Status Active PolicyStat ID 17550741

UM Shore Regional Health

Origination	02/2024
Last Approved	02/2025
Effective	02/2025
Last Revised	02/2025
Next Review	02/2027
Owner	Juliana Hospodor: Laboratory Director
Area	Lab-General
Applicability	UM Shore Regional Health

UM Shore Regional Health Laboratories Laboratory Directory

UM Shore Medical Center at Chestertown Clinical Laboratory Phone: 667-343-3063 Fax: 410-778-7651	***UM Shore Medical Center at Cambridge*** Clinical Laboratory Phone: 443-225-7508 Fax: 443-225-7608
UM Shore Medical Center at Easton Clinical Laboratory Phone: 667-343-5510 Fax: 410-820-8564	***UM Shore Medical Center at Easton*** Anatomic Pathology Phone: 667-343-5530 Fax: 410-778-7651
UM Shore Emergency Center at Queenstown Clinical Laboratory Phone: 667-343-7539 Fax: 410-827-7463	

Listing of Laboratory Outpatient Collection sites:
https://www.umms.org/shore/health-services/laboratory/locations

Client Services - Easton
667-343-5511; 667-343-5910; 667-343-5911

WELCOME

Greetings from UM Shore Regional Health laboratories! Here at UM SRH Laboratories, our technologists, office staff, administrators, and pathologists are proud to have developed a local laboratory that provides clinical services to hundreds of Delmarva's doctors and nurse practitioners, and many insurance plans.

But we're not resting on our laurels. We know that our laboratory has to offer you the highest quality results at the lowest cost to compete effectively with the national laboratories that have been moving onto the Eastern Shore and we want to continue to offer you that special quality of service and sense of confidence that only a neighbor can provide

I know that any of our highly trained and motivated staff would be glad to assist you in any way they can. I

hope that you will also feel free to call on me personally, with any question or problem you may have. It's no more than any neighbor should do.

Sincerely,
Eric Li, MD
Medical Director
667-373-5708
Eric.Li@umm.edu

PERSONNEL

Our consultants are available for consultations Monday through Friday for UM Shore Health Laboratories' clients by calling 667-343-5530 or 800-666-3222.

Laboratory Administration

Eric Li, MD Medical Director - Easton/Cambridge/Chestertown 667-373-5708 or by TigerConnect Eric.Li@umm.edu Magali Fontaine, MD Medical Director, Queenstown MFontaine@som.umaryland.edu or by TigerConnect	
Juliana Hospodor, MBA, BS, MT(HHS) Director of Laboratory Services 667-343-5516	Margaret Pulleyn, BS, MT(ASCP) Laboratory Manager 667-373-5531
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UM Shore Medical Center at Easton	
Marquitta Adams-Miles Supervisor, Support Services 667-343-5519	Lesley Ashley, BS, MT(ASCP) Supervisor, Chemistry, Molecular & Microbiology, Reference Lab Services 667-343-5879
Tim Knotts, MLT(ASCP) Supervisor, Hematology, Coagulation, Blood Bank, Urinalysis, Immunology 667-343-5529	Haley Powers, BS, CLS (ASCP) Supervisor, Point-of-Care & Quality Assurance 667-343-5246

POLICIES

Animal Specimens

We do not accept animal specimens for laboratory testing.

Billing

Patient — If you elect to have UM Shore Health Laboratories bill your patients, please include the following necessary billing information: patient birth date, sex, social security number, responsible party, complete address (including zip code), and home phone number. Providing this information will avoid additional correspondence to your office at a later date.

Insurance/Third Party — we provide direct third-party billing to many carriers. Be sure to fill in the appropriate insurance information on the requisition required by that third-party payor. A face sheet and a copy of the insurance card may also be attached to the lab requisition form.

The patient's birth date, sex, address, and diagnosis are **required** in addition to the insurance information.

To ensure prompt and correct 3rd party billing please provide the following information:

1. Patient's full name as it appears on the insurance card (no nicknames please)
2. Patient address
3. Patient phone number
4. Patient insurance ID and group number
5. Patient employer
6. Guarantor information where necessary (as above)
7. ICD-10 codes appropriate to the tests ordered

Quest Diagnostics – UM SRH will collect specimens for Quest Diagnostics for insurances that must be sent to them. We will send the specimen and requisition to the lab for processing.

Specimen Labeling

ALL specimens must be labeled with patient's FULL NAME and secondary ID, which may include the requisition number, date of birth, or Medical Record number. Nicknames are NOT acceptable. Unlabeled specimens will not be tested.

Supplies

Supplies needed to collect specimens for laboratory testing; e.g. specimen tubes, special specimen collection containers and kits, sterile vials, stool containers, and request forms are provided without charge upon request. Other specimen containers are provided by the referring laboratory. See p. 27, for a complete listing of supplies available.

Test Cancelation by Lab

The provider will be notified of any test that must be cancelled due to specimen rejection, improper collection, degradation in transit, specimen age and other factors and a request will be made to submit a new sample. A written report will be sent with the reason for cancellation.

Providers will be notified of problem specimens as soon as possible after the problem is identified. To avoid test cancellation, please check the following before sending samples for analysis.

To avoid delays and cancellations please check to see if the following are correct.

- Patient information
- Is the requisition form complete?
- Is the billing information correct and complete?
- Has any additional information been provided?

Please check the specimens as well.

- Properly labeled with the patient name and a 2nd identified (date of birth or other unique identifier)
- Collected in the right container e.g. metal-free, separation gel, sterile, etc. Please see online test catalog for more information
- Is the specimen type correct e.g. plasma, serum, whole blood, etc.
- Of sufficient volume for the test?
- Visibly hemolyzed after centrifugation; it would be best to recollect
- Stored at the correct temperature? (ambient, refrigerated, frozen)

Test Cancellation by Provider

Tests may be cancelled up to the point of test setup at no charge. Requests received following test setup cannot be honored. A report will be issued automatically and charged appropriately.

On-line Test Directory

The one-line test directory is available at: https://www.testmenu.com/UMSRH

The on-line test directory lists our available tests, EPIC order number & collection information. The online directory also includes lab locations, Billing and Coding information, Patient instructions and other useful links.

