

Institutional Animal Care and Use Committee

3227 Cheadle Hall, University of California  
Santa Barbara CA 93106-5062

<https://www.research.ucsb.edu/compliance/animal-subjects/>

IACUC GUIDELINE: MAINTENANCE OF EQUIPMENT USED FOR DECAPITATION

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## **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".

### **1. Guillotine Maintenance Procedures**

- Guillotine use must be described in the Principal Investigator (PI)'s approved IACUC protocol.
- 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.
- The PI is responsible for the guillotine's proper care, cleaning, and use.
  - Prior to each use, the guillotine should be checked for rust, smoothness of operation, cleanliness, and sharpness. Any deviations noted should be immediately reported to the PI for repair and the guillotine should be removed from use until properly repaired.
    - \* The following technique is recommended to assess the sharpness of a guillotine: A guillotine is sharp enough if it will cut a piece of paper, without dragging it between the blades, sticking, or tearing.
  - 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 soap and water, Rescue®). 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 sharpened and 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. It may be necessary to send the guillotine to a vendor who specializes in guillotine maintenance.
- Personnel should document guillotine usage and maintenance (see Appendix 1 for an example logbook). This documentation should be available to the Institutional Animal Care and Use Committee (IACUC) and/or other regulatory inspectors.
  - The IACUC will inspect the guillotine and maintenance records on a semiannual basis.

- Guillotines in-use must be sharpened at a minimum of every twelve months or once every 100 uses (whichever comes first), unless a performance standard is identified and approved by the IACUC.
- 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. The responsibility for maintaining an appropriately sharp 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/sticking 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 the IACUC has reviewed and approved a scientific justification from the PI that would preclude the use of chemical anesthetic.
  - In cases where the IACUC has approved the PI's justification 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 proper disposal. The discarded blades should be placed in a sharps container.

## **2. Scissors and Surgical Blade Maintenance Procedures**

- The use of scissors or a sharp blade for decapitation must be described in the PI's approved IACUC protocol, as should the use of a needle or metal rod for pithing.
- The PI must ensure that all personnel performing the decapitation or pithing are properly trained and proficient in its use. Training should be documented and maintained in the lab.
- The PI is responsible for the proper care, cleaning, and use of their lab's surgical instruments, including scissors and blades.
  - Prior to each use, the scissors, sharp blade or pithing instrument should be checked for rust, smoothness of operation, cleanliness, and sharpness. Any deviations noted should be immediately reported to the PI for repair and the instrument should be removed from use until properly repaired.
  - After use, the instruments should be rinsed under cold water to remove blood, tissues, and gross contamination. After removing gross contamination, the blades should then be thoroughly disinfected (e.g., with soap and water, Rescue®).

### **Reference:**

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



