

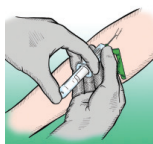
## PREANALYTIC PULSE

### Tips for Avoiding Short Draw or Quantity Not Sufficient

Inadequate volume is a common cause of sample rejection in the laboratory. Studies show that up to 16% of samples are rejected due to insufficient volume.<sup>1</sup> To assist customers in addressing proper collection of specimens using evacuated collection tubes, some of the following suggestions may be helpful.

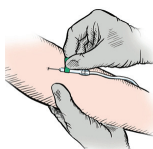
#### CAUSES OF SHORT DRAW TUBES

#### SOLUTION



**Push back** - The tube has pushed back in the holder and the needle is no longer fully penetrating the stopper causing partial occlusion of blood flow.

Push the tube forward until the tube stopper is penetrated by the needle and hold in place using the thumb on the end of the tube and the index and middle finger positioned on the holder flange.



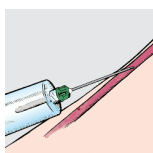
**No discard tube** when using a winged blood collection set. The tubing of the winged collection set partially exhausts the tube vacuum so the proper fill volume is not achieved.

If a winged collection set is used and the coagulation tube is the first drawn, a discard tube (no additive or citrate tube) must be used to obtain adequate sample to maintain the required 9:1 blood to additive ratio.



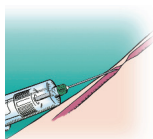
**Tube removed from holder** prior to proper fill - The tube is removed from the holder before the tube vacuum is exhausted and the tube is properly filled.

If the tube is underfilled, it may be rejected by laboratory and require recollection. When collecting, the tube should be kept in place until the vacuum is exhausted and blood ceases to flow.



**Needle not in vein** - The bevel of the needle is against the vein wall, has penetrated the vein or is not fully inserted into the lumen of the vein.

Gently reposition the needle by pulling slightly up or pushing slightly down as appropriate. When changing tubes, hold the equipment firmly in place by resting the fingers of the hand against the patient's arm and using the holder flange as leverage when removing or replacing the tube.



**Vein collapse** - May occur during venipuncture in young children, elderly or individuals with fragile veins.

If the vein collapses, it is usually necessary to recollect using a new site for the draw.

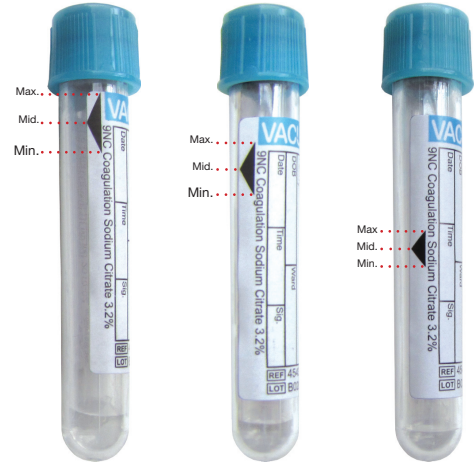
<sup>1</sup> Dale JC, Novis DA. "Outpatient phlebotomy success and reasons for specimen rejection - a Q-Probes study." *Archives of Pathology & Laboratory Medicine*. V126 (2002):416-419.

# VACUETTE® Blood Collection Tube Fill Marks

<b>VACUETTE®</b>	4.5 ml		STERILE	ISO	2009-09	greiner bio-one
	Surname					
	First Name					
	Pat.No.					
	DOB			Ward		
	Date		Time		Sig.	
	Z Serum Clot Activator					
	474727 L110501					

fill mark

VACUETTE® Blood Collection Tubes have an optimal fill mark on every tube label. The fill mark indicates the proper volume of blood-to-additive ratio for the best sample. The fill mark assists in a visual control of the specimen volume. Fill tolerance of the VACUETTE® tube is within +/- 10% of the stated nominal volume in accordance with ISO and CLSI.



3.5 mL      3 mL      2 mL

images not true to size, for reference only.

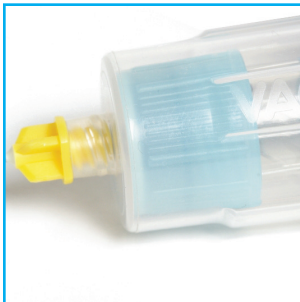
The acceptable fill range is indicated on sodium citrate tube labels to provide a visual reference for adequate sample volume.

## Quick Tips

### PUSH BACK



Tube has pushed back in holder causing partial occlusion of blood flow



Push the tube forward until the tube stopper is penetrated by the needle

### INCOMPLETE FILL



Hold tube in place by pressing it with the thumb to ensure a complete vacuum draw

### DISCARD TUBE



Use a discard tube to draw blood through safety blood collection set tubing prior to filling blood collection tube