Specimen Transportation

Courier Service

MedSpeed, the laboratory's contracted courier service transport specimens from provider offices and other locations to the laboratory. Couriers are supplied with appropriate containers to transport room temperature, refrigerated, and frozen specimens. If you have frozen specimens, please notify the courier to prevent thawing.

It is important to pay particular attention to adequate packaging and handling to ensure constituent stability for the required tests. Of critical importance are transport conditions that are too hot (summer) or too cold (winter).

NOTE: Our couriers make every effort to pick up samples in all weather conditions. However, should the State of Maryland close the roads our couriers will not continue on their routes. If the roads become too dangerous, the couriers may not be able to finish their routes. We will attend to notify clients should this occur.

Exposure to Light

It is important to avoid exposing blood specimens for photosensitive analytes to artificial light or sunlight for any length of time. Examples: Vitamins A and B6, beta-carotene, porphyrins, vitamin Ds, or vitamin B12. Wrap these specimens in aluminum foil wrap or equivalent to preserve the sample.

Frozen Specimens

Place specimen in plastic vials (not glass). Send each frozen vial not more than three-fourths full to allow for expansion when frozen. Store in freezer or on dry ice until picked up by courier. Label each vial with the patient's name, date of birth, and type of specimen (EDTA plasma, serum, urine, etc.).

Refrigerated Specimens

Place specimen in the refrigerator for storage prior to courier pickup. When packing these specimens, place specimen (culture, tube, or urine cup) into zip-lock portion of bag and the requisition form in the outer pouch. Place coolant in transport bag (box) along with any specimens in a way so that there is not direct contact of the specimens with the coolant. You may use some paper to separate the two.

NOTE: OSHA requires that all shipments containing clinical specimens be marked with a Biohazard Label. Bags and labels for shipments sent to UM SRH Laboratories will be provided.

SPECIMEN COLLECTION AND PREPARATION

Laboratory test results are dependent on the quality of the specimen submitted. It is important that all specimens and request slips be properly labeled with the name of the patient, collection date, and the origin (source) of the sample, when applicable. Each container submitted must be tightly sealed with no external spillage.

If there is any doubt or question regarding the type of specimen that should be collected, it is imperative that our Client Services be called to clarify the order and sample requirements.

To help ensure patient identification, every Shore Health Laboratories' request slip has pre-numbered specimen labels that provide unique patient identification.

Blood Collection

Most laboratory tests are performed on anticoagulated plasma, serum, or whole blood. In general, specimens should be refrigerated until placed in the courier box for transport to the laboratory. Please see the test directory for specific requirements.

- ***Plasma:*** Draw a sufficient amount of blood with the indicated anticoagulant to yield the necessary plasma volume. Gently mix the blood collection tube by inverting six to ten times immediately after collection. If required, separate plasma from cells by centrifugation within 20-30 minutes.
- ***Serum:*** Draw a sufficient amount of blood to yield the necessary serum volume. Invert tube 5 to 10 times to activate clotting. Allow blood to clot at room temperature for 30 minutes. Separate serum from clot by centrifugation for 10 minutes. Caution: avoid hemolysis
- ***Whole Blood:*** Draw a sufficient amount of blood with the indicated anticoagulant. Gently mix the blood collection tube by inverting 6 to 10 times immediately after collection. Caution: Do **not** centrifuge and separate tubes intended for whole blood analysis.

Centrifugation

Centrifugation should be performed at 1,000-1,300 G for 10 minutes. Tubes of plasma, blood, and serum are to be kept closed at all times. This prevents possible exogenous contamination, evaporation, concentration changes, or possible spillage and aerosols.

Fasting Specimens

An overnight fast is required for most fasting specimens. Some tests, however, particularly for lipids, triglycerides, and lipoproteins, require further dietary restriction. For these tests, nothing should be eaten for 14 hours prior to specimen collection. The evening before the specimen is drawn, the meal should contain no fatty foods or alcohol, and the meal should be completed before 6 p.m.

Heavy Metals Collection

Avoid iodine-containing disinfectants and always cleanse arm with alcohol swab. Use only stainless steel phlebotomy needles. Use only BD Vacutainer® (or similar) trace element blood collection: royal-blue tube with red stripe with EDTA additive. When multiple blood samples are to be collected from one patient, the trace metal specimens should be collected first. Once the needle has punctured another stopper, it is contaminated and should not be used for trace metal specimen collection.

Microbiological Collection Containers

The following is a list of microbiological collection containers referred to in Shore Health Laboratories' specimen requirements:

Anaerobic Transport Pack: Used for most anaerobic cultures. The jar contains a gel media. Do not push the specimen into the gel. Lay it on top. Aerobic cultures may be processed from this culture if required.

Blood Collection Bottles: Traditional blood culture collection is two bottles; the blue bottle is for aerobic organisms and contains a neutralizing agent for antibiotics, the purple bottle is for anaerobic organisms. The pink bottle (not part of a set) is for pediatric collection and contains a neutralizing agent for antibiotics.

Chlamydia trachomatis and/or Neisseria Gonorrhoeae (CT/NG)

Source/Site	Collection Kit	Testing Location	Note
Vaginal	GeneXpert kit	Easton	
Endocervical	GeneXpert kit	Easton	
Throat	Pink Aptima swab	ARUP	Aptima MultiTest collection kit
Rectal	Pink Aptima swab	ARUP	Aptima MultiTest collection kit
Cervical (surface)	Blue Aptima swab	ARUP	Aptima MultiTest collection kit
Eye	Blue Aptima swab	ARUP	Aptima MultiTest collection kit
Male urethral	Blue Aptima swab	ARUP	Aptima MultiTest collection kit
Urine	Sterile container	Easton	Initial stream – NOT midstream

Clean-Catch Urine Collection Kit: This is used for collection of urine for culture. The kit contains everything necessary to collect a urine specimen for culture and may include a sterile specimen container, a container lip protector, a screw cap and protector, three castile soap towelettes, and a patient label and instructions. At

a minimum, a sterile container and wipes must be used when collecting a urine specimen for culture.

E-Swab: collection container used for most aerobic culture. Not to be used for anaerobic cultures.

Para-Pak® C&S Kit (Stool for GI Pathogen Panel): Para-Pak® vial contains modified Cary-Blair transport medium to insure survival of bacterial pathogens and prevent over-growth of commensal organisms.

