

## Coagulation Testing: Specimen Draw 3.2% Sodium Citrate Tubes

Reviewed **1/31/2022** Updated **2/2/2022**. Highlight denotes updated information.

Specimen collection, processing, storage, and transport are critical to obtain valid results for coagulation tests.

- Obtain venous blood by clean venipuncture using a 19–21-gauge needle.
- Avoid leaving the tourniquet on the patient’s arm for an extended period prior to collection.
- The venipuncture must not be traumatic or slow flowing.
- **Tube must be full to maintain 9:1 ratio of blood to the anticoagulant**
  - Do not over-fill or under-fill; look for the fill indicator lines.
- Mix immediately by gentle inversion 8 – 10 times.

### Alternate methods:

- Winged Blood Collection Set (“Butterfly”):
  - A discard tube (without additive) must be used if only a citrate tube is to be drawn using a winged blood collection set. It is important to remove the air from the blood collection set to ensure the proper blood volume is obtained in the tube.
- Intravenous Line Draw:
  - Collection of blood for coagulation testing through intravenous lines that have been flushed with heparin should be avoided, if possible.
  - If the blood must be drawn through an indwelling catheter the possibility of heparin contamination and specimen dilution is of consideration.
  - When obtaining a specimen from an indwelling line that may contain heparin, the line should be flushed with 5 mL of saline, and the first 5 mL of blood or 6 times the line volume (dead space of the catheter), **be drawn off prior to the coagulation tube being filled. The drawn off portion of blood following flushing should not be used for coagulation testing.**
  - For samples collected from a normal saline lock, (capped off venous port), twice the dead space volume of the catheter and extension set should be discarded.
- Syringe Draw:
  - Draw blood into a sterile syringe and immediately transfer into a sodium citrate tube of appropriate size.

### Rejection Criteria:

- Specimens that are clotted
- Collection in wrong anticoagulant
- Under-filled or over-filled containers
- Mislabeled or unlabeled specimen
- Hemolyzed specimen

Guide: [Preparing Platelet Poor Plasma](#)

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