

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.



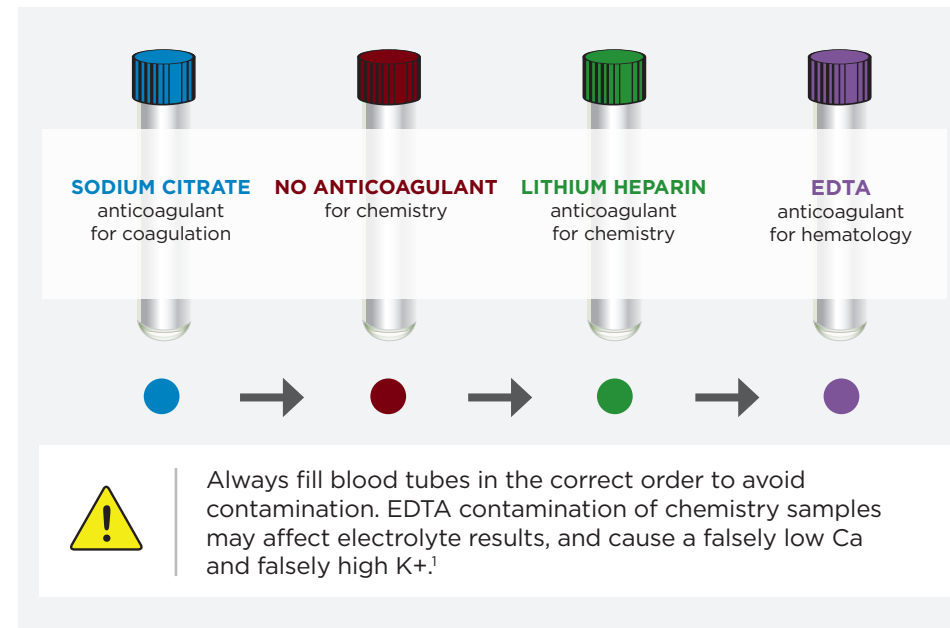
- For feline samples collected from the medial saphenous vein: a vacuum blood collection system instead of a syringe is recommended.

Do not allow samples to degrade



- Run the sample as soon as possible after drawing.

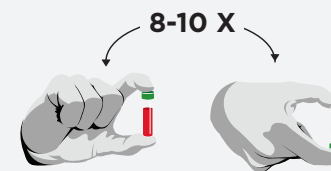
Collection Tubes & Fill Order



Tube Handling

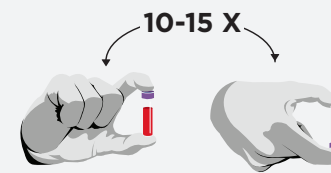
Chemistry^{2,4}

Whole blood samples must be inverted 8-10 times after collection and re-inverted just prior to use.



Hematology^{3,4}

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.

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.¹



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.¹ Remind clients to refrain from feeding their pets prior to their appointment.



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



CLOTTED samples may have visible red clots that stick to wooden applicator sticks when swirled in a sample. Traumatic or delayed blood collection can lead to micro and /or macro clots.¹

Avoid clotted samples by inverting blood tube appropriately immediately after filling. Re-draw any clotted hematology samples.

NOTE: Never run a clotted sample for analysis on the HM5.

Sample Storage^{5,6}



Chemistry²

Lithium Heparin whole blood samples at room temperature* must be run within 1 hour,⁸ or separated to serum* or plasma* and run as soon as possible.⁷ Serum and plasma samples may be stored refrigerated** for up to 48 hours.⁸



Hematology³

EDTA whole blood samples must be run within 1 hour at room temperature*, and may be stored refrigerated** for up to 12 hours.⁷ Blood should return to room temperature prior to running on the HM5.

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

*Room Temperature (68-77 °F)

**Refrigerated Temperature (36-46 °F)

¹Monti P, Archer J. Quality Assurance and Interpretation of Laboratory Data [Chapter 2]. BSAVA Manual of Canine and Feline Clinical Pathology. 3rd ed.; 2016: p. 12.

²VETSCAN VS2 Operator's Manual. 2013. 1200-7063 Rev. A. Data on file, ABX-00101

³VETSCAN HM5 Operator's Manual. 2018. 790-7013 Rev. F. Data on file, ABX-00248.

⁴Weiser, G. Laboratory Technology for Veterinary Medicine [Chapter 1]. Veterinary Hematology and Clinical Chemistry. 2012: p. 3.

⁵Wu, DW, et al., How Long can we Store Blood Samples: A Systematic Review and Meta-Analysis. EBioMedicine. 2017: p. 283-284.

⁶Kitchens, JL. Title The effects of the blood storage time on the accuracy of the comprehensive metabolic panel results. Maryville College, 2006.

⁷Monti P, Archer J. Quality Assurance and Interpretation of Laboratory Data [Chapter 2]. BSAVA Manual of Canine and Feline Clinical Pathology. 3rd ed.; 2016: p. 13.

⁸Weiser, G. Sample Collection, Processing, and Analysis of Laboratory Service Options [Chapter 2]. Veterinary Hematology and Clinical Chemistry, 2012: p. 36.