Para-Pak® PVA/Formalin (Stool for Ova & Parasites): The Para-Pak® kit consists of one vial containing Formalin fixative and one vial of PVA fixative, to preserve stool for ova and parasites examination or Giardia and Cryptosporidium Antigen assays.

Pinworm Collection Paddle: Collect perianal material on the paddle and place in the supplied tube.

Sterile Collection Container: This is a sterile container used for the collection and transport of a variety of specimens for culture including (but not limited to) sputum, urine, stool, body fluids, tissue, bone.

Viral Transport Media:
Store *media at* the temperature specified on the packaging before inoculation. Collect the specimen using sterile **non-wooden shafted swab.** Store refrigerated after inoculation.

Blood Specimen Collection Tubes

Refer to individual test listing online for the proper tube.

Green-Top Tube (Sodium Heparin): This tube contains sodium heparin -used for the collection of heparinized plasma or whole blood for special tests.

Grey-Top Tube (Potassium Oxalate/Sodium Fluoride): This tube contains potassium oxalate as an anticoagulant and sodium fluoride as a preservative -used to preserve glucose in whole blood and for some special chemistry tests.

Lavender-Top Tube (K2 EDTA): This tube contains K2 EDTA as an anticoagulant -used for most hematological procedures.

Light Green (Lithium Heparin Tube): This tube contains lithium heparin anticoagulant and plasma separator and is used for most standard chemistry tests.

Light Blue-Top Tube (Sodium Citrate): This tube contains sodium citrate as an anticoagulant -used for collection of blood for coagulation studies, such as prothrombin times. Na Citrate (3.2%) is preferred for accuracy of results. See Venipuncture Procedure Step 11 (below) for special instructions.

Pink-Top Tube (K2 EDTA): For Blood Bank specimens. This tube contains K2 EDTA as an anticoagulant. After filling with blood, immediately invert tube several times to prevent clotting.

Royal Blue-Top Tube: There are two types of royal blue-top tubes -one with the anticoagulant EDTA* and the other plain. These are used in the collection of whole blood or serum for trace element analysis.

Red-Top Tube: This tube is a plain Vacutainer® containing no anticoagulant -used for collection of serum for selected chemistry tests as well as clotted blood for immunohematology.

Serum Separator Tube (SST): This tube contains a clot activator and serum gel separator. Invert the tube to activate clotting. Let stand 20-20 minutes. Centrifuge according to procedure. If a frozen specimen is require, pour off into a plastic tube. Do not freeze Vacutainer® tubes.

Special Collection Tubes: Some tests require specific tubes for proper analysis. Please contact Shore Health Laboratories prior to patient draw to obtain the correct tubes for metal analysis or other tests as identified in the individual test listings.

White or Pearl - Top Tube: *PPT* (Plasma Preparation tube) contains Potassium EDTA as the anticoagulant. This tube is used for both HIV and Hepatitis C Viral Loads and phenotyping.

Yellow-Top Tube (ACD): This tube contains ACD Solution A or B—used for the collection of whole blood for special tests.

Venipuncture, Finger stick and Heel Stick Collection

Basic Instructions

1. Gloves are required for all blood collections
2. Two identifiers must be used to ensure correct identification before drawing.
3. All needles and syringes are to be kept in sterile packaging until ready to be used at patient bedside.
4. Whenever possible, tubes are to be filled completely to ensure adequate testing volume.
5. Choose the appropriate needle and holder prior to starting the venipuncture.

Venipuncture Procedure

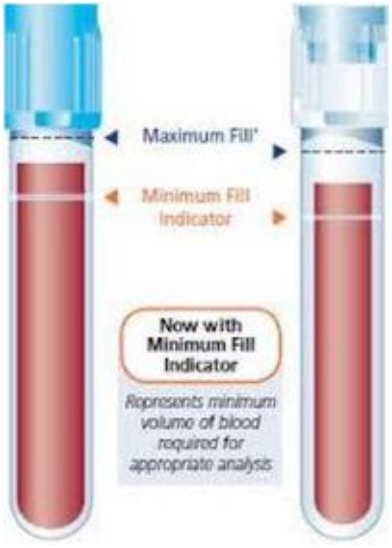
1. Select a vein site, the preferred site for venipuncture is the median antecubital vein followed by the cephalic and basilica veins.
2. Apply the tourniquet 3" to 4" above the venipuncture site. **Never** leave the tourniquet on for longer than 1 minute.
3. Ask the patient to make a fist, but do not pump hand.
4. Cleans the venipuncture site using alcohol.
5. Allow the alcohol to dry.
6. Do not touch the skin after alcohol has been applied
7. Grasp the patient's arm firmly, using your thumb to draw the skin taught below the intended site.
8. Enter the vein with the bevel of the needle at a 30° angle or less, slightly below the point at which the needles will enter the vein.
9. One had should hold the tube holder and the other hand should depress and remove the tubes as needed.
10. If more than one blood collection tube is required, the tubes should be drawn in the following order:

Order of Draw

Mix immediately after collection

Tube Closure Color	Collection Tube	Mix by Inverting	Min. Clot Time
	Blood Cultures – SPS	8 to 10 times	N/A
	Citrate Tube (Light Blue)	3 to 4 times	N/A
	Serum Separator Tubes (Gold and Tiger)	5 times	30 minutes
	Serum Tube (Red)	5 times (plastic) None (glass)	60 minutes
	Rapid Serum Tube (Orange)	5 to 6 times	5 minutes
	Plasma Separator Tube	8 to 10 times	N/A
	Heparin Tube (Green)	8 to 10 times	N/A
	EDTA Tube (Lavender)	8 to 10 times	N/A
	PPT Separator Tube (Pearl)	8 to 10 times	N/A
	Fluoride Tube (Gray)	8 to 10 times	N/A

11. Coagulation tubes (blue top) must be allowed to fill until the vacuum is exhausted and blood flow ceases. Tubes should fill between +/- 10% of the stated draw volume (see reference card). Do not over fill the tube. If filling from a syringe, do not force blood into the tube. Do not fill coagulation tubes from other tubes or combine two partially filled citrate tubes.

