specimens from the same patient on one requisition and include any relevant clinical history.
Do not put label on container lid.*

Immediately after procedure, place tissue specimen in biopsy bottle provided. (Filled with 10% Neutral buffered formalin).

Send each specimen promptly to the laboratory.

Caution: Contains formaldehyde. Read warning label about skin contact and inhalation.

Biopsy Bottles



Tissue Pathology

Collection of **Bone Marrow Specimens**

Gloves

Biopsy Bottle

Tissue Pathology Requisition

ACM specimen bag

Slides

Green top tubes

RPMI media

Reference lab requisition

Label each specimen with patient name, date of birth or medical record number (MRN) and source of specimen.

BONE MARROW CORE BIOPSY

Place in 10% neutral buffered formalin. Label specimen container with patient name, date of birth or MRN and source of specimen.

BONE MARROW ASPIRATES

Allow specimen to clot, then place in 10% neutral buffered formalin. Label container with patient name, date of birth or MRN and source of specimen.

BONE MARROW SMEAR SLIDE/PERIPHERAL BLOOD SMEAR SLIDES.

Place air dried slides in mailer. Label with patient name, date of birth or MRN and source of specimen.

FLOW/CYTOGENETICS FOR ONCOLOGY

PERIPHERAL BLOOD FOR FLOW/CYTOGENETICS

Draw a green top tube. Label with patient name, date of birth or MRN and source of specimen.

BONE MARROW ASPIRATE FOR FLOW/CYTOGENETICS

Draw a green top tube. Label with patient name, date of birth or MRN and source of specimen.

SPECIMENS FOR CYTOGENETICS CANCER SCREENING

Draw green top tube of peripheral blood or bone marrow aspirate. Keep cool by placing ice pack with the specimen. Label with patient name, date of birth or MRN and source of specimen.

CYTOGENETICS FOR OB/GYN

SPECIMEN FOR CYTOGENETICS FETAL TISSUE CHROMOSOME ANALYSIS

Place in RPMI media a sample of placental tissue or fetal tissue measuring approximately 1.0 x 0.5 cm. Specimen may also be placed in sterile saline. Keep specimen cool with ice pack, not placed directly on RPMI container. Label with patient name, date of birth or MRN and source of specimen.

Testing for flow cytometry or cytogenetic/molecular testing requires a reference laboratory requisition with patient name, date of birth or MRN and source of specimen. Requisitions and media are available from ACM Pathology Department, ACM Long Pond Laboratory, or St. Mary's Laboratory.

General Laboratory

Collection of **24-Hour Urine**

24 Hour Plain Urine Container

Unless otherwise instructed by your doctor, drink fluids less frequently.

- Do not drink any alcoholic beverages
- Label specimen with patient name, patient weight and specimen source
- Complete ACM test requisition

Urinate upon awakening, before starting the 24 hour urine collection process. Note the time of day. **Do not save this sample.**

For the next 24 hours urinate into a separate cup and carefully pour the sample into the large container provided.

Collect the final sample upon awakening the second day.

Plain urine container



General Laboratory

Collection of **Random Urine**

90 mL specimen cup

ACM specimen bag

- Wear gloves
- Complete ACM test requisition
- Enclose in an ACM specimen bag

Have the patient:

Wash hands. Remove cap from specimen cup.

Void a small amount of urine into the toilet and then place the specimen container midstream voiding about two ounces of urine (until about half full) into the container. Finish voiding into toilet.

Tighten the cap on the container securely and wipe any spilled urine from the outside of the specimen container.

Wash hands.

90 mL specimen cup



General Laboratory

Collection of specimens for Stool Occult Blood

Hemawipe®

or

Hemoccult® collection cards

ACM specimen bag

- Label specimen with patient name and specimen source
- Include completed ACM requisition with kit
- Enclose in specimen bag and store at room temperature

HEMAWIPE® SYSTEM:

Stool samples are collected by the patient by wiping with the Hemawipe® pad immediately after a bowel movement. The stool is forced through the perforations in the tissue paper onto the test area. The tissue paper is peeled off and discarded by the patient after wiping. The pad is then folded by the patient along the dotted line and sealed by pressing the folded pad.

HEMOCCULT® SYSTEM:

Before a bowel movement, the patient should flush the toilet and allow the bowl to fill with clean water. The patient then unfolds the flushable collection tissue and floats it on the surface of the water allowing the edges to stick to the sides of the bowl. The stool is allowed to fall onto the collection tissue. The front of the card is opened and using one stick the patient collects a small sample of the stool and applies it to box A on the card. Using the same stick a second sample is collected from a different part of the stool and applied to box B. The collection tissue is flushed and the stick discarded into a waste container. Do Not Flush Stick! Close the cover flap.

