

HEMOCULTURE (Blood Culture)

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Required Specimen Type	Blood sample
Medical Supplies	<ul style="list-style-type: none"> ▪ 1 hemoculture aerobic collection bottle(blue); ▪ 1 hemoculture anaerobic collection bottle (red); ▪ 1 hemoculture pediatric collection bottle(yellow); ▪ 1 tourniquet; ▪ 1 hemoculture gauge (see figure 2); ▪ Gloves; ▪ Alcohol swabs; ▪ Adhesive strip or tape; ▪ Gauze; ▪ Biohazard bag; ▪ Butterfly Needle; ▪ Sharps container; ▪ Biohazard container (biological substances); ▪ Requisition; ▪ All other necessary materials; ▪ Iodine or baxedin 
General Guidelines	<ol style="list-style-type: none"> 1. All specimens must include a double identification (first and last name of the patient and date of birth or medicare number). 2. The use of gloves is required when handling all biological specimens. 3. A valid requisition must include the following information : <ul style="list-style-type: none"> • First and last name of the patient, date of birth or medicare number and gender. • Date and time of specimen collection and signature of collector. • Physician's full name, signature and license number (or other qualified prescriber). • Any relevant clinical information. • Requested tests.
Patient Preparation	<ol style="list-style-type: none"> 1) This procedure implies that you are familiar with specimen collection techniques; 2) Specimens must be collected, prepared (if required) and stored correctly in order to ensure their stability.
Specimen Collection Instructions	<ol style="list-style-type: none"> 1) Prepare all the documents related for the analysis. Make sure : <ul style="list-style-type: none"> ▪ To understand the requisition; ▪ To have all the pertinent documents and material; ▪ The phlebotomist's name or initials and collection date and time should be indicated on the requisition. 2) Prepare the necessary medical supplies (consult the CDL catalogue or contact the laboratory for test information); 3) Call the patient by their first and last name. <ul style="list-style-type: none"> ▪ Introduce yourself (name); ▪ Verify the patient identification: <ul style="list-style-type: none"> ➢ His/her name; ➢ His/her date of birth; ▪ Ask the patient if he or she agrees to proceed with the sample collection (legal aspect). 4) Inform and reassure the patient <ul style="list-style-type: none"> ▪ Explain the procedure; ▪ Ask the patient if they have had any adverse reactions (e.g., fainting) with previous phlebotomies; ▪ Inform the patient of the possibility of experiencing some discomfort during the specimen collection process.

- Do not provide technical information to the patient regarding diagnostic testing. For any technical information, refer them to a technician.
- 5) Ensure the requirements for the analysis are followed :
 - Special dietary instructions (fasting, special diet restrictions, etc.);
 - Sample collection at specific time or interval;
 - Special indications.

- 6) Wash hands and wear gloves;
- 7) Sit the patient comfortably in the phlebotomy chair;
- 8) Take off the protective cover of each bottle without contaminating them (**Figure 1**);



Figure 1

ATTENTION: If there are two separate hemocultures sets to be drawn; it's important to take 2 different puncture sites. Wait at least 30 minutes between each blood draw.

- 9) Disinfect the rubber cap with an alcohol swab at the time of the opening. Let it dry for at least 30 seconds.



Figure 2

- 10) Place the butterfly needle or the needle on the hemoculture gauge (**Figure 2**);
- 11) Assess the puncture site;
- 12) Place the tourniquet 10 cm above the puncture site;

ATTENTION: After 60 seconds remove the tourniquet in order to view the vein. After this delay, a consecutive hemolysis compression of the vein can occur and alter results. Wait 2 minutes before putting on the tourniquet again.

- 13) Choose the vein;
- 14) Disinfect the puncture site with an alcohol swab by performing a circular motion from the center moving outwardly. Let dry completely at least 30 seconds without moving the hand, blowing on the site or wiping the site with gauze (**Figure 3**);



Figure 3

- 15) A second disinfection is required with iodine or baxedine if the patient has any allergy to iodine. Please repeat step 14.
- 16) Perform the blood draw with the aerobic, followed by the anaerobic hemoculture collection bottles (**Figure 4**);



Figure 4

- 17) Remove the tourniquet as soon as blood starts to flow;
- 18) Lower the bottle under the puncture site making sure it's in a upright position in order to be able to visualise the amount of blood being collected;
- 19) Make sure there is at least 10 mL of blood;

	<p>20) Remove the needle;</p> <p>21) Cover the venipuncture site with a clean gauze pad, apply a Band-Aid or tape to the site, and ask the patient to apply pressure to the site for 1-2 minutes;</p> <p>22) Throw away all contaminated supplies used for the venipuncture in a biohazard waste container or sharp container;</p> <p>23) Mix the contents of the bottles by inversion as soon as the procedure is completed;</p> <p>24) In front of the patient, identify the sample with the following information :</p> <ul style="list-style-type: none"> ▪ First and last name; ▪ Date of birth and/or Medicare number. <p><u>Note: Any specimen that is not properly identified will not be accepted by the laboratory.</u></p> <p>25) Handle tubes according to the requirements for preparation and storage (e.g., conservation, room temperature, etc.).</p> <p>26) Place the specimens in the biohazard bag and seal;</p> <p>27) Insert the requisition in the side pocket of the biohazard bag;</p> <p>28) Take off your gloves and wash your hands;</p> <p>29) Send all samples to the laboratory as soon as possible.</p>
Additional Information	<p>In children and in certain diseases where involvement of anaerobic bacteria are very unusual, the hemoculture collection should be limited to one pediatric aerobic bottle with 4 mL of blood.</p> <p>One set of hemocultures corresponds to a pair of hemoculture collection bottles (1 aerobic and 1 anaerobic).</p> <p>When 2 hemocultures sets have to be collected, it is important to use 2 separate puncture sites at a 30 minute interval.</p> <p>Strict asepsis technique has to be respected in order to prevent any contamination of the samples by bacteria coming from the microbial flora, which is present on the skin of the patient at the time of the blood draw.</p> <p>In some situations, the draw can be done using 20 mL syringe and 21 gauge needle 2.5 cm. It is then necessary to take 20 mL of blood and then inject 10 mL in each of the two bottles, starting with the anaerobic bottle and then the aerobic bottle.</p> <p>However this method of collection requires some additional steps of manipulation which may result in contaminating the sample and increasing the risks of accidental needle stick injury.</p>
Specimen Conservation and Stability	<p>Room temperature : < 24 hours</p>