1. PURPOSE

The term euthanasia means “good death”. Euthanasia techniques should result in rapid loss of consciousness followed by cardiac or respiratory arrest and the ultimate loss of brain function. In addition, the technique should minimize distress and anxiety experienced by the animal prior to loss of consciousness.

This SOP provides guidelines for the humane euthanasia of rodents by decapitation.

2. MATERIALS

- Decapitation device (i.e., guillotine) or dedicated scissors
- Sharps container
- Bag or container for animal carcass disposal

3. CONSIDERATIONS

3.1. The Canadian Council on Animal Care states that decapitation is acceptable with conditions, if performed correctly and that it may be used when required by experimental design and approved by the Animal Care Committee.
   
   3.1.1. It is preferable that animals be anesthetized, however decapitation can be performed on anesthetized animals without additional justification. Decapitation without anesthesia must be scientifically justified and approved in advance by the Animal Care Committee.

3.2. Personnel who perform decapitation must be properly trained by an ACVS staff member, and may be monitored for competence.

3.3. The equipment used to perform decapitation must be maintained in good working order and serviced on a regular basis.

4. PROCEDURE

Important: Check scissors or other devices used for decapitation semi-annually or more often as needed, depending on the species involved and the frequency of use. A log must be kept that indicates when the equipment was checked and by whom.

If the guillotine is not in good working condition then the euthanasia should be rescheduled and postponed until the equipment is fixed. Notify ACVS staff of malfunctioning equipment.

4.1. Decapitation must be performed in a room that is isolated from all other rodents and free of distractions for the individual performing the procedure.

   4.1.1. The amount of time the animals are in the decapitation room while using a guillotine, scissors or blades or recently used and not yet cleaned equipment should be kept to a minimum to prevent stress.
4.2. Use an appropriately sized guillotine. Decapitate neonates using scissors or scalpel.

4.2.1. Check guillotine, scissors and scalpels to ensure sharpness and proper function (see note above).

4.3. The guillotine should be placed on a clean and stable surface before introducing any animals. Use of dedicated scissors for decapitation should be done in an area set aside for specific use (i.e. rmn 277 Necropsy); the scissors must be checked for working condition before any use. Use of razor or scalpel blade should be upon a firm surface.

4.4. The use of plastic cones to restrain animals reduces stress from handling, minimizes the chance of injury to personnel, and improves the positioning of the animal in the guillotine.

4.5. Hold the animal securely, and place the animal on the stage at the entrance to the guillotine.

4.6. The head will be advanced gently but firmly into the guillotine opening or placed between the scissor blades. Do not depress the guillotine lever unless the animal’s head is appropriately positioned and immobile.

4.7. Verify the position of the animal and ensure there are no obstructions (e.g. fingers, lab coat, etc.) present. The guillotine lever is quickly and completely depressed, scissor blades rapidly closed or razor/scalpel blade firmly and quickly forced down, decapitating the animal. Be certain that the animal’s head can be removed in one clean stroke before depression of guillotine lever, use of razor/scalpel blade or closing scissors.

5. SAFETY

- In the event an injury seek medical attention (x4444) and notify your supervisor. In the case of an animal bite refer to SOP: Responding to Animal Bites.
- Always make sure hands and fingers are clear of the blade path. Do not depress the guillotine lever, close scissors or use blade unless your fingers are out the way.
- Only qualified personnel should sharpen blades, lubricate the guillotine or take it apart.
- Do not use decapitation equipment unless properly trained.
- Old guillotine blades and rusted or damaged scissors should be discarded in the sharps container.
- Documentation: Maintain a log book of the date of blade sharpening or replacement in close proximity to the equipment.
- Refer to SOP “Maintenance of Decapitation Equipment”

6. REFERENCES