



Guidelines for the Maintenance of Guillotines and Other Equipment Used for Decapitation Euthanasia

The expectation is that IACUC Guidelines will be followed as best practice. They allow the Animal Care & Use Program to attain acceptable performance outcomes to meet the intent of the regulations. As such, any planned variation from the guidelines requires prior IACUC approval and must be based on a scientific rationale.

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.

A commercial guillotine should be used for all of the species listed above, with the exception of neonatal rodents. Dedicated scissors or razor blade/scalpel may be used only for neonatal rodents, as commercial guillotines are not available for them.

Maintenance and Routine Servicing of Guillotines

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

A guillotine that is not in good working condition must be repaired or sharpened. The guillotine must not be used until it has been repaired/sharpened and is in good working condition again.

Before each use

The guillotine must be inspected before each session 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.

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Suggestions for testing operation before use:

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

Other methods are acceptable, provided that they clearly demonstrate adequate functionality of the guillotine.

After Each Use

The guillotine must be cleaned after each session. Suggested cleaning process:

- 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

Other cleaning methods, such as use of soap and water, are acceptable, provided that they adequately facilitate the maintenance of proper functionality of the guillotine. 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 on a regular basis to ensure the sharpness of the blade and proper operation. The interval between servicing required will depend on the volume of use. Alternatively, the blade can be replaced 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 must 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 must be cleaned and disinfected, similar to the cleaning of the guillotine. Scissors should be sharpened on a regular basis to ensure the sharpness of the blade and proper operation. The interval between servicing required will depend on the volume of use. Alternatively, the scissors can be replaced as needed.

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Razor blades/scalpels

All razors and scalpels used must be new at the beginning of each session of euthanizing multiple animals. The blade must 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 must be trained by personnel who can perform decapitation competently. Personnel should be trained on anesthetized or dead animals to demonstrate proficiency. The trainee must 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

- 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.
- Servicing of the guillotine: The guillotine servicing must be documented and this documentation must be maintained by the lab and available for IACUC inspection. The documentation must record the dates of all servicing, and how the guillotine was serviced.

Reference

AVMA Guidelines for the Euthanasia of Animals, 2020 Edition