Specimen Collection—Preparation and Transport

Request Forms

A St. Clair Hospital Laboratory request form must accompany each patient's specimen. Include patient and insurance information. Diagnosis, diagnosis code, and the name of the primary care physician are very important as well as any special requests or information.

A separate request form is utilized to process surgical pathology and cytology specimens.

Laboratory test results are dependent on the quality of the specimen submitted. It is important that all specimens and request forms be properly labeled with the name of the patient, collection date, and the origin (source) of the specimen, when applicable.

If there is any doubt or question regarding the type of specimen that should be collected, it is imperative that St. Clair Hospital Laboratory be called to clarify the order and specimen requirements.

Specimen collection supplies and request forms are supplied without charge. Please call St. Clair Hospital Laboratory for available supplies.

Blood Collection

Most laboratory tests are performed on anticoagulated whole blood, plasma, or serum. In general, specimens should be refrigerated until placed in the courier box for transport to the laboratory. Please see our individual test directory section 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 6 to 10 times immediately after draw. If required, separate plasma from cells by centrifugation within 20 to 30 minutes.
- *Serum:* Draw a sufficient amount of blood to yield the necessary serum volume. Allow blood to clot at ambient temperature then separate serum from clot by centrifugation within 20 to 30 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 draw.

Order of Draw Instructions

When multiple tubes of blood are to be collected on 1 patient, please adhere to the following "order of draw" protocol:

1. Blood culture tubes
2. Non-additive tubes (i.e., glass, plain red-top tubes)
3. Coagulation tubes (i.e., blue-top tubes)
4. Additive-containing tubes, in this order:
   A. Green-top tubes (i.e., light-green plasma gel tubes, and/or dark-green tubes)
   B. Purple-top tubes (lavender tubes)
   C. Serum gel tubes (speckled red-top tubes)
   D. Plastic red-top tubes (clot activator tubes)

GENTLY INVERT ALL ADDITIVE TUBES APPROXIMATELY 8 TIMES AFTER BLOOD IS COLLECTED.

If a blue-top tube is the only tube to be drawn, a glass, plain red-top tube must be drawn first and discarded. Never use a plastic, red-top tube as a discard tube, since the plastic tubes contain a clot activator.

Specimen Collection Tubes Available

The following is a list of tubes referred to in St. Clair Hospital Laboratory's specimen requirements:

- *Dark Green-Top Tube (Lithium Heparin):* This tube contains lithium heparin—used for drawing lithium heparinized plasma for various laboratory tests.
  NOTE: After tube is filled with blood, immediately invert tube several times in order to prevent coagulation.
- *Green-Top Tube (Sodium Heparin):* This tube contains sodium heparin—used for drawing heparinized plasma or whole blood for special tests.
  NOTE: After tube is filled with blood, immediately invert tube several times in order to prevent coagulation.
- *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.
  NOTE: After tube is filled with blood, immediately invert tube several times in order to prevent coagulation.
- *Lavender-Top Tube (EDTA):* This tube contains EDTA as an anticoagulant—used for most hematological procedures.

NOTE: After tube is filled with blood, immediately invert tube several times in order to prevent coagulation.

- *Light Blue-Top Tube (Sodium Citrate):* This tube contains 3.2% sodium citrate as an anticoagulant—used for drawing blood for coagulation studies.
  NOTE: It is imperative that tube be filled to capacity. The ratio of blood to anticoagulant is critical for valid prothrombin time results. Immediately after draw, invert the tube 6 to 10 times in order to activate anticoagulant.
- *Light Green-Top Plasma Gel Tube*: This tube contains lithium heparin and gel separator—used for various laboratory tests.
  NOTE: After tube is filled with blood, immediately invert tube several times in order to prevent coagulation.
- *Red-Top Tube:* This tube is a plain VACUTAINER® containing no anticoagulant—used for drawing serum for selected chemistry tests as well as clotted blood for immunohematology.
- *Royal Blue-Top Tube:* There are 2 types of royal blue-top Monoject® tubes—1 with the anticoagulant EDTA and the other plain. These are used in drawing whole blood or serum for trace element analysis. Refer to the individual metals in the individual test listings to determine the tube type necessary.
- *Serum Gel Tube:* This tube contains a clot activator and serum gel separator—used for various laboratory tests.
  NOTE: Invert tube to activate clotting; let stand for 20 to 30 minutes before centrifuging for 10 minutes. If frozen serum is required, pour off serum into plastic vial and freeze. Do not freeze VACUTAINER® tubes.
- *Special Collection Tubes:* Some tests require specific tubes for proper analysis. Please contact St. Clair Hospital Laboratory prior to patient draw to obtain correct tubes for metal analysis or other tests as identified in the individual test listings.
- *Yellow-Top Tube (ACD):* This tube contains ACD—used for the collection of whole blood for special tests.

Specimen Packaging

Place the specimen in a tightly sealed, Ziploc®, plastic bag (with biohazard symbol). Attach the request form to the outside of the bag. Follow the specimen storage instructions provided in this manual.

Courier Services

Courier services are available for transporting specimens. Pickup frequency can be discussed with St. Clair Hospital Laboratory administrative personnel.