Either procedure is repeated for patient's next 2 bowel movements. The collected samples are stored at room temperature for up to 2 weeks in the envelope provided. Collected samples should be delivered to the laboratory as soon as possible.

Hemoccult and Hemawipe



PATIENT PREPARATION:

The patient should not eat raw or red meat for 2 days prior to sample collection and throughout the collection period. The patient should avoid raw vegetables and fruits including: broccoli, turnips, horseradish, cauliflower, red radishes, parsnips and cantaloupe, and Vitamin C (250 mg/day or more).

Aspirin, and anti-inflammatory drugs should be avoided for 7 days before collection and throughout the collection period.

The patient should try to eat cooked vegetables and fresh fruit; lettuce, spinach, corn, prunes, grapes, plums, and apples, as well as, peanuts, popcorn, bran cereals, well-cooked fowl, and canned tuna.

The specimen should not be collected while patient presents bleeding hemorrhoids or is constipated, during or immediately after a menstrual period or while rectal medications are in place. Hands and test area should be kept clean and free from blood.

Certain medications such as aspirin, indomethacin, reserpine, phenylbutazone, naproxen, zomepirac, tolmetin, anticoagulants, antimetabolites, cancer chemotherapeutic agents, corticosteroids and alcohol may cause gastrointestinal irritation and subsequent bleeding in some patients. False negative results may result from ingestion of 250 mg/day or more of ascorbic acid (Vitamin C).

General Laboratory

Collection of specimens for Heavy Metals

- 1 Red top tube
- 1 Royal blue top tube
- 1 Tan top lead-free tube
- 1 Green top (sodium heparin) microtainer

- Wear gloves
- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

ALUMINUM, SERUM

Specimen Requirement:

Draw a royal blue top tube (no additive). Allow to clot in an upright position for 1 hour. Centrifuge and pour (do not pipette) 2 mL serum into an acid-washed plastic vial. Please note that proper collection is essential to allow accurate measurement of the very low concentration of aluminum in serum. **Avoid all sources of external contamination.**

LEAD, BLOOD

Specimen Requirement:

1 tan top lead-free tube (K₂ EDTA).

The tan top tube is certified lead-free. The use of transfer tubes may produce falsely elevated results due to contamination.

Do not pour off specimens for lead analysis.

LEAD, CAPILLARY BLOOD

Specimen Requirement:

1 green top (sodium heparin) microtainer

In order to reduce the potential for lead contamination during the collection the following steps are recommended. Prior to collection, wash the child's hand with soap and water, and then dry with a clean, low tint towel. Avoid recycled paper products and printed towels. Once washed, the finger used for collection must not be allowed to come into contact with any surface, including the child's clothing. Elevated blood lead levels obtained on capillary specimens are presumptive and should be confirmed using venous blood. In general, children who have blood lead levels >10 mg/dL on capillary samples should have these levels confirmed on venous samples.

OTHER HEAVY METALS

See the alphabetical test list section.

Test tubes



Microbiology

Collection of specimens using Affirm® VPIII Ambient Temperature Transport System (ATTS) kits for Vaginal Sample Collection

Powderless Gloves

Affirm VPIII® ATTS Collection Set or
Starplex Starswab II (Bright Pink Cap)
ACM Specimen bag

Affirm VPIII® ATTS Collection Set



Starplex Starswab II



Do not use specimen collection kits beyond the expiration date.

This specimen collection can only be used for the Affirm Bacterial Vaginosis Screen. Do not use for any other testing.

- Wear powderless gloves
- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

Vaginal Sample Collection

For ATTS:

1. Label the Sample Collection Tube (SCT) with the patient identification information. Include the time the sample was collected.
2. Open ATTS reagent pack. Break ampule and add fluid to sample collection tube.
3. Place the patient in position for a pelvic examination. Insert an UNLUBRICATED speculum (without jelly or water) into the vagina to permit visualization of the posterior vaginal fornix.
4. Using the sterile swab, obtain a sample from the posterior vaginal fornix. Twist or roll the swab against the vaginal wall two or three times, ensuring the entire circumference of the swab has touched the vaginal wall while removing the swab.
5. Immediately place the swab into the Sample Collection Tube (SCT).
6. With the swab touching the **BOTTOM** of the collection tube, grasp the pre-scored handle of the swab just above the top of the tube and bend until the swab breaks. When the swab is fully inserted into the collection tube, the score mark on the swab is approximately 1 cm above the top of the collection tube. Discard the broken handle into an infectious waste container.
7. Place the cap over the exposed end of the swab and firmly press the cap onto the tube. The cap will “snap” onto the tube when it is properly seated.

When using Starplex Starswab II:

See next page.

