

Keys to Successful Testing

Quality of sample analysed = Quality of result

Avoid vein collapse when drawing samples



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

Prevent haemolysis



- 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 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.

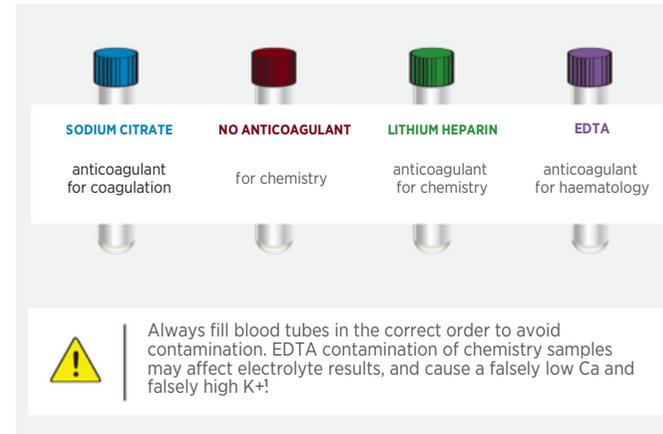


Do not allow sample to degrade



- Run the sample as soon as possible after drawing.

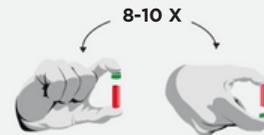
Collection Tubes & Fill Order



Tube Handling

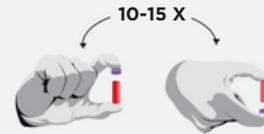
Chemistry^{2,4}

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



Haematology^{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.

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Sample Quality



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



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

Avoid haemolysis by using proper sample collection and handling techniques.¹



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

Avoid lipaemia 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 haematology 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.³



Haematology³

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 (20-25 °C)
++ Refrigerated Temperature (2-8 °C)

1. Monti 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.

2. VETSCAN VS2 Operator's Manual. 2016. 1200-7063 Rev. A. Data on file. ABX-00101

3. VETSCAN HM5 Operator's Manual. 2018. 790-7013 Rev. F. Data on file. ABX-00246

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

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

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

7. Monti 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.

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