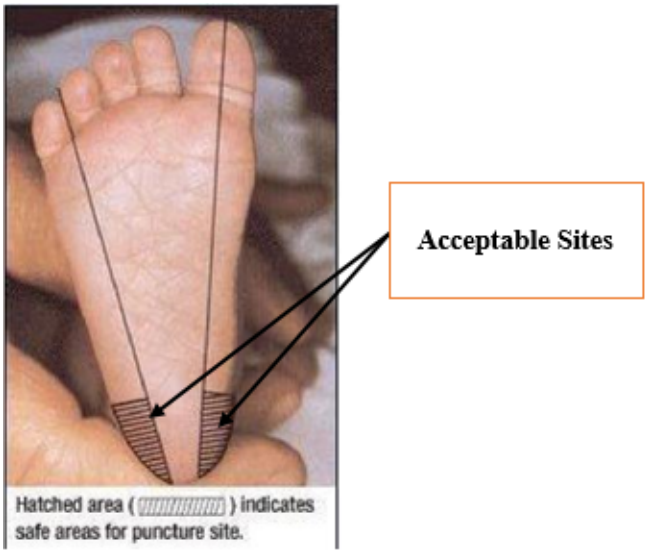


12. A discard tube (without additive) **MUST** be used if a citrate tube is to be drawn using a winged blood collection set (butterfly). It is important to remove the air from the blood collection set to insure the proper blood volume is obtained in the coagulation tube.

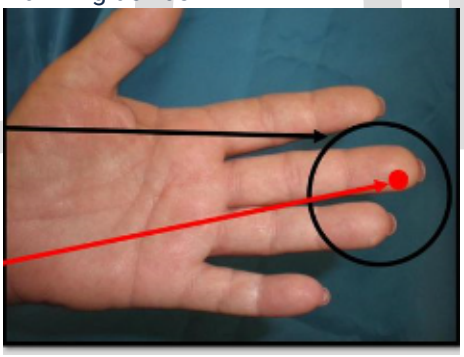
13. Blood collection tubes must be gently inverted 5-10 times to ensure thorough mixing, and activation of clotting substances.
    a. Collections with winged blood collection sets (butterflies) should be limited to pediatrics and difficult adult collections. Most adult draws in the antecubital area can be done with straight needles.
    b. When collecting with syringes, minimize the potential for needle stick or exposure, by using a transfer device.
14. Remove the tourniquet.
15. Fold a gauze over the needle and gently remove the needle from the arm
16. Activate cover the needle with the attached needle guard or activate the safety feature (butterflies)
17. Hold gauze firmly over the venipuncture site until the bleeding stops.
18. Place a bandage and apply pressure appropriate to the age and condition of the patient.
19. Use extreme care with patients on anticoagulant therapy or that are platelet deficient. These patients are prone to extended bleeding times, and may require manual pressure from the phlebotomist along with pressure bandage. Apply manual pressure until bleeding has stopped.
20. If the first phlebotomy attempt is unsuccessful, it is **imperative** that a fresh, sterile needle and blood collection tubes be used before performing the second puncture.
21. Please all used or contaminated needles, blades, and sharp objects in puncture-resistant biohazard containers. Do not recap, bend, break or remove needle from a disposable syringe before discarding.
22. Label the specimens, with the patient name and a second unique identifier, e.g. date of birth or medical record number, date and time of collection and initials of the collector. If using a label, do not obscure the portion of the tube that allows visualization of the contents. Place the label over the tube label.

Capillary Blood Collection Procedure

1. Skin punctures for obtaining specimens from an infant's heel should be collected only from the heel region as demonstrated on diagram below.
    a. All other areas may result in injury to nerves, tendons, and cartilage and offers no advantage over puncturing the heel.
    b. The puncture should not be thru a previous puncture site, which may be infected, nor should it be at the curvature of the heel.
    c. If the patient's heel is cold, a warming device may be used.



2. For adults and children over 12 months a finger stick may be used.
    a. The best locations are the 3rd & 4th fingers of the non-dominant hand. Avoid the 2nd and 5th fingers.
    b. Perform the puncture to the side of the center of the finger. Never us the tip or center of the finger.
    c. If the patient's fingers are cold, they can be warmed under warm water or by using a warming device.



3. Use an alcohol pad to cleanse the site and allow to air dry.
4. Remove the skin puncture device from its protective wrap without touching the tip.
5. Remove safety clip.
6. Hold the patient's finger or heel firmly with one hand puncture with the retractable safety puncture device.
7. For fingers, the cut should be made across the fingerprints to produce a large, round drop of blood.
8. Wipe the first of blood away with clean, dry gauze.
9. Hold the puncture site downward and gently massage (avoid "milking") to obtain the proper amount of blood for the tests required.
10. Allow drops of blood to flow freely into the collector top and down the walls of the tube.
11. Seal the specimen container.

12. Gently invert the tube 8-10 times (if necessary) to mix the blood and anticoagulant.
13. Apply direct pressure to the puncture site with a gauze pad and elevate the extremity.
14. Apply a small spot bandage to an infant's heel or finger.

Stool Specimen Collection Containers

24-Hour Stool: Special Metal containers for the collection and processing of fecal specimens are supplied by Shore Health Laboratories. See p. 267, for further information regarding the use of these containers.

Urine Collection

Random Collection: For routine analysis and microscopic evaluation, have the patient void into a clean container. The specimen should be capped, labeled, and refrigerated until courier pickup time. A clean-catch or midstream specimen is preferred. The patient should first void a small amount of urine, which is discarded. Some of the urine should then be collected in a clean container before voiding is completed.

24-Hour Urine Collections: Shore Health Laboratories provides 24-hour urine collection containers with various types of preservatives depending on the test requested. Use the following procedure for the correct specimen collection and preparation.

- Instruct the patient to discard the first morning specimen and to record the time of voiding.
- The patient should collect all subsequent voided urine for the remainder of the day and night.
- Collect the first morning specimen on day two at the same time as noted on day one.
- Send the entire 24-hour specimen to the laboratory. If only an aliquot is submitted, please mix well before aliquoting and provide the total volume of the 24-hour urine collection. Include the height and weight of the patient.

Outpatient Instructions for Semen Collection

Item provided: Clean wide-mouth screw-top plastic or glass jar.