Using Starplex Starswab II:

In order to maximize the sensitivity of testing, it is recommended that an additional swab be collected when performing both the Bacterial Vaginosis test and cultures.

- 1.** Using the Starplex Starswab II, obtain a sample from the posterior vaginal fornix. Twist or roll the swab against the vaginal wall two or three times, ensuring the entire circumference of the swab has touched the vaginal wall while removing the swab.
- 2.** Insert swab into the Starswab II collection tube.
- 3.** Submit the swab to the laboratory for testing in an ACM Specimen bag.

Microbiology

Collection of specimens using **APTIMA® Collection kits for Chlamydia/GC Specimens**

Powderless Gloves

GEN-PROBE APTIMA® Collection kit

White Aptima Collection Tube for
cervical/urethral specimens

Yellow Aptima Collection tube for urines
received beyond 24 hours

Urine Collection cup for urines received
within 24 hours

Acceptable specimens for Chlamydia trachomatis (CT) include swabs from: endocervix, male urethra and male and female urine.

Acceptable specimens for Neisseria gonorrhoeae (GC) include swabs from: endocervix, male urethra and male and female urine.

The Aptima collection kits have not been FDA approved for use in populations <16 years of age or with sample types other than those indicated.

Do not use specimen collection kits beyond the expiration date. No other collection kit is acceptable.

- Wear powderless gloves
- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

Both *Chlamydia trachomatis* and *Neisseria gonorrhoeae* can be tested from the same tube. Proper specimen collection for Chlamydia detection is extremely important.

ENDOCERVICAL SPECIMENS:

Remove excess mucus from the cervical os and surrounding mucosa using the cleansing swab in the collection kit. Discard this swab.

Insert blue swab from the collection kit 1 to 1.5 cm into endocervical canal. Rotate swab for 30 seconds inside the endocervical canal to ensure adequate sampling.

Withdraw swab carefully, avoid any contact with vaginal mucosa. Remove cap from swab specimen transport tube and immediately place specimen swab into specimen transport tube. Snap off the shaft at the score line. Cap tube tightly.

MALE URETHRAL SPECIMENS:

The patient is not to urinate for at least one hour before collecting the sample. Insert specimen collection swab 2 to 4 cm into urethra. Gently rotate swab for 2 to 3 seconds in urethra to ensure adequate sampling. Remove swab carefully and place in specimen transport tube. Snap off the shaft at the score line and cap tightly.

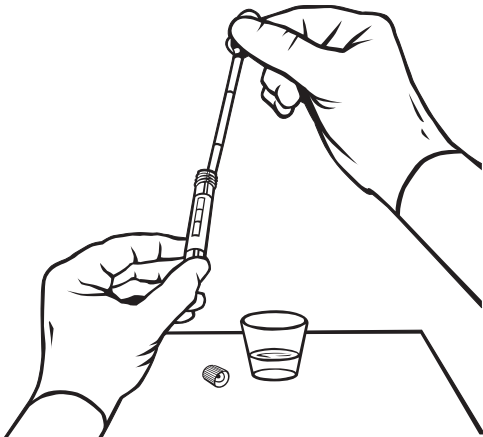
White Aptima Collection Tube



MALE AND FEMALE URINE SPECIMENS:

The patient should provide the first-catch urine (approximately 20 ml of the initial stream) into a urine collection cup. Collection of larger volumes may result in specimen dilution that may reduce test sensitivity. The urine cup should then be transported to the laboratory.

If a delay of 24 hrs is expected in specimen transport 2 ml of the urine can be transferred into the yellow-labeled transport tube using the GEN-PROBE APTIMA urine specimen transport tube and pipette provided in the collection kit. Remove the cap and fill the tube to a level between the black fill lines on the transport tube. The urine transport tube should then be transported to the laboratory.



Microbiology

Collection of specimens using Blood Culture Bottles

Gloves

For use with Blood Culture bottles:

Butterfly needle and tubing set,
with adapter

One Bactec® Standard Aerobic/F bottle
and one

Bactec® Standard Anaerobic/F
or

For small volumes:

One Bactec® Peds Plus

ACM specimen bag

Prep kit

Do not use bottles beyond the expiration date.

- Wear gloves
- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

If possible, obtain two blood cultures (from two separate venipuncture sites) before starting therapy.

An aerobic and anaerobic bottle is included in each blood culture set.

Use a new needle for repeat venipunctures.

It is very important to remove the collection bottles before removing the needle from the patient's arm.

Introduction of excess air into the blood culture bottles has unfavorable effects on the culture.

For a small volume (1-3 mL), pediatric or geriatric patient, use a Bactec® Peds Plus/F bottle. If only 8-10 mL can be obtained draw the Bactec® Peds Plus/F and Standard Anaerobic/F bottles. If a specimen cannot be obtained by venipuncture, do not use blood from catheters and other indwelling intra-vascular devices.

