

UGA IACUC Guidelines for the Maintenance of Guillotines and other equipment used for decapitation euthanasia

Background: Decapitation as a Method of Euthanasia

The AVMA Guidelines for the Euthanasia lists decapitation as an “acceptable with conditions” method of euthanasia, meaning that it is acceptable only if the following specific conditions are met:

- Decapitation may be used in a research setting when its use is required by the research design and approved by the IACUC.
- The PI **must** ensure that all personnel who perform decapitation have been trained to do so and are monitored for competence.
- The equipment used to perform decapitation **must** be maintained in good working order and serviced on a regular basis to ensure sharpness of the blades.

Decapitation may be used for the following species: laboratory rodents, small rabbits, poultry and other birds, some finfish, amphibians, and reptiles. Note that finfish, amphibians and reptiles must also be pithed after decapitation.

The following equipment may be used for decapitation:

1. A commercial guillotine can be used for all species.
2. Dedicated scissors or razor blade/scalpel may be used only for neonatal rodents.

Maintenance and Routine Servicing of Guillotines:

Guillotines must be kept clean, rust-free, sharp and able to decapitate with minimal force. The cutting action should be smooth with no perceptible binding or resistance.

A guillotine that is not in good working condition should be reported to the PI for repair or sharpening.

Before each use:

The guillotine should be inspected before each use to ensure that it is clean, rust-free, in good working condition, operates smoothly, and that the blade is sufficiently sharp to remove the animal’s head in one clean stroke.

Options for testing operation before use:

1. Use on a freshly euthanized (by other method) carcass of the same species.
2. Use on a thick rubber band. The blade should cut the band cleanly, without dragging it between the blades and/or sticking

After each use:

The guillotine should be cleaned after each use.

Rinse the entire guillotine under cold water to remove blood and tissues. Some careful scrubbing may be needed to remove gross contamination.

Rinse or spray the guillotine with a disinfectant.

Perform a final rinse with 70% ethanol to remove disinfectant and ensure evaporation to reduce the need for hand drying

Turn the guillotine upside down with the blades open to facilitate drying

The guillotine should be periodically lubricated. It is recommended to use a silicone agent as petroleum products leave deposits that inhibit smooth operation.

Routine servicing

The guillotine **must** be serviced at least once every 12 months, and more often as needed, to ensure the sharpness of the blade and proper operation. Whether servicing will be required more frequently than once every 12 months will depend on the volume of use.

Alternatively, the blade can be replaced at least once every 12 months, and more often as needed.

A lab which performs frequent decapitations should consider having a backup guillotine for use when the primary one is being serviced.

This servicing, or blade replacement, **must** be documented.

Maintenance and Routine Servicing of Other Equipment

Dedicated scissors:

Before use, the scissors should be inspected to ensure that the blades are clean, rust-free, in good working condition, and operate smoothly, and that the blade is sufficiently sharp to remove the animal's head in one clean stroke.

After use, scissors should be cleaned and disinfected, similar to the cleaning of the guillotine.

Scissors should be sharpened at once every 12 months, and more often as needed, to ensure the sharpness of the blade and proper operation. Whether servicing will be required more frequently than once every 12 months will depend on the volume of use.

Alternatively, the scissors can be replaced at least once every 12 months, and more often as needed.

Razor blades/scalpels:

All razors and scalpels used must be new at the beginning of each session of euthanizing multiple animals. It should be discarded and replaced as soon as it no longer decapitates with 1 swift cut (becomes dull) and at the end of each session.

Training and Documentation

Training

The PI **must** ensure that all individuals performing decapitation euthanasia are qualified. All personnel performing decapitation should be trained by the PI or a PI designee. The trainee should be supervised until deemed proficient to perform decapitation alone. All training **must** be documented. All personnel performing decapitation must also be monitored for competence.

Documentation:

1. Training: Training of all personnel performing decapitation euthanasia must be documented and this documentation must be maintained by the lab and available to IACUC inspection.
2. Servicing of the guillotine: The guillotine servicing must be documented and this documentation must be maintained by the lab and available to IACUC inspection. The documentation should record the dates of all servicing, and how the guillotine was serviced.

References

AVMA Guidelines for Euthanasia 2013