NOTE:

- Semen analysis is performed in the hospital laboratory Monday - Friday from 7 a.m. - 11 a.m. Specimens are not accepted on weekends or holidays.
- The complete analysis involves several hours of work; therefore specimens should be delivered to the lab early in the morning.
- Semen is best collected by masturbation after a three (3) day period of abstinence from intercourse or masturbation. The sample may be collected at home or in a bathroom close to the laboratory.
- Do not abstain more than 4 days because this diminishes the quality of the semen and the motility of the sperm. However, if your doctor has given you specific instructions in this regard, his orders should be followed.
- Coitus interruptus (early withdrawal during intercourse) is unacceptable. The first ejaculate, that contains the majority of spermatozoa, may be lost.
- The semen must be ejaculated into the clean, dry, wide-mouth jar given to you by the laboratory or your doctor to avoid introducing trace amounts of detergent or other harmful contaminants into the

specimen.

- A condom is unacceptable because many contain a spermicide, and it is impossible to retrieve the entire sample for analysis.

Instructions

1. Do not use any lubricant during collection.
2. After ejaculating the entire specimen into the container, replace the lid and secure it tightly.
3. Wash hands thoroughly and dry.
4. Label the container with your name and the time of collection.
5. If the specimen is collected away from the lab, bring to the lab as quickly as possible and keep close to body temperature by placing the jar inside your shirt during transport.
6. The specimen **must** be received in the lab within **30 minutes** of collection.
7. Patients collecting semen samples for fertility testing are required to fill out a questionnaire. See below.

Semen Analysis Questionnaire

To evaluate your semen sample accurately please answer the questions below as accurately as possible.

Please print clearly

Last Name: _____ First Name: _____

Date of Birth: _____

Date of Specimen Collection: _____ Time of collection: _____

Type of container used:

☐ Glass ☐ Plastic ☐ Other: _____

Where was the specimen collected?

☐ At hospital ☐ At home

If the sample was collected at home, was it kept warm?

☐ Yes ☐ No

Number of days since last ejaculation: _____

How was the specimen collected?

☐ Masturbation ☐ Other method

Was the entire sample collected into the container?

☐ Yes ☐ No

If no please explain: _____

_____

Bactec Blood Culture Specimen Collection

Two to three sets of blood cultures are routinely ordered and should be drawn 15 minutes apart and from **separate sites** unless otherwise specified by the provider**.**

Successful recovery of bacteria from a blood culture is highly dependent on collection of an adequate volume of blood **without overfilling** the Bactec® bottles. Under-filling the bottles may cause bacteremia to go undetected, and overfilling the bottles causes false positive readings on the Bactec® instrument. Strictly aseptic technique must be followed throughout the collection procedure to avoid blood culture contamination.

Blood cultures should NEVER be collected through an IV catheter**,** whether it is a newly inserted IV catheter or an established IV, unless simultaneous catheter and venous specimens are being collected to investigate

possible established IV line catheter-caused bloodstream infections. Drawing blood from an IV catheter can significantly increase blood culture contamination with skin organisms, even if the IV catheter is newly inserted.

Specimen Collection:

Maintain Aseptic Technique During All Aspects of Arm Preparation, Drawing the Blood, and Inoculation of the Culture Bottles.

Skin Preparation of the Venipuncture Site

1. Locate the vein to be used.
2. Remove the ChloraPrep® One-Step Frepp® from kit and hold by center of handle in a horizontal position with sponge surface downward. Gently squeeze wings, releasing solution for a controlled flow. (Do not use ChloraPrep® One-Step FREPP on patients less than 2 months of age. Substitute a sterile alcohol prep for the ChloraPrep® and follow directions below.)
3. Press sponge against skin surface to be cleansed once or twice to saturate.
4. Cleanse area thoroughly, scrubbing vigorously using a back- and- forth friction scrub **ensuring the solution reaches into the cracks and fissures of the skin** for a full 30 seconds. Adequate skin decontamination at the site of the venipuncture is the single most important factor in avoiding skin-organism contaminated blood cultures.
5. Allow area to dry for approximately 30 seconds.
6. Avoid touching the site of venipuncture. All site locating should be done prior to cleansing the site. If it is absolutely necessary to touch the site after it has been cleansed, then your fingers (gloved) need to be cleansed thoroughly with ANOTHER Frepp and allowed to dry before touching the site.

Fill Volume

The BacTec blood culture bottles have a strong vacuum. The amount of specimen collected can exceed the maximum volume of the bottle. To ensure the best the volume of blood collected for an adult is 8-10 mL per bottle. For pediatric collections into the pediatric bottle the draw volume should be 1-3mL.

CAUTION:
NEVER draw blood directly into Bactec® bottles using a needle and tube holder, as the contents of the bottle may backflow into the patient's arm! Bottles must always be sitting upright during specimen collection by using a Sterile Safety-LokTM Blood Collection set (butterfly) with Pre-Attached Holder.

1. Note the media fluid level of the un-inoculated Bactec® Culture bottles being used.
2. Mark the bottles at the maximum fill level so when monitoring volume during collection, the optimum volume can be drawn without exceeding the maximum fill volume.
3. The optimum fill volume for Standard Aerobic, Lytic, and Plus Aerobic bottles is 8-10 ml. for each bottle. Do not exceed bottle maximum fill volume of 10 mL per bottle.
4. Note: Do not use bottles beyond the expiration date stamped on the bottle label.
5. Remove the flip-off caps from the bottles and scrub the tops of the blood culture bottles with a sterile 70% Isopropyl alcohol pad and allow to dry.
6. DO NOT USE IODINE TO DISINFECT TOPS OF BOTTLES! (Iodine compromises the integrity of the rubber septa of the bottles.)

There are two options for venipuncture for blood cultures. Care must be taken in selecting the correct method, as the vacuum in the Bactec® bottles is very strong and may cause collapse of delicate veins.

Option 1 –

Sterile Safety-LokTM Blood Collection set (butterfly) with Pre-Attached Holder ("Direct Draw")

This method **MUST NOT** BE USED if:

- A Peds-Plus® bottle is used for collection; syringe collection is the only method that is reliable in determining if a sufficient minimum blood volume is collected in the bottle – OR -
- After inspecting the patient's veins, difficulty in obtaining an adequate volume of blood is anticipated.