VENIPUNCTURE PROCEDURE FOR BLOOD CULTURE COLLECTION:

Choose the vein to be drawn by touching the skin before it has been disinfected.

Cleanse the skin over the venipuncture site in a circular motion approximately 1-1/2 inch in diameter with an alcohol prep, rubbing vigorously. **Starting in the center**, wipe an iodine prep pad in ever-widening circles until the entire circle has been covered with iodine. Allow the iodine to remain on the skin for at least 1 minute.

The timing is critical - use a watch or timer. *Note:* For patients with hypersensitivity to iodine - use 2 additional applications of alcohol preps instead of iodine. If the venipuncture site needs to be palpated after disinfection, the phlebotomist must disinfect as described in the previous paragraph.

Bactec Bottles



PROCEDURE FOR USING BLOOD CULTURE BOTTLES:

Check bottle and culture medium, discard bottle into infectious waste if the broth is cloudy or if septum is bulging. Some of the bottles contain white and red granules, this is normal. Prepare a set of Bactec® blood culture bottles, one Bactec® Standard Aerobic/F (gray stripe on label) bottle and one Bactec® Standard Anaerobic/F bottle (yellow stripe on label) for specimen collection. If you anticipate drawing a small volume (1-3 mL), use the Bactec® Peds Plus/F (pink stripe on label):

A. Mark the bottle label at the desired fill level using the label scale as a guide.

1. When collecting the aerobic bottle the mark should be placed approximately 2 graduations above the fluid level for an 8-10 mL draw.
2. The mark on the anaerobic bottle should be approximately 1 graduation above the fluid level for a 5-7 mL draw.
3. The mark on the pediatric/geriatric bottle should be approximately 1/2 a graduation above the fluid level for a 1-3 mL draw.

B. Using an alcohol prep wipe the rubber septum of the specimen collection vials. DO NOT use iodine or acetone on the septa of the Bactec® blood culture bottles. Perform venipuncture using a butterfly needle and tubing set with adapter. Insert the needle into the vein to withdraw blood. Draw the Bactec® anaerobic bottle first, followed by the aerobic bottle. Press adapter down over top of Bactec® blood culture bottle. Check to make sure flow begins. Monitor collection process closely to make sure the proper volume of blood is obtained.

Once the fluid level reaches the mark on the bottle label remove the bottle from the adapter. Begin specimen collection of the second Bactec® bottle as required. Other blood collection vials may then be filled if needed. Remove the needle and tourniquet. Using slight pressure, hold a gauze over the site until the bleeding has stopped. When the bleeding has stopped, wipe with an alcohol prep to remove the iodine, and bandage. Gently invert the bottles to mix.

Microbiology

Collection of specimens for **Bordetella Pertussis** **Nasopharyngeal Culture**

Gloves

1 nasopharyngeal/urethral swabs

BBL™ Cultureswab™ Plus with charcoal
(Collection & Transport System)

ACM specimen bag

Do not use media beyond the expiration date.

- Wear gloves
- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

The flexible wire shaft on the swab is gently inserted through the nose to the posterior nasopharynx. Stay near the septum and floor of the nose.

Rotate the swab. It should remain in this position for several seconds. The withdrawal should be slow to minimize irritation.

Put one swab in BBL™ Cultureswab™ Plus.

BBL™ Cultureswab™ Plus



Microbiology

Collection of specimens for **Clean Catch Urine**

Gloves

Urine Collection Kit

Urine Transfer Straw Kit

Sterile Cup

ACM specimen bag

Urine Collection Kit



Do not use kits beyond the expiration date.

- Wear gloves
- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

HAVE PATIENT:

Wash hands. Remove cap from specimen cup and open both packages of wipes.

FEMALE COLLECTION:

With two fingers of one hand, hold the outer labial folds open during the rest of the collection procedure. With the other hand, gently wash the vaginal area from front to back, using one of the antiseptic towelettes. Discard the pad in the wastebasket -- do not throw it into the toilet.

Using one of the wipes from the packages, wipe the vaginal area only, wiping front to back. Discard wipe in the wastebasket. Repeat with the other wipe.

Begin to urinate into the toilet while holding the outer labia folds away from the urethral opening. The patient should lean slightly forward so that the urine flows directly down without running along the skin.

At first, void a small amount of urine into the toilet and then the midstream into the specimen container. Fingers are not to touch the rim of the container or the inside of the lid. Finish voiding into the toilet.

Tighten the cap on the container securely and wipe any spilled urine from the outside of the container. *Wash hands.*

MALE COLLECTION:

Completely retract the foreskin and wipe the end of the penis with the two wipes provided with the kit. Discard the wipes in the wastebasket.

