

Blood Sample Handling Best Practices

Keys to Successful Testing

Quality of sample analyzed = Quality of result

Avoid vein collapse when drawing samples



- Minimize suction on the syringe, and do not draw back too quickly.

Prevent hemolysis



- Use the largest vein and needle appropriate for blood collection.
- Never use any needle smaller than a 23 gauge size.



- Use minimal alcohol on fur/skin.



- Remove the needle from the syringe before dispensing into the blood tube, unless using a closed vacuum blood collection system.

Ensure the correct ratio of anticoagulant to blood



- Always use the smallest collection tube needed.
- Fill lithium heparin and EDTA tubes to minimum fill line.



- Fill sodium citrate tubes exactly to the fill line.

Prevent unwanted blood clotting



- Do not** hold off the vein for more than a few seconds before venipuncture.



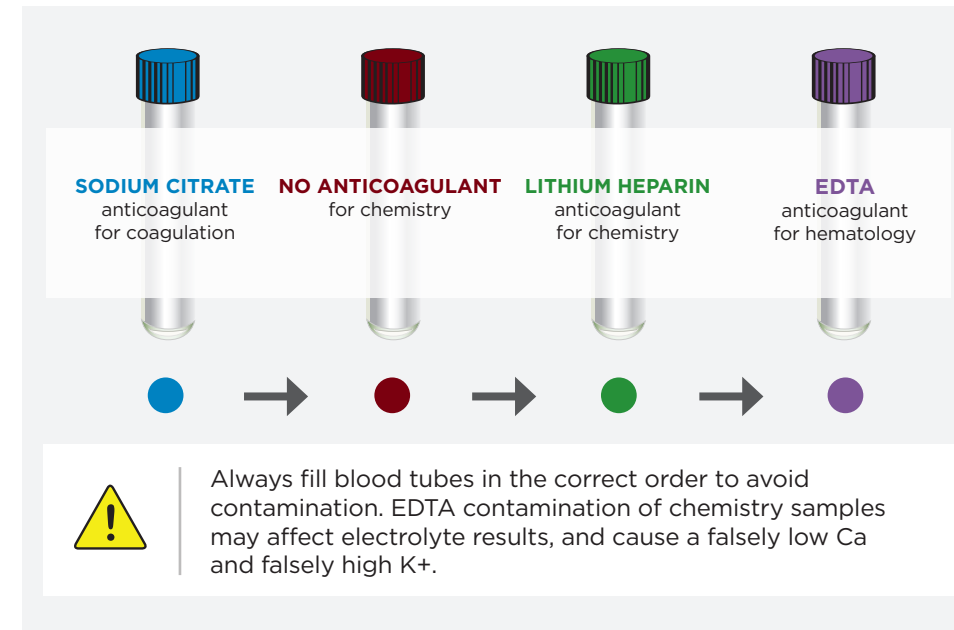
- For feline samples collected from the medial saphenous vein: a vacuum blood collection system instead of a syringe is recommended.

Do not allow samples to degrade



- Run the sample as soon as possible after drawing.

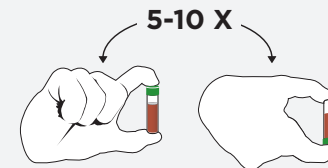
Collection Tubes & Fill Order



Tube Handling

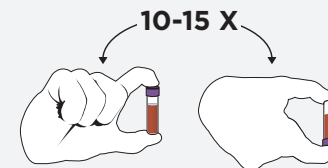
Chemistry

Whole blood samples must be inverted 5-10 times after collection and re-inverted just prior to use.



Hematology

Samples must be inverted 10-15 times after collection and re-inverted just prior to use.



Never shake blood sample tubes.

1.3 mL and smaller tubes may need additional inversions for proper mixing.

Do not rely on a rocker to mix blood samples properly; rockers do not take the place of proper tube inversion, and may cause hemolysis.

Sample Quality



NORMAL plasma and serum samples are straw colored, and do not have a yellow, red, or pink tinge.



HEMOLYZED plasma and serum samples have a pink/red tint due to broken red blood cells.

Avoid hemolysis by using proper sample collection and handling techniques.



LIPEMIC plasma and serum samples have a milky appearance due to a high concentration of fat in the blood.

Avoid lipemia by using a fasted patient sample whenever possible. Remind clients to refrain from feeding their pets for at least 6-8 hours prior to their appointment.



ICTERIC plasma and serum samples have a yellow color due to a disease or condition that causes excessive bilirubin in the blood.



CLOTTED samples may have visible red clots that stick to wooden applicator sticks when swirled in a sample.

Avoid clotted samples by inverting blood tube appropriately immediately after filling. Re-draw any clotted hematology samples. Never run a clotted sample for analysis on the HMS.

Sample Storage

		Room Temp 68-77 °F	Refrigerated 36-46 °F	Frozen ¹ 14 °F
For Chemistry	No Anticoagulant Serum ²	5 hours	48 hours	5 weeks
	Lithium Heparin Whole blood	1 hour	N/A	N/A
For Hematology	Lithium Heparin Plasma ²	5 hours	48 hours	5 weeks
	EDTA Whole blood	4 hours	8 hours	N/A

¹ Freezer must not have a self-defrost cycle.

² Stored plasma and serum samples must be separated and kept in a stoppered test tube containing no additive.