Option 1 Procedure

1. Peel apart Safety-LokTM Blood Collection set (butterfly) with Pre-Attached Holder and make sure that butterfly luer and screw connections to tube holder are tight.
2. Remove sheath covering needle at wings.
3. Perform venipuncture holding wings. Do not hold by grasping the yellow safety shield.
4. Fill the aerobic bottle first**.** Be sure to hold bottle upright**.**
5. Push and hold the holder over the top of the bottle to puncture bottle septum.
6. Carefully observe the flow of the blood into the butterfly tubing and into the bottle when starting the sample collection to ensure that blood is properly flowing into the bottle.
7. Carefully monitor the blood volume collected in the bottle by means of the mark you made in bottle preparation and the 5 ml. graduation marks on the bottle label.
8. Collect blood to desired fill level.
9. When desired fill level is achieved in aerobic bottle, remove holder from bottle and immediately push and hold holder on anaerobic bottle. Fill as directed below in a-d:
    a. Inoculate both a Standard 10 **Aerobic/F** Bottle (Blue/Blue Top) and a Lytic/10 **Anaerobic/F** Bottle (Purple/Magenta Top) with 8-10 ml. of blood **each.**
    b. If unable to obtain 16-20 of patient's blood, a **minimum of 10 cc** may be **divided equally (5cc to each bottle)** between the Standard 10 **Aerobic/F** and the Lytic/10 **Anaerobic/F** bottles.
    c. If only **3-9cc** of patient's blood can be obtained, place the **entire amount** in the Standard 10 **Aerobic/F** (Blue) Bottle**.**
    d. (Note: On provider's request for use of *Antimicrobial Removal Resins Bottles for Blood Cultures,* the Bactec® **Plus Aerobic/F** Bottle (Gray/Blue Top) should be **substituted for the** Standard 10 **Aerobic/F** Bottle**,** and requires 3-10 cc of patient's blood per bottle)
10. When final bottle is filled, withdraw the needle by grasping the wings (not the yellow safety device) and gently pull. Cover the venipuncture site with sterile gauze and apply pressure.
11. Label bottles with patient name, location, date and time of draw and initials of phlebotomist, being **careful not to obliterate the bar code labels on the media bottles.**
12. The appropriately labeled bottles should then be **left at room temperature** and forwarded to Microbiology as soon as possible. **DO NOT PLACE BOTTLES IN INCUBATOR!**

Option 2 –

Syringe and Transfer Device

This method **MUST be used** for collection if:

- Using a Peds-Plus® bottle for collection. Syringe collection is the only method that is reliable in determining if a sufficient minimum blood volume is collected in the bottle
  – or -
- After inspecting the patient's veins, difficulty in obtaining an adequate volume of blood is anticipated. The vacuum in the Bactec® bottles is very strong and may cause collapse of delicate veins.

NOTE: When using a syringe, pull back on plunger before use to break the seal, but do not touch the part of the plunger that goes back into the syringe.
Do not touch the hub of the syringe or the ends of the luer adaptors of the butterfly needle or transfer device.

Option 2 Procedure:

1. Prepare Bactec Bottles:
   a. Scrub the tops of the blood culture bottles with a sterile 70% Isopropyl alcohol pad, and allow to dry.
   b. DO NOT USE IODINE TO DISINFECT TOPS OF BOTTLES! (Iodine compromises the integrity of the rubber septa of the bottles.)
2. Draw 16 cc to 20 cc of blood into a syringe and inoculate the Bactec® Bottles, using a Blood Transfer safety device.
3. Inoculate both a Standard 10 **Aerobic/F** Bottle (Blue/Blue Top) and a Lytic/10 **Anaerobic/F** Bottle (Purple/Magenta Top) with equal amounts of blood.
4. Fill the aerobic bottle first!
5. Do not exceed bottles maximum fill volume of 10 ml. per bottle.
6. If unable to obtain 16-20 of patient's blood, a **minimum of 10 cc** may be **divided equally (5cc to each bottle)** between the Standard 10 **Aerobic/F** and the Lytic/10 **Anaerobic/F** bottles.
7. Do not exceed bottles' maximum fill volume of 10 cc per bottle.
8. If only **3-9 mL** of patient's blood can be obtained, place the **entire amount** in the Standard 10 **Aerobic/F** (Blue) Bottle**.**
9. If less than 3cc of patient blood can be obtained, place a minimum of 0.5 - 3.0 mL of patient blood into:
   a. Bactec® Peds Plus/F Bottle (Pink/Silver Top) (do not exceed bottle's maximum fill volume of 5 ml)
   b. Bactec® **Plus Aerobic/F** Bottle (Gray/Blue Top) should be **substituted for the** Standard 10 **Aerobic/F** Bottle**,** and requires 3-10 cc of patient's blood per bottle) Do not exceed bottle's maximum fill volume of 10 ml.
10. Label bottles with patient name, location, date and time of draw and initials of phlebotomist, being **careful not to obliterate the bar code labels on the media bottles.**

11. The appropriately labeled bottles should then be **left at room temperature** and forwarded to Microbiology as soon as possible.

INSTRUCTIONS FOR COMPLETION OF ROUTINE REQUEST FORM

Please refer to the copy of the Laboratory Request Form**,** located in the Appendix**,** for the fields that correspond to the following explanations.

1. Enter "DATE" and "PROVIDER" name.
2. Enter "PATIENT LAST NAME"; "JR, SR, III," "FIRST NAME", "MI"
3. Mark "SEX"-- many tests are sex-related.
4. Enter "SOCIAL SECURITY NUMBER" and "BIRTHDATE"- for patient identification. Enter "DIAGNOSIS or ICD-9 CODE"--for billing. **THIS IS MANDATORY**
5. Enter "PATIENT ADDRESS"-- for the registration process.
6. Enter patient's primary insurance in "INSURANCE#1" and enter "POLICY NUMBER, GROUP NUMBER".
7. If the patient has secondary insurance, enter the information in "INSURANCE#2"
8. A COPY OF THE PATIENT'S INSURANCE CARD (FRONT&BACK) CAN BE PROVIDED IN LIEU OF WRITING THIS INFORMATION.
9. Enter the Parent/Guarantor and relationship for all minors.
10. To order special handling of results:
    a. STAT: Doctor or doctor on-call will be called when results are complete unless otherwise documented.
    b. Fax: Provide FAX number
    c. Call results – Provide phone number and name to be called.
    d. Additional copies: to other providers. Please provide first and last name and phone number of provider
11. Mark an "X" in the box preceding test(s) desired.
    a. PROFILES: For quick reference, reverse side of request form has each defined and includes specimens required.
    b. BLOOD TESTS: Listed in alphabetical order, those not listed may be entered in the space labeled "OTHER." Listed tests are followed with a specimen collector code (example: "L" for lavender tube).
    c. CULTURES: Specimen collector and storage temperature are provided. Any culture not listed on the request may be entered under "Miscellaneous" along with the source. Refer to the test directory for appropriate collection directions or call Client Services.
12. Ordering a PAP requires a separate form from Chesapeake Pathology Associates. Please provide the appropriate patient history.
13. After specimen collection, label samples with patient's name, date, and affix a unique numbered label from the request form. This number further ensures proper identification of the specimen(s).

