

COLLECTION AND PROCESSING OF COAGULATION SPECIMENS

The accuracy of coagulation testing results is highly dependent upon the integrity of the sample. The specimen must be accurately collected, processed, and transported.

Specimen collection:

1. Collect blood into a light blue cap Vacutainer tube (nine parts of freshly collected blood with one part of 0.11 mol/L 3.2% sodium citrate) filled to the proper level. The correct blood to anticoagulant ratio must be achieved.
2. Invert the tube gently 3-4 times immediately after venipuncture to ensure proper mixing of blood and anticoagulant.
3. If an evacuated tube system is used, the coagulation sample should be the second tube collected unless a PT or a PTT only is ordered. Tubes with additives are NOT to be collected before the coagulation sample. See Phlebotomy Order of Draw using plastic tubes.
4. If blood is drawn from an indwelling catheter, heparin or saline contamination may be a possibility. The line should be flushed with 5 mL of saline and the first 5 mL of blood or six dead space volumes of the catheter discarded.
5. The citrate concentration must be adjusted in patients who have hematocrit values above 55%.
6. The specimen(s) are to be delivered to the laboratory immediately after collection. If specimens will not arrive within four hours, the plasma should be separated and frozen.

Handling Conditions:

1. Specimens must be processed within four hours of collection (except protimes).
2. Centrifuge the blood specimen at a time and speed to achieve platelet-poor plasma ($<10,000/\mu\text{L}$).
3. Using a plastic transfer pipette, transfer the plasma to a new properly labeled plastic tube.
4. Repeat the centrifugation to ensure platelet-poor plasma.
5. Dispense the twice-centrifuged plasma into two properly labeled plastic tubes.
6. Note that the specimen is plasma.
7. Freeze the plasma immediately. The specimen MUST remain frozen until the testing is performed.
8. Submit specimen on dry ice.

Rejection:

A specimen will be rejected if it is mislabeled, is unlabeled, is clotted, is collected in the wrong tube, has visible hemolysis, is thawed plasma, exceeds the stability limit, or has less than 90% expected fill of the collection tubes.