
BLOOD COLLECTION

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Most laboratory tests are performed on anticoagulated whole blood, plasma or serum. Collection of specimens should be performed following the accepted standard of care.

GUIDELINES FOR COLLECTION:

- **POSITIVELY IDENTIFY THE PATIENT.**
- Choose an acceptable draw site for venipuncture, avoid bruised or scarred areas.
- Apply the tourniquet for no more than one minute. Prolonged application may elevate some test results. Pumping the patient's fist may also contribute to altered results.
- Tube selection, check the expiration date listed on the manufacturers label on the tube. (Do not use if the tube expired or if stored at extreme temperatures. This will affect the vacuum.)
- Select the most appropriate collection equipment for your patient based on age, patient condition and venous access.
- Cleanse the site with 70% alcohol. Apply in concentric circles from the inside to the outside. Allow the alcohol to dry.
- Insert the needle into the vein at no more than a 15 degree angle to avoid injury to the vein and hemolyzing the cells. Hemolysis will affect some test results.
- Follow the "order of draw" for the collection of the blood to avoid contamination from tube additives.
 - The standard order of draw is: (1) Sterile collection for blood culture bottle, (2) blue top (sodium citrate), (3) red top, serum separator tubes SST, (4) green top (sodium, lithium or potassium heparin), (5) lavender, pink top (EDTA). Special collection tubes, i.e. prechilled and light sensitive tubes should also follow the order of draw.
 - A discard (without additives or sodium citrate) tube must be used to get blood through the tubing if only a citrate tube is to be drawn using a winged infusion set. It is important to remove the air from the winged blood collection set to insure the proper blood volume is obtained in the light blue tube.
- Release the tourniquet
- Draw the correct volume of blood allowing the vacuum to be exhausted and blood flow to cease. Plastic tubes have a tendency to fill slower. Tubes should be drawn to correct fill volume to secure the proper blood/additive ratio. The light blue citrate tubes may unnoticeably back off the needle slightly during the draw, so hold the tube in the fully seated position during the draw. The light blue sodium citrate tube has three fill levels, minimum, nominal and maximum. The quantity of blood drawn into the evacuated tubes varies with altitude, ambient and barometric temperature, tube age, venous pressure, and filling technique. The volume has been adjusted for these factors so the blood must fall

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within the min/max lines. Tubes should be filled from the bottom up to have the blood begin to mix immediately with the anticoagulant to prevent clotting.

- Manual Inversion of the tubes is essential to exposing the cells to the additives. This should be done as soon as possible after the tube is filled as outlined in the chart below.
- ***NEVER MIX TUBES TOGETHER OR POUR CONTENTS FROM ONE TUBE TO ANOTHER.***
- At the conclusion of the blood draw, activate the safety device on the collection equipment and discard the entire unit in the sharps container. The needle and the holder are designed for one time use only.
- Apply pressure to the venipuncture site with clean gauze.
- After proper labeling, (please refer to Specimen Labeling section of this manual) inpatient specimens may be sent to the lab for processing. Outpatient specimens should be stabilized at the collection site before leaving the facility.

ADDITIVE	TUBE TYPES	NUMBER OF INVERSIONS	CLOTTING TIME Should be in the Vertical position
Broth	Blood Culture Btl.	Gentle swirling	NA
None	Red top Glass	None	30-60 min
Silicone Gel	Red top plastic	8	30-60-min
Sodium citrate	Light Blue top	4	NA
Clot activator	Gold top /with gel SST	8	30-60 min
Lithium Heparin	Lt Green top/with gel PST	8	NA
Heparin, Na, K, Li	Green top	8	NA
Potassium K3 EDTA	Lavender/Pink top	8	NA
Acid citrate dextrose (ACD solution A)	Pale yellow	8	NA
Acid citrate Dextrose (ACD solution B)	Pale yellow	8	NA