14. Mark where specimen was collected along with time drawn. This will assist our Client Service personnel in contacting the appropriate facility concerning questions about specimens.

UM SRH Informed Consent and Agreement for HIV Testing Form

The UM SRH HIV Consent Form is available at:
https://ummssrh.policymedical.net/policymed/anonymous/docViewer?stoken=197ccd5d-b989-4143-b41d-b96a4823b97c&dtoken=458a25e8-1cdf-4972-8d3b-c12e34c0c3db

REQUESTS / REPORTING

CPT Coding

It is the provider's responsibility to determine the correct CPT Codes to use for billing. While this catalog lists CPT Code(s) in an effort to provide some guidance, the CPT Codes listed only reflect our interpretation of CPT coding requirements and are not necessarily correct. Particularly, in the case of a test involving several component tests, this catalog attempts to provide a comprehensive list of the CPT Codes for all of the possible components of the test. Only a subset of the component tests may be performed on your specimen. You should verify the accuracy of the codes listed and, where multiple codes are listed, you should select the codes for the tests actually performed on your specimen. SHORE HEALTH LABORATORIES ASSUMES NO RESPONSIBILITY FOR BILLING ERRORS DUE TO RELIANCE ON THE CPT CODES LISTED IN THIS CATALOG. For further reference, please consult the CPT Coding Manual published by the American Medical Association, and if you have any questions regarding the use of a code, please contact your local Medicare carrier.

Interfering Substances

The most common interfering substances are listed on the specimen requirement column of the test listing. A more comprehensive listing is available in Young DS: Effects of Drugs on Clinical Laboratory Tests; fourth edition. Washington DC, AACC Press, 1995.

Request Slips

Specific test request forms are provided for: allergen-specific IgE antibodies, cytogenetics/AFP congenital disorders, laboratory services, and pathology/dermatology/cytology. Additional clinical information is required on the cytogenetics/AFP congenital disorders, and pathology/dermatology/cytology forms for diagnostic reasons. Check (LII) tests desired and provide all required information. Type or clearly print all information, always including the patient's age, sex and diagnosis code.

STAT Requests

Selected tests may be ordered on a "STAT" basis. Testing will be done in a timely manner, and results called to the ordering provider. Written follow-up reports will be sent.

Written Reports

The completed test reports will be faxed, mailed, transmitted via interface or available in EPIC.

Critical Values and read-back policy

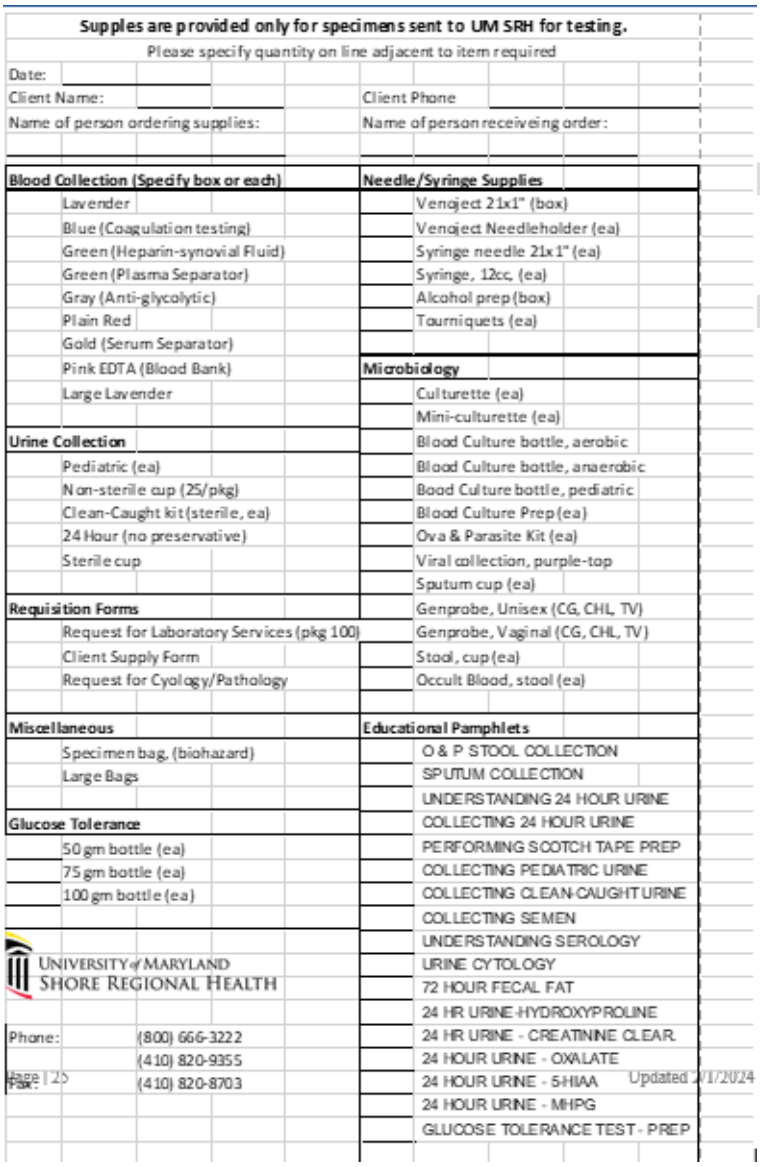
The provider, or other licensed care-giver, will be called if a critical value result is obtained on testing the patient's specimen. Verbal critical value results require confirmation by "read-back" by the person receiving the results. The printed test report will have the critical value results flagged. Critical values are listed on pages 29-30.

Reference Values

All reference values listed are for normal adults unless otherwise indicated.

SUPPLIES

The following supplies are available through our packaging area. Please use our special supply requisition form when ordering.



Supples are provided only for specimens sent to UM SRH for testing.

