

UNIVERSITY OF DELAWARE
OFFICE OF LABORATORY ANIMAL MEDICINE

Retro-orbital Blood Collection – Mouse SOP #PRO-006

The mouse has a large retro orbital sinus than can be used as a source of venous blood by penetrating the sinus with a glass capillary tube.

Note: Anesthesia is required unless permission is granted by the Attending Veterinarian for persons demonstrating exceptional skill.

Equipment required:

- Anesthesia
- Microhematocrit or Natelson tubes (plain or heparinized)
- Tube to place blood sample in (after collection) or clay to stopper the tube
- Cotton balls (optional)

Technique:

1. Anesthetize animal.
2. Test for reaction by corneal reflex and toe pinch.
3. Hold mouse by scruff or in the palm of one hand with its head toward your thumb.
4. If mouse is held in palm, place index finger above the eye and thumb below the eye.
5. Pull skin gently away from the eye so that the eyeball protrudes from the socket.
6. **Do not to occlude the trachea!**
7. **Monitor animal's condition at all times!**
8. Insert a microhematocrit tube or the narrowed end of the Natelson tube into the medial canthus of the eye.
9. Using gentle pressure, twist the tube until it enters the orbital venous plexus.
10. Tilt the tube downward to allow the blood to flow smoothly into the tube.
11. After sample is collected, place a finger over the end of the tube to prevent blood from flowing out and quickly remove the tube from the orbital venous plexus.
12. Immediately apply gentle pressure over closed eyelids with your finger and thumb, or a cotton ball, for 1-2 minutes to prevent retro-orbital hemorrhage.
13. **Hemostasis is important to minimize damage to the eye!**
14. Observe animal for normal respirations and skin/mucus membrane color.
15. Observe eye for any bleeding.
16. Apply antibiotic ophthalmic ointment to eye.
17. Return the animal to its cage.
18. Observe animal until awake and look for any signs of pain or distress.
19. Document blood draw on cage card or bound notebook.

Do not repeat collection on the same eye for at least 2 weeks.

Alternate eyes for subsequent blood draws.