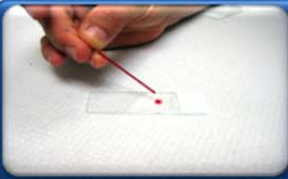
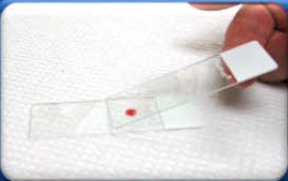


## Preparation of blood smears: modified push smear technique

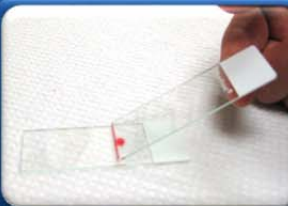
Blood smears need to be prepared as quickly as possible to minimize artifactual changes in non-mammalian blood cells (e.g, heterophil degranulation, nuclear swelling). Heparin is the best anticoagulant for birds, reptiles and most fish species (EDTA causes hemolysis in chelonians and some fish species). Materials needed: kimwipes, plain capillary tubes (non-heparinized), glass slides, pencil, and slide container. Before preparing blood smears, gently and slowly invert the blood collection tube a few times to ensure that the sample is well mixed. After blood films are made, allow slides to air-dry, label, store in dry container at room temperature, and pack safely for shipping (bubble-wrap slide container).



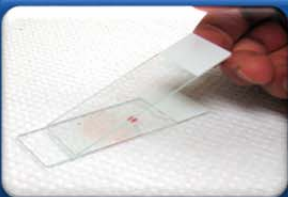
1. One drop of blood is placed from the capillary tube close to one end of the sample slide.



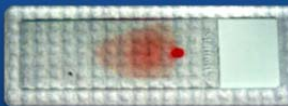
2. The long edge of the spreader slide is placed onto the flat surface of the sample slide in front of the sample\*. The spreader slide is layed on top of the tip of the index finger in a 45-degree angle with respect to the sample slide.



3. The spreader slide is then pulled backward about 1/3 of the way into the aspirated material to contact the front of the drop. When the drop is contacted, it rapidly spreads along the juncture between both slides.



4. The spreader slide is smoothly and rapidly slid forward the length of the slide.



5. The smear should end in a feathered edge at least 1/2 inch from the opposite end of the spreader slide; if the sample smear extends all the way to the edge of the slide, additional slides should be made, and a smaller drop of blood should be put on the slide. 3 to 4 blood films per animal are ideal.

*\*this way, only the pressure of the weight of the spreader slide is used to smear the blood and extra pressure on large and fragile non-mammalian blood cells with consequent traumatic damage can be avoided.*