Please specify quantity on line adjacent to item required

Date:

Client Name: Client Phone

Name of person ordering supplies: Name of person receiveing order:

Blood Collection (Specify box or each)	**Needle/Syringe Supplies**
Lavender	Venoject 21x1" (box)
Blue (Coagulation testing)	Venoject Needleholder (ea)
Green (Heparin-synovial Fluid)	Syringe needle 21x1" (ea)
Green (Plasma Separator)	Syringe, 12cc, (ea)
Gray (Anti-glycolytic)	Alcohol prep (box)
Plain Red	Tourniquets (ea)
Gold (Serum Separator)	
Pink EDTA (Blood Bank)	**Microbiology**
Large Lavender	Culturette (ea)
	Mini-culturette (ea)
Urine Collection	Blood Culture bottle, aerobic
Pediatric (ea)	Blood Culture bottle, anaerobic
Non-sterile cup (25/pkg)	Bood Culture bottle, pediatric
Clean-Caught kit (sterile, ea)	Blood Culture Prep (ea)
24 Hour (no preservative)	Ova & Parasite Kit (ea)
Sterile cup	Viral collection, purple-top
	Sputum cup (ea)
Requisition Forms	Genprobe, Unisex (CG, CHL, TV)
Request for Laboratory Services (pkg 100)	Genprobe, Vaginal (CG, CHL, TV)
Client Supply Form	Stool, cup (ea)
Request for Cyology/Pathology	Occult Blood, stool (ea)
Miscellaneous	**Educational Pamphlets**
Specimen bag, (biohazard)	O & P STOOL COLLECTION
Large Bags	SPUTUM COLLECTION
	UNDERSTANDING 24 HOUR URINE
Glucose Tolerance	COLLECTING 24 HOUR URINE
50 gm bottle (ea)	PERFORMING SCOTCH TAPE PREP
75 gm bottle (ea)	COLLECTING PEDIATRIC URINE
100 gm bottle (ea)	COLLECTING CLEAN-CAUGHT URINE
	COLLECTING SEMEN
	UNDERSTANDING SEROLOGY
	URINE CYTOLOGY
	72 HOUR FECAL FAT
	24 HR URINE-HYDROXYPROLINE
	24 HR URINE - CREATININE CLEAR.
	24 HOUR URINE - OXALATE
	24 HOUR URINE - 5-HIAA
	24 HOUR URINE - MHPG
	GLUCOSE TOLERANCE TEST - PREP

UNIVERSITY of MARYLAND SHORE REGIONAL HEALTH

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(410) 820-9355
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CRITICAL VALUES

TEST	AGE	CRITICAL LOW	CRITICAL HIGH
ACETAMINOPHEN	ALL		>150
BILIRUBIN, NEONATAL	0 DAYS OLD 2 DAYS OLD 3-6 DAYS OLD 7-21 DAYS OLD		>8.0 >13.0 >15.0 >20.0
BUN	CHILD		>70
	20 YRS - ADULT		>104
CALCIUM	ALL	<6.6	>12.9
CALCIUM, IONIZED	ALL	<3.3	>6.2
CARBAMAZEPINE	ALL		>20
CHLORIDE	0 DAYS-17 YRS. 18 YRS. - ADULT	<77 <75	>121 >126
CO2	ALL	<11	>40
CREATININE	0 DAYS-18 YRS 19 YRS-ADULT		>3.8 >7.4
DIGOXIN	ALL		>2.5
DILANTIN	ALL		>30.0
FIBRINOGEN	ALL	<100	
GENTAMICIN,TROUGH	ALL		>3.0
GENTAMICIN, PEAK	ALL		>12.0
GLUCOSE	INFANT: 0 - 7 DAYS	<32	>328
	CHILD: 7 DAYS TO 18 YEARS	<46	>445
	ALL PEOPLE > 18 YEARS	<54	>484
GLUCOSE, CSF	ALL	<37	
HEMATOCRIT	CHILD	<20	
	16 YRS OLD- ADULT	<18.0	
HEMOGLOBIN	CHILD	<6.9	
	16 YRS OLD- ADULT	<6.6	>20.0
LACTIC ACID	CHILD		>4.1
	18 YRS-ADULT		>2.9
LIDOCAINE	ALL		>7.1
LITHIUM	ALL		>1.5
MAGNESIUM	CHILD	<1.1	>4.3
	19 YRS-ADULT	<1.0	>4.9

OSMOLALITY	0 DAYS-17 YRS 18 YRS-ADULT	<253 <250	>317 >326
PHENOBARBITAL	ALL		>60
PHOSPHORUS	CHILD	<1.3	>8.9
PHOSPHORUS	16 YRS.-ADULT	<1.2	>8.9
PLATELETS	ALL	<30,000	>916,000
POTASSIUM	NEWBORN (<1MONTH)	<2.8	>7.8
	CHILD	<2.8	>6.4
	16 YRS -ADULT	<2.8	>6.2
PT/INR	ALL		>5.0
PTT	ALL		>90
SALICYLATE	ALL		>30
SODIUM	CHILD	<121	>156
	16 YRS -ADULT	<120	>158
THEOPHYLLINE	ALL		>25.0
TROPONIN T 5TH GEN	ALL		>52
URIC ACID	ALL		>13.0
VALPROIC ACID	ALL		>200
VANCOMYCIN, TROUGH	ALL		>20.0
VANCOMYCIN, PEAK	ALL		>80.0
WBC	CHILD	<2,000	>30,000
	18 YRS OLD- ADULT	<2,000	>40,000
CSF Smear	ALL	All Bacteria Seen	

Attachments

- b64_380dfb2a-21ec-4ebf-9a74-e6df7d3bf614
- b64_7f89e6e1-2620-4bff-9b8c-3c6600a763cd
- b64_88dad0c5-ae7d-40dd-b265-d5c65c9ec686
- b64_dd043254-2b3a-409b-ab96-83f2d3bc0c84
- Semen Analysis Questionnaire
- Supply Requisition Form

Approval Signatures

Step Description	Approver	Date
Medical Director	Magali Fontaine: Medical Director	02/2025
Medical Director	Eric Li: MD	02/2025
Site Managers	Juliana Hospodor: Laboratory Director	02/2025
Policy Owner	Juliana Hospodor: Laboratory Director	02/2025

Applicability

UM Shore Regional Health