Do not throw them into the toilet.

While still retracting the foreskin, start to urinate directly into the toilet. Stop, position the container and collect the midstream urine sample. Fingers are not to touch the rim of

the container or the inside of the lid. Do not touch the container to the genital area. Do not fill specimen cup to the top.

Finish voiding into the toilet.

Tighten the cap on the container securely and wipe any spilled urine from the outside of the container.

Wash hands.

CLIENT or TECHNICIAN:

Urine Collection Kit for Midstream Specimens:

Wear gloves. Remove yellow sticker from the lid. Push the transport tube onto the needle in the lid and fill the tube to the fill line. If there is not enough sample to aspirate, open the lid and pour the urine into the transport tube.

Shake the tube to mix.

Discard the lid in a sharps container.

Urine Transfer Straw Kit for Midstream Specimens:

Wear gloves. Submerge the tip of the transfer device to the bottom of the urine container. Place the transport tube in the holder portion of the transfer device.

Push the transport tube all the way into the holder and hold this position until the urine stops flowing into the tube. If there is not enough sample to aspirate, open the tube and pour the urine into the transport tube.

Remove the tube from the transfer device and set aside. Lift the device, allow urine to drain out of the tip. Discard the device into a sharps container.

Shake tube vigorously to mix.

Sterile Urine Cup

The sterile urine cup is also an acceptable container for collection and transfer of urine specimens provided that there is a daily pickup by ACM couriers for transport to ACM Medical Laboratory. To view Urine Collection options online, please go to www.acmlab.com/referencemanual.

Urine Transfer Straw Kit



Sterile Urine Cup



Microbiology

Collection of specimens for FedEx Shipping

Yellow Screw Top Boritex Tube

Urine Collection Kit

ACM specimen bag

Boritex Tube



Do not use tubes beyond the expiration date.

- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

Boritex Tube - Urinalysis and Urine Culture. The sample is viable for testing 72 hours after time of collection.

Urine Collection Kit with Marble top tube - Urine Culture and Urinalysis collection. The yellow/red marbke top tube urinalysis tube included in the urine collection kit is viable for testing 72 hours from collection. The grey top tube is for urine culture and is viable for 48 hours from the time of collection.

Urine Collection Kit with Marble top tube



Microbiology

Collection of specimens using a Culture Swab Transport System

Gloves
Sterile specimen cup
or
Cultureswab™ Transport System
Tongue depressor (throat culture)
ACM specimen bag

Use this collection technique for the following tests:

CULTURE, EAR or EYE
CULTURE, FUNGAL GENITAL
CULTURE, FUNGAL, Miscellaneous Source
CULTURE, ORSA (MRSA)
CULTURE GROUP B STREP SCREEN
CULTURE, THROAT
CULTURE, VAGINAL/CERVICAL
CULTURE, WOUND
CULTURE, VRE

Culture Swab™ Transport System



- Wear gloves
- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

Culture Swab Transport System:

In order to maximize the sensitivity of testing, it is recommended that an additional swab be collected when performing multiple cultures. A second swab is required when performing both a culture and gram stain.

Open wrapping from the top corner, "Peel Apart To Open".
Discard wrapping.

Remove the top from the tube containing the sponge and discard the top in the wastebasket. Leave the tube in the package to prevent contamination.

While holding only the top of the swab, remove swab from the package. Collect the specimen on the tip of the swab, being careful not to touch adjacent areas.

Push the swab into the transport tube containing the sponge, being careful not to touch the paper or outside of the tube. Push down firmly until seated.

THROAT SPECIMEN COLLECTION for Throat Culture or Fungal Culture:

1. Have patient open his/her mouth.
2. Inflamed, purulent or ulcerated areas of the throat are target areas.
3. Remove the swab from the kit. Be sure the swab doesn't touch the outside of the kit.
4. Have patient stick out his/her tongue. Hold down the tongue with a tongue depressor. This keeps the tongue from touching the swab. If patient starts to gag, remove the tongue depressor and tell the patient to breathe deeply.

After the patient has relaxed, try again without placing the tongue depressor as far back in the throat.

5. Have the patient say "Ahh". This elevates the uvula and allows better access to the throat.

6. Insert the swab into the mouth. Using a circular motion, firmly and quickly swab the infected area and then remove the swab. Do not touch the tongue, teeth, lips, or cheek.

7. Place the swab in the transport tube. Avoid touching the outside of the tube with the swab. Remove gloves and wash your hands.

FOR URETHRAL COLLECTION Culture:

Collect the discharge on the tip of the swab, being careful not to touch skin adjacent to the urethral opening.

