

GUILLOTINE USE AND MAINTENANCE

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1. Background

The American Veterinary Medical Association (AVMA) Guidelines on Euthanasia state that, "The equipment used to perform decapitation should be maintained in good working order and serviced on a regular basis to ensure sharpness of blades." In addition, the Association for Assessment and Accreditation of Laboratory Animal Care, International (AAALAC, Int.) may review guillotine maintenance records during the campus's triennial site visits.

2. Guillotine Maintenance Procedures

- Guillotine use must be described in the Principal Investigator (PI)'s Animal Use Protocol (AUP).
- The PI must ensure that all personnel using the guillotine are properly trained and proficient in its use. Training should be documented and maintained in the lab.
- Personnel using a guillotine are responsible for its proper care, cleaning, and use.
 - Prior to use, the guillotine should be checked for rust, smoothness of operation, and cleanliness. Any deviation should be reported to the PI for repair and the guillotine should be removed from use.
 - After use, the entire guillotine should be rinsed under cold water to remove blood, tissues, and gross contamination. After removing gross contamination, the unit should then be thoroughly disinfected [e.g., with NPD (quaternary ammonium compound), soap and water, clidox]. A final 70% alcohol rinse will assure evaporation and reduce the need to hand-dry the equipment.
 - Periodically the guillotine should be taken apart, the blades thoroughly sanitized and moving parts lubricated (a silicon spray, such as WD-40 or equivalent will work). Only trained individuals should take a guillotine apart for sanitation.
- Personnel must document guillotine usage (see Appendix 1 for an example logbook). This documentation must be available to the Animal Care and Use Committee (ACUC) and other regulatory inspectors.

- The ACUC will inspect guillotine use and maintenance records on a semi-annual basis.
- Guillotines in use must be sharpened at a minimum of every twelve months or once every 100 uses (whichever comes first) unless an alternate frequency is outlined in the AUP, and more often if needed. If the manufacturer advises against sharpening, the Attending Veterinarian (AV) or his/her designee will inspect the blade for sharpness. In addition, documentation of the manufacturer's recommendations must be available for inspection. This will depend on the animal species involved and frequency of use. The responsibility for sharpening the guillotine rests with the PI. Blade sharpening should be documented in the guillotine usage log with the date of service.
- The guillotine action should be smooth with no perceptible binding or resistance, and the blade must be rust-free, sharp, and decapitate with minimal force. All animals must be sedated or anesthetized before decapitation unless precluded by scientific considerations and specifically justified to, and approved by, the Animal Care and Use Committee (ACUC).
- In those cases where approval has been granted by the ACUC for the use of a guillotine on unanesthetized animals, the use of disposable plastic cones (e.g. Rodent Restraint Cone, Harvard Apparatus, Holliston, MA) or plastic film tubes (e.g., DecapiCones®, Braintree Scientific, Braintree, MA) is recommended to provide animal restraint, reduce distress, improve positioning, and enhance operator safety.
- If the guillotine can no longer be serviced or sharpened, it should be taken apart for disposal. The blades should be placed in a sharps container for disposal.

References

- American Veterinary Medical Association (AVMA). (2013). AVMA Guidelines on Euthanasia. <https://www.avma.org/KB/Policies/Documents/euthanasia.pdf>.

