

## UH IACUC policy on Retro-orbital Sinus Plexus Sample Collection or Injections in Mice

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IACUC Approved: 9/15/16	Other Approvals:
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### Background

This procedure is limited to mice. Due to increased risk of complications associated with this procedure, the UH IACUC recommends that other routes of blood collection be considered prior to use of this method. In the hands of an unskilled operator, retro-orbital sampling has a greater potential than other blood collection routes to result in the following complications:

- Hematoma and excessive pressure on the eye resulting from retro-orbital hemorrhage
- Corneal ulceration, keratitis, rupture of the eyeball or micro-ophthalmia caused by pressing on the eye to stem persistent bleeding or from a hematoma
- Damage to the optic nerve and other intra-orbital structures leading to vision deficits or blindness
- Fracture of the bones of the orbit and neural damage by the pipette; loss of vitreous humour due to penetration of the eyeball.

The mandibular technique permits equivalent volume of blood to be collected in a rapid manner with less risk or complications.

### Procedure

- A more than sufficient justification for using a category D procedure must be described in the protocol to include the scientific justification and why other category C procedures cannot be used instead. Its use must be reviewed and approved by the UH IACUC.
- Retro-orbital sample collection or injections must be done by a skilled operator. The operator must have written documentation that they have demonstrated proficiency to the veterinarian.
- Retro-orbital sample collection can be used in mice using a capillary tube or Pasteur pipette. Use of sterile capillary tubes and pipettes are recommended for use to help avoid peri-orbital infection and potential long-term damage to the eye. The edges of the tubes should be checked for smoothness to also decrease likelihood of eye damage.
- Sample collection or injections are limited to once per eye, and only one eye per animal. On a case by case basis, both eyes may be used, once each, if a scientific justification is reviewed and approved by the IACUC, and it is for a terminal procedure where the animal is euthanized no later than 12 hours of the first sample collection or injection.
- General anesthesia is required for the procedure.
- A topical ophthalmic anesthetic e.g. Proparacaine® or Tetracaine® drops, must be applied just prior to the procedure.
- Adequate hemostasis following the procedure must be ensured.
- Follow-up is required 24-48 hours after the procedure. If complications such as squinting or bulging of the eye are noted, an animal health report must be completed and the animal assessed by the veterinarian.