Microbiology

Collection of specimens using GC Media

Gloves

Sterile swab

GC media with CO₂ generating tablet
and plastic transport bag

ACM specimen bag

Bring GC media to room temperature before use.

Do not use GC Media if the media is cracked, dried out or beyond the expiration date.

- Wear gloves
- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

GC Media is used for the isolation of *Neisseria gonorrhoeae* from eye, rectal, pharyngeal, and genital sites.

CULTURE GC SCREEN:

1-Using sterile swab, collect specimen and spread over surface of the medium.

2-Open the CO₂-generating tablet packet and place tablet in the small well in the side of the plate. Place plate in plastic transport bag for transport to the laboratory.

GC Media (Jembec)



Microbiology

Collection of specimens for **Virus & Chlamydia Culture**

Gloves

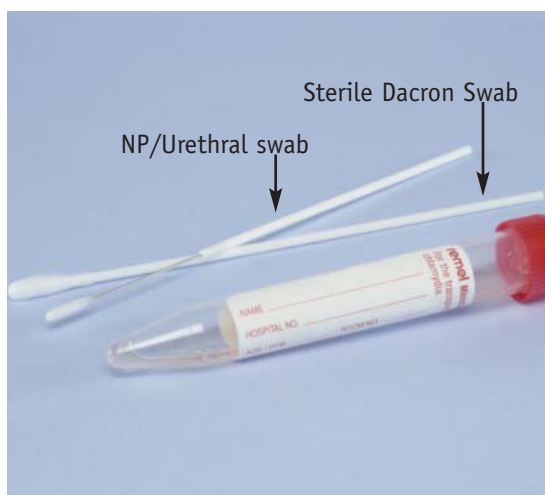
Viral Chlamydia Transport VCT kit

Sterile Dacron® swab or

Nasopharyngeal NP/urethral swab

ACM specimen bag

Viral Chlamydia Transport kit



Do not use media beyond the expiration date.

- Wear gloves
- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

This specimen collection can only be used for Virus & Chlamydia culture. Do not use for any other testing.

CULTURE, VIRUS:

Collect all specimens for viral cultures, except fluids, in VCT transport media. This media allows a virus to remain viable until cell culture can be performed in the laboratory. To obtain the specimen follow the instructions for collection using Cultureswab Transport system. (Page 3.10)

CULTURE CHLAMYDIA:

Proper specimen collection for Chlamydia culture is extremely important.

Do not use wooden shaft swab (turpentine in the wood may be toxic to Chlamydia).

Do not use cotton or calcium alginate swabs. They show considerable variation in toxicity to chlamydia or to the cells which support chlamydial growth.

Immerse Dacron® swab in VCT transport media immediately after collection. Break-off (or cut) the excess shaft of the swab so that the cap will fit tightly.

CERVICAL SPECIMENS:

Using a sterile Dacron® swab, remove excess mucus from the cervical os by wiping the exocervix. Dispose of the cleaning swab.

Insert collection Dacron® swab into endocervical canal until most of tip is not visible. Rotate swab for 5-10 seconds inside the endocervical canal, using sufficient pressure to ensure adequate sampling.

Withdraw swab without touching any vaginal surfaces.

Place specimen swab into transport media.

Urethral specimens:

The patient is not to urinate for at least one hour before collecting the sample

Insert urethral swab 2 to 4 cm into urethra.

Rotate swab gently using sufficient pressure to ensure the swab comes into contact with all urethral surfaces, and withdraw. Place specimen swab into transport media.

OTHER SPECIMENS:

Eye (Conjunctiva):

Remove the discharge from the eye then, gently swab the lower conjunctiva with a sterile Dacron® swab or smaller NP/urethral swab.

Throat:

Swab the posterior pharynx vigorously, using a sterile Dacron® swab.

Place specimen swab into transport media.

Nasopharyngeal/Nose:

Insert a sterile NP/urethral swab gently into one or both anterior nares to the posterior pharynx, rotate to collect mucous membrane cells, and withdraw.

Microbiology

Collection of specimens using Port-A-Cul Transport Systems for Anaerobic Culture

Gloves

For swabs:

Port-A-Cul® Transport Tube Sterile

Swab

For aspirated fluids:

Port-A-Cul® Transport Vial

ACM specimen bag

For tissue/biopsy specimens:

Port-A-Cul® Transport Jar

Port-A-Cul® Transport Vial (For fluids)

Port-A-Cul® Transport Tube (For swabs)



Do not use Port-A-Cul® if the gel is purple, cracked, dried out or beyond the expiration date.

- Wear gloves
- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

This system should be used for recovery of anaerobes from deep wounds, tissues and fluids. Do not use for aerobic cultures, fungal cultures or Acid-fast cultures.

