

Volume guide for coagulation testing

To avoid specimen rejection, clients are asked to pay particular attention to collecting adequate volumes when drawing specimens for coagulation tests. These assays require that specimen volumes equal or exceed 90% of the volume of the tube. This requirement reflects a standard established by the Clinical Laboratory Standards Institute (formerly the National Committee for Clinical Laboratory Standards).^{1,2}

To help facilitate adequate collections, many tubes include maximum and minimum fill lines to be used as guides during phlebotomy. (See the illustration below.) The steps outlined below address the collection of specimens for coagulation testing both in glass and plastic tubes.

- Assemble needle in holder; always fully seat and hold a citrate tube on the back end of the needle while filling
- Allow the tube to fill until the vacuum is exhausted and blood flow ceases

- Tubes should fill between $\pm 10\%$ of the stated draw volume of the tube¹
- A discard tube (without additives) 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 coag tube
- Do **not** fill tubes from other tubes or combine two partially filled citrate tubes
- If the specimen is drawn with a syringe, do **not** fill the BD Vacutainer® tube beyond optimal levels. (See below for additional information.) Allow the tube to draw the blood from the syringe using a BD Vacutainer® Blood Transfer Device if available. Do **not** force blood into tube
- Immediately after draw, gently invert tube three to four times; do **not** shake

BD Vacutainer® Plus Plastic Citrate Tube

BD Vacutainer® Plus Plastic Citrate Tube Draw Volume Guide

*Sufficient volume achieved if blood drawn falls above minimum fill indicator. For blood transfer, **do not** fill above illustrated dashed maximum line.*

Note: The quantity of blood drawn into evacuated tubes varies with altitude, ambient temperature, barometric pressure, tube age, venous pressure and filling technique.

*According to CLSI guideline, Dec. 2003, Doc. H1-A5, Vol. 23, No. 33.

References

1. Clinical Laboratory Standards Institute. Tubes and Additives for Venous Blood Specimen Collection; Approved Standard—Fifth Edition. 2003; 16(13):27. Document H1-A5.
2. Clinical Laboratory Standards Institute. Collection, Transport, and Processing of Blood Specimens for Testing Plasma-based Coagulation Assays; Approved Guideline—Fourth Edition. 2003; 18(20):4. Document H21-A4.