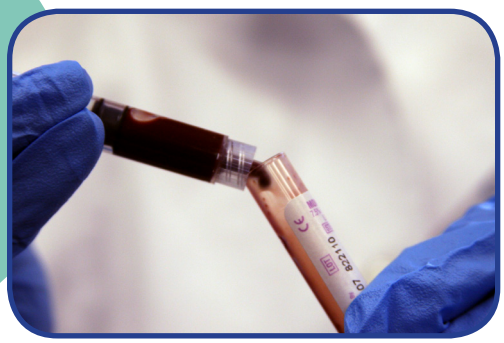
scil's Hematology Sample Handling Tips

* Try to avoid butterfly catheters as they can cause slow transfers as well.

Needle Size

22 gauge or larger bore needles are ideal. Small bore needles result in a greater likelihood of cell damage (hemolysis) and clotting activation. Platelet clumps and hemolysis can lead to low RBC and HCT results.

*** EDTA Anticoagulant**
EDTA is the anti-coagulant of choice for hematology. We do NOT recommend Heparin as it fails to prevent platelet clumping as well as EDTA, and can cause WBC morphologic changes.



Careful Sample Transfer

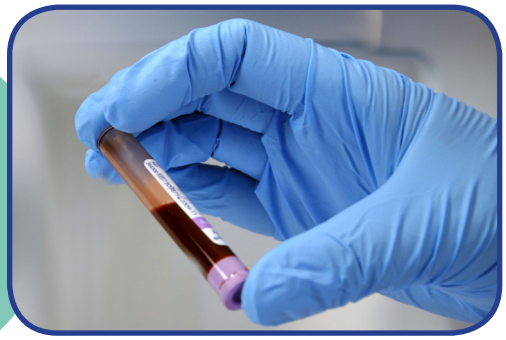
The sample needle and EDTA tube top should be removed prior to sample transfer unless a direct collection method is used. Carefully express the sample so blood runs down the side of the tube. This should reduce cell damage caused by passing through the needle a second time and the turbulence from spraying into the tube which causes cellular damage and clotting activation.

* Microtainers and Sarstedt tubes are meant for samples between 0.1mL to 0.5 mL and have appropriate volumes of EDTA. (Available thru your reference lab or the Sarstedt company.)

Blood Sample to EDTA Ratio

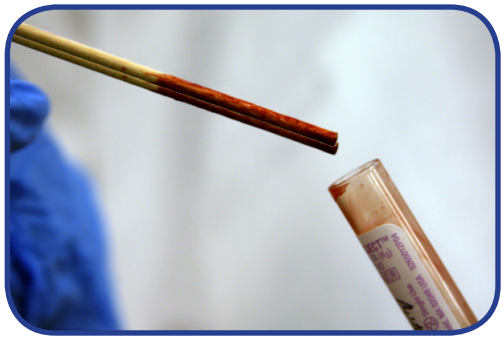
It is crucial to fill the EDTA tube properly. The ratio of anticoagulant to blood sample is very important. For small patients such as cats, kittens, and exotics, use tubes such as microtainers or Sarstedt Microvette 100/200 tubes when the sample volume is small. Attention must be paid to proper fill lines. Improper ratios result in cell morphology changes, falseyly lowered Hct, RBC counts, platelet clumping, etc.

*** DO NOT shake samples or controls** - it damages cells. This is a common error when rushed!



Sample Mixing

After EDTA tube has been adequately filled, it is vital that the sample be mixed *immediately*. Invert the tube 20-30 times (at least 2 minutes) to insure that all the EDTA mixes with the blood. Inadequate mixing may result in clotting activation and platelet clumping. Very important to thoroughly mix directly before testing also. Roll the vials in your hands and gently invert *at least* 20 times to thoroughly mix.



Clotted Samples

If clotting is a possibility due to prolonged draw or delayed sample transfer, check prior to proceeding with the analysis. A clotted sample should never be introduced into an automated system. To check for clots put two stick applicators into the sample and immediately pull them out. Any clots or strands that adhere to them suggest this sample should be discarded and a fresh draw used.

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