The following sites are not acceptable for collection of specimens for anaerobic culture:

- upper respiratory tract
(including throat, nose, and nasopharynx)
- sputum and bronchoscopic specimens
- feces and rectal swabs
- voided or catheterized urines
- specimens from sites contaminated with
intestinal contents
- vaginal swabs

FOR FLUIDS:

Remove the green cap, wipe the gray rubber center with an alcohol prep and allow to dry. Inject the fluid aspirate into the Port-A-Cul® vial.

For specimens collected with sterile swabs:
put swab into a Port-A-Cul® tube and immediately cap tightly.

FOR TISSUE/BIOPSY SPECIMENS:

Carefully loosen screw cap and quickly insert the specimen into the Port-A-Cul® Transport jar to within approximately 5mm from the bottom of the medium. Quickly replace and tighten the cap.

Microbiology

Collection of specimens for **Pinworm Examination**

Gloves

Clear cellulose tape, not opaque

Tongue depressor

Glass microscope slide

Cardboard slide holder

or

Pinworm Paddle

ACM specimen bag

Pinworm Paddle



- Wear gloves
- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

Eggs are not normally found in fecal material. The adult female migrates out the anal opening and deposits the eggs on the perianal skin, usually during the night.

Preparations should be taken for at least 4-6 consecutive days with negative results before a patient is considered free of the infection.

The specimen is collected from the skin of the perianal area first thing in the morning, before the patient has bathed or used the toilet.

Using a pencil, label the frosted end of the slide with the patient's name.

Loop a 4 inch piece of adhesive tape over the end of the tongue depressor (adhesive side out). Press the tape firmly several times against the right and left perianal fold, using only one side of the tongue depressor. Place the area of the tape that contains the specimen on the center of the glass slide. Remove the tape from the tongue depressor and smooth the tape on the slide, adhesive side down. Tear the tape even with the end of the slide.

Put the slide in a cardboard slide holder. Record patient information and specimen source on the slide holder and tape closed.

PINWORM PADDLE COLLECTION:

Hold the pinworm paddle by the cap and remove it from the tube. Separate the buttocks and press the tacky surface against several areas of the perianal region. Replace the paddle in the tube for transport to the laboratory.

- Specifically request that specimen is for pinworm examination.
- Routine O&P should NOT be requested.
- Stool specimens should NOT be sent since eggs are not normally found in fecal material.

Microbiology

Collection of specimens for **Sputum Culture**

Sterile specimen cup
ACM specimen bag

The best time to collect a sputum specimen is the first thing in the morning upon awakening.

- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

The specimen must reach the main laboratory on the day of collection.

Collect specimen before antimicrobial treatment.

Rinse mouth or gargle with water. This helps to eliminate the possibility of the sputum being composed entirely of saliva or containing food particles. Do not use mouthwash or lozenges before sputum collection. Remove dentures.

Breathe deeply and exhale with an explosive cough. Collect specimen in a sterile, screw-capped container. Submit a deep cough specimen, not saliva or nasal mucous. Sputum is thick, mucoid, and usually off-white in color. Saliva is frequently colorless and watery. Specimens obtained from the posterior pharynx or nasopharynx are not reliable aids for diagnosing pneumonia.

Sterile specimen cup



Microbiology

Collection of **Stool for Bacterial Culture**

Carey Blair Culture&Sensitivity Para-Pak® or Container with a secure lid
ACM specimen bag

Do not use antacids, barium, bismuth, antidiarrheal medication or oily laxatives before collecting the specimen.

Do not contaminate the specimen with urine.

Do not pass the specimen into a toilet.

Do not use toilet paper to collect stool. Toilet paper may contain chemicals which interfere with the test.

- Wear gloves
- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

Pass the stool into a specimen cup: Use a bed pan or place a large plastic bag into a waste basket to catch the specimen. A clean margarine tub, clean jar or a clean milk carton with the top cut off can also be used.

Transfer the specimen to a sterile cup with a secure lid.

If the specimen does not reach the laboratory within 1 hour, use a transport medium (see Stool Culture Transport instructions on the following page).

RECTAL COLLECTION for GI Pathogens.

Culture, Rectal:

Remove the swab from the kit. Be sure the swab doesn't touch the outside of the kit.

Insert the swab into the anus approximately 1 inch beyond the anal sphincter.

Carefully rotate the swab and withdraw.

Place the swab in the transport tube. Avoid touching the outside of the tube with the swab. Remove gloves and wash your hands.

Carey Blair Culture&Sensitivity Para-Pak®



Microbiology

Collection of Stool for **Ova and Parasite Examination**

Gloves

Ecofix Ova&Parasite Para-Pak®

ACM specimen bag

Para-pak® Stool Transport system: for parasitology specimens only

Ecofix Ova&Parasite Para-Pak®



Do not use Para-Pak® kits beyond the expiration date.

