Specimen Collection and Preparation

Blood Collection

Most laboratory tests are performed on anticoagulated whole blood, plasma, or serum. In general, tubes of blood are to be kept in an upright position and refrigerated until picked up for transport to the laboratory. Please see our alphabetical test directory section for specific requirements.

- *Plasma*: Draw enough blood with indicated anticoagulant to yield necessary plasma volume. Gently mix tube by inverting 6 to 10 times immediately after drawing.
- *Serum*: Draw enough 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.
- *Whole Blood*: Draw enough blood with indicated anticoagulant. Gently mix tube by inverting 6 to 10 times immediately after drawing.

Specimen Collection Tubes

The following is a list of tubes referred to in our specimen requirements:

- *Green-Top (Sodium Heparin) Tube*: This tube is used for drawing heparinized plasma or whole blood for special tests.
  Note: After tube has been filled with blood, immediately, but gently, invert tube 6 to 10 times to prevent clotting.

- *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, but gently, invert tube 6 to 10 times to prevent clotting.

- *Lavender-Top (EDTA) Tube*: This tube contains EDTA as an anticoagulant—used for most hematological procedures and glycohemoglobin.
  Note: After tube has been filled with blood, immediately, but gently, invert tube 6 to 10 times to prevent clotting.

- *Light Blue-Top (Sodium Citrate) Tube*: This tube contains sodium citrate as an anticoagulant—used for drawing blood for coagulation studies.
  Note: It is imperative that the tube be completely filled. The ratio of blood to anticoagulant is critical for valid prothrombin time results. Immediately after drawing, invert tube 6 to 10 times to activate anticoagulant.

- *Red-Top Tube*: This tube is plain, or it may contain a clot activator. It is used for Blood Bank tests, chemistry tests, drug testing, and serology tests whenever serum gel tubes are not acceptable. Allow blood to clot at ambient temperature for 30 to 60 minutes before centrifugation.

- *Royal Blue-Top Tube*: There are two types of royal blue- top 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 alphabetical test listings to determine necessary tube type.

- *Serum Gel Tube*: This tube has a gold-top stopper and is used for many chemistry and serology tests. Invert the tube 5 to 10 times and allow it to clot for 20 minutes. It contains a gel layer which when centrifuged, separates serum from clot.

- *Yellow-Top (ACD) Tube*: This tube is used for drawing whole blood for special tests.
  Note: After tube has been filled with blood, Immediately, but gently, invert tube 6 to 10 times to prevent clotting.