Athens-Limestone Hospital

Specimen Collection, Preparation, and Transportation

All specimens must be clearly labeled with patient's name, identification number (medical record number, Social Security number, or date of birth), date, collector's initials and source of specimen. Any discrepancies regarding specimen labeling, inadequate or invalid specimen, or tests requested will be brought to the attention of the ordering facility as soon as possible. Our intent is to resolve any questions as soon as possible with the least disruption of your office.

Blood Collection

Most laboratory tests are performed on anticoagulated whole blood, plasma, or serum. Please see our individual test directory section for specific requirements.

• *Plasma*: Plasma is the clear liquid portion of blood that is separated following centrifugation of anticoagulated blood. Anticoagulated blood is drawn in an assortment of different tubes, EDTA (lavender), Citrate (blue), Heparin (green), or Oxalate (grey). These tubes must be mixed gently after blood is drawn. Plasma must be placed in properly labeled aliquot tube(s) to be submitted to the laboratory.

• *Serum*: Serum is the clear liquid portion of blood that is separated following centrifugation of clotted blood. A room temperature or refrigerated serum specimen may be submitted in either a centrifuged serum gel tube, or an aliquot of serum submitted in a properly labeled plastic aliquot tube. FROZEN SERUM must be frozen solid prior to transport to the laboratory for testing to avoid thawing of specimen and invalidating test results.

• *Whole Blood*: Draw a sufficient amount of blood with the indicated anticoagulant. Gently mix the blood collection tube by inverting 5 to 6 times immediately after draw.

Specimen Collection Tubes

The following is a list of tubes referred to in "Specimen Required" in the individual tests:

• *Green-Top Tube*: This tube contains sodium heparin or lithium heparin—used for the collection of heparinized plasma or whole blood for special tests. Certain tests require either sodium heparin or lithium heparin. If test requirement is heparinized plasma or whole blood, either may be used.

Note: After tube has been filled with blood, immediately invert tube several times in order to prevent coagulation.

• *Grey-Top (Potassium Oxalate/Sodium Fluoride) Tube*: 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 has been filled with blood, immediately invert tube several times in order to prevent coagulation.
• *Lavender-Top (EDTA) Tube*: This tube contains EDTA as an anticoagulant—used for most hematological procedures.
Note: After tube has been filled with blood, immediately invert tube several times in order to prevent coagulation.
• *Blue-Top (Sodium Citrate) Tube*: This tube contains sodium citrate as an anticoagulant—used for collection of blood for coagulation studies.
Note: It is imperative that the tube be completely filled. The recommended proportion of blood to sodium citrate anticoagulant volume is 9:1. Inadequate filling of the collection device will decrease this ratio, and may lead to inaccurate results for calcium-dependent clotting test, such as PT and PTT. Conversely over-filling of collection device will increase this ratio and may lead to clotted specimens or inaccurate results. Immediately after draw, invert tube 5 to 6 times in order to activate anticoagulant.
• *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.
• *Royal Blue-Top Tube*: There are 2 types of royal blue top Monoject® tubes—one with the anticoagulant EDTA and the other plain. These are used for collection of whole blood or serum for trace element analysis. Refer to the individual metals in the individual test listings to determine 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. 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 Athens Limestone Hospital Laboratory prior to patient draw to obtain the correct tubes for metal analysis or other tests as identified in individual test listings.
Yellow-Top (ACD) Tube: This tube contains ACD—used for collection of whole blood for special tests.

Guidelines for Sending Specimens to the Laboratory via the Tube System
Specimens Acceptable for Transport: Leak-proof containers **must** be used. Lids on these containers must be screwed on tightly to avoid leakage. Care should be exercised when specimens are considered non-recollectable.
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Specimens Unacceptable for Transport: All specimens collected in containers that are not leak-proof cannot be transported. Examples of specimen containers and specimens unacceptable for transport include:
• Specimen in trap containers
• Stool in containers with snap on lid
• Syringe
• Specimen in formalin jars

Transport Specimens: Transport specimens as follows:
• Place each specimen in a Biohazard bag. Only **1** patient per bag is recommended.

• For specimens that need to be transported on ice, place bag of ice into a second bag with the specimen and paperwork.
• Paperwork/Labels must accompany each specimen. Do not put transmittals in bags with specimens. Place in outside pocket.
• Place bagged specimen and transmittal in **padded** carrier (both sides of carrier). Contents must be packaged in a way that will not allow movement once inside carrier.
• Lock carrier securely.

Leaks: Any specimen that leaks due to improper packaging will be discarded in the laboratory. Laboratory personnel will notify unit to recollect specimen.

Specimens from Physician Offices: Biohazard bags are provided. Please place specimens for only **1** patient per bag and place the request form for this patient in the outside pocket of the bag. Assure the bag is closed properly.