

VENIPUNCTURE

Required Specimen Type	Blood sample
Medical Supplies	<ul style="list-style-type: none"> • Disposable gloves; • Tubes; • Tourniquet; • Gauze compress; • Band-Aid or tape; • Absorbent pad; • Needle; • Needle holder • Sharps container; • Biohazard waste container (contaminated with biological substances); • Antiseptics / Disinfectant (Alcohol); • PPE (personal protective equipment), as required; • Biohazard bag; • All other necessary supplies
Mandatory Guidelines	See below
Patient Preparation	See individual test requirements for the appropriate patient preparation
Venipuncture Instructions	<ol style="list-style-type: none"> 1. Verify the requisition and prepare all documents related to the analysis. Ensure to: <ul style="list-style-type: none"> ▪ Fully understand the prescription. If in doubt, contact the prescribing physician or the laboratory. ▪ Obtain all the necessary medical supplies. ▪ Receive a valid request, which must include the following information: <ol style="list-style-type: none"> a. UNIQUE patient identification. Double identification must be respected; b. First and last name of the patient; c. Date of birth or RAMQ number and gender; d. The requested tests, must be clear and legible; e. The date and time of specimen collection; f. The initials of the person who collected the sample; g. The identity and contact information of the prescribing physician, along with their signature and license number; h. Relevant clinical information. 2. Greet the patient and introduce yourself, identify yourself to the patient by mentioning your name. 3. Identify the patient before the specimen collection: <ul style="list-style-type: none"> ▪ Ask the patient to identify themselves: First and last name AND date of birth. ▪ The person performing the collection is responsible for the correct identification of the patient. ▪ Inform and reassure the patient: <ol style="list-style-type: none"> a. Explain the procedure; b. Ask the patient if they have any allergies or known adverse effects with previous phlebotomies; c. Inform the patient about possible discomfort related to the collection; d. Obtain patient consent (if the patient is 14 years old and over); e. Obtain parental consent (if the patient is under 14 years old). 4. Ensure compliance with testing requirements: <ul style="list-style-type: none"> ▪ Dietary restrictions (fasting, special diet, etc...); ▪ Samples collected at specific times or intervals; ▪ Special instructions: follow associated procedures. 5. Gather and prepare the necessary materials (see medical supplies section on pg.1). 6. Wash your hands and put on gloves: Make sure the patient is not allergic to latex. 7. Position the patient comfortably: Some patients may request to be placed in a lying position. 8. Select and prepare the puncture site: <ul style="list-style-type: none"> ▪ Assess and select the puncture site; ▪ Secure the tourniquet 3-4 inches above the puncture site; ▪ Do not keep the tourniquet in place for too long. This could cause hemoconcentration

and lead to erroneous results;

- Ask the patient to make a fist (without pumping their hand);
- Choose the vein;
- Disinfect the puncture site with a circular motion starting from the puncture site outwards.
- **Let air-dry.**

9. Perform the venipuncture:

- Prepare the material: needle, holder and tubes;
- Respect the order of the tube collection, as follows:

Order	Description
1	Preservative aerobic
2	Anaerobic
3	Without Additive
4	Sodium Citrate
5	Coagulation activator
6	Heparin
7	EDTA
8	NaF/KOx

- Proceed with the venipuncture according to the established procedures;
- Stabilize the vein and advise the patient that you are going to proceed;
- Insert the needle at an angle of approximately 30°;
- Stabilize the holder and needle and allow the blood to flow;
- Remove or loosen the tourniquet (**do NOT leave on for more than a minute**);
- Fill the tubes respecting the blood/additive ratio;
- Carefully remove the needle from the vein;
- Apply firm pressure to the puncture site with a gauze pad;
- Instruct the patient to keep firm pressure on the puncture site for at least 2-3 minutes, with the arm hyper extended;
- Dispose of the used needle with caution in the needle disposal container (Sharps);
- **DO NOT RECAP ANY NEEDLES.**

10. Mix the tubes: Immediately mix the tubes after collection (gently) by inverting them as follows:

- **5 times** for tubes with a clot activator
- **3-4 times** for tubes with Sodium citrate
- **8-10 times** for tubes with additives

11. Verify the puncture site to make sure there's no bleeding and apply a new gauze with medical tape.

12. Identify the samples:

- Identify all the collected tubes, in front of the patient.
- Each tube must present the following information:
 - A double identification: First and last name and DOB (or RAMQ).
 - The date and time of specimen collection.
 - Initials of the collector.

13. Remove gloves and wash your hands.













14. Handle the tubes according to the preparation and storage requirements:

- Place the tubes in a vertical position.
- Stabilize the tubes: Allow to clot for 30 min. (when required), centrifuge, refrigerate, protect from light, etc.
- Place the tubes in a biohazard bag with the absorbent pad and seal.
- Insert the requisition in the side pocket of the biohazard bag.
- If no other tests are required, inform the patient that the dietary restrictions are now over.

	<ul style="list-style-type: none"> Return all samples to the laboratory as soon as possible. 15. Wash or disinfect hands and prepare yourself for the next patient.
Additional Information	Children: the volume collected should not exceed 1% of total blood volume (to estimate the maximum volume to be collected, multiply the child's weight (in kg) by 75, then divide the result by 100).
Specimen Conservation and Stability	<ul style="list-style-type: none"> For tubes that require centrifugation, refer to the: Centrifugation Procedure: LA-75-WI-021E Store tubes according to their individual stability.

ORDER OF BLOOD COLLECTION TUBES ¹

Please respect the order of the additives in the tubes, it could affect results.

Venipuncture		Invert	Capillary puncture	
	Blood culture (Aerobic bottle first, then anaerobic)	5 to 10		Capillary gaz
	Sodium citrate	4 times		EDTA
	With/without clot activator, with or with/without SST	5 to 10		Sodium or lithium heparin and other anticoagulants
	Sodium or lithium heparin and other anticoagulants	8 to 10		With/without clot activator, with or with/without SST
	EDTA	8 to 10	Slowly mix blood with anticoagulant	
	EDTA (rare metals)	8 to 10		
	Potassium oxalate/Sodium fluoride (glycolysis inhibitor)	5 to 10		
	Sodium citrate (3,8% for sedimentation rate Westergren)	5 to 10		

For optimal results of additive versus blood invert the tube delicately up and down, for the number of times indicated above.

POSSIBLE CAUSE OF HEMOLYSIS

- Gauge needle too small: Ideally use a size between **19G to 23G**.
- Tourniquet kept in place more than a minute: Hemoconcentration, K, ALT, CK, proteins, LDH, Bili increased by 8 to 10%.
- Repeated opening and closing of the hand: Hemoconcentration K, ALT, CK, proteins, LDH, Bili increased by 8 to 10%.
- Tube shaken vigorously after specimen collection.
- Sample taken from a hematoma site.
- Presence of excessive alcohol on the puncture site.

IMPORTANT INFORMATION

- Avoid using fine butterfly needles: the dead volume of the tubular falsifies the blood/anticoagulant ratio.
- Favor the use of a 21G needle to a fine butterfly needle.
- Draw a discharge tube for every analysis, when a butterfly needle is used (in order to create a vacuum in the tubular).**
- Never transfer a sample from one tube to another after blood collection.
- Let the sample stand upright for 30 minutes to allow blood to clot (gel/SST)**

Centrifuge according to the applicable recommendations

FAILURE TO COMPLY WITH THIS PROCEDURE MAY AFFECT THE QUALITY OF RESULTS