Read kit label for proper use. For O&P exam, use kit for parasitology specimens.

Do not urinate on the specimen or in the clean collection container.

Do not urinate in the Para-Pak® tubes.

Do not pass the specimen directly into the tube.

Do not pass the specimen into a toilet.

- Wear gloves
- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

Solutions are poisonous, do not drink. Keep out of the reach of children.

For routine examination for parasites before treatment, a minimum of three fecal specimens is recommended. Collect specimen on alternate days for a 10-day period.

Perform specimen collection before radiological studies involving barium sulfate. Delay collection for one week after treatment is stopped.

Medications containing mineral oil, bismuth antidiarrheal preparations, antimalarials, and some antibiotics (i.e. tetracycline) may affect the test result.

Pass the stool into a clean, dry container. Use a bed pan or place a large plastic bag into a waste basket to catch the specimen. A clean margarine tub, clean jar or a clean milk carton with the top cut off can also be used.

Open the tube containing O&P preservative. Using the collection spoon built into the lid of the tube, place small scoops of stool from areas which appear bloody, slimy, or watery into the tube until the contents rise to the red line. If the stool is formed (hard), sample small amounts from each end and the middle equal to the size of a walnut.

Do not fill the container.

Mix the contents of the tube with the spoon, then twist the cap tightly closed and shake the tube vigorously until the contents are well mixed.

Repeat these same instructions for the second tube.

Check all caps to be certain they are tightly closed. Mark the labels on the tubes with patient name and the identification information requested. Also check the box on the label which looks most like the specimen when collected.

PINWORM EXAMINATION:

See separate procedure.

Intact Parasites Examination:

Submit intact parasites (insects or worms) in 70% alcohol.

Microbiology

Collection of specimens for **Trichomonas Culture**

Gloves

InPouch™ TV

Sterile swab

ACM specimen bag

- Wear gloves
- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

1. To avoid fluid leakage, carefully squeeze the fluid from the top of the InPouch™ downward toward the bottom of the top chamber. Tear off the plastic above the white closure.

2a. For Urogenital Swab:

Open the InPouch™ by pulling the closure tape's middle tabs apart. Place the swab into the fluid in the top portion and milk the swab between the InPouch™ walls.

Remove the swab and discard.

2b. For Urine (Males Only):

Spin 15 mL urine for 5 minutes at 500 rpm. Open the InPouch™ by pulling the closure tape's middle tabs apart. Transfer the pellet to the upper portion of the InPouch™ TV.

3. Squeeze all fluid from the top chamber down into the bottom chamber. Close the top and roll the upper chamber down to the stricture. Fold the tabs over to prevent the InPouch™ from re-opening.

4. Fill in patient information and place patient label over the blue BioMed label – Do Not obstruct the viewing area of the lower chamber. DO NOT REFRIGERATE!

5. In the space provided for "Additional tests", mark requisition as "Trichomonas Culture" and transport to lab at room temperature.

InPouch™ TV



Microbiology

Collection of specimens using Yellow Top Vacutainer® Tubes

Gloves

Needle holder

Blood collection needle

Two 8 mL Vacutainer® yellow top tubes labeled SPS

or

Four 3 mL Vacutainer® yellow top tubes labeled SPS in Sodium Chloride

ACM specimen bag

Yellow Top Tube SPS in Sodium Chloride
8.3 mL
3.32 mL Pediatric



Do not use tubes beyond the expiration date.

If possible, obtain two blood cultures (from two separate venipuncture sites) before starting therapy.

An aerobic and anaerobic bottle is included in each blood culture set.

Use a new needle for repeat venipunctures.

It is very important to remove the collection tubes before removing the needle from the patient's arm. Introduction of air into the blood culture tubes has unfavorable effects on the culture.

For a small volume, draw two 3.32 mL yellow-top tubes for an aerobic bottle only.

If a specimen cannot be obtained by venipuncture, do not use blood from catheters and other indwelling intravascular devices.

- Label specimen with patient name and specimen source
- Complete ACM test requisition
- Enclose in an ACM specimen bag

PROCEDURE FOR USING VACUTAINER® YELLOW TOP TUBES (FOR BLOOD CULTURES)

Wipe the stopper of the yellow top tubes with an iodine prep pad and allow to dry.

Perform the venipuncture. The tubes are to be completely filled. Fill both tubes from the single venipuncture. Remove last tube from needle holder before removing needle from venipuncture site.

Invert several times to assure adequate mixing of the anticoagulant (SPS).

After collection, iodine should be removed with alcohol, because many patients are sensitive to iodine.

The preferred specimen for blood culture collection is the Bactec bottle. See *Collection of specimens using Blood Culture Bottles*.