

1. TRAINING

Research personnel conducting surgical procedures must have appropriate training prior to conducting surgery.

2. ANESTHESIA

Surgical procedures must be performed under anesthesia. Monitoring of the animal's condition and assessment of anesthetic depth must occur at regular intervals throughout the procedure. Anesthetic selection is evaluated during the IACUC protocol approval process and additional veterinary consultation is available at all times.

3. ANALGESIA

Analgesia must be provided to animals that are likely to experience post procedural pain; exceptions must be approved by the IACUC. Investigators are responsible for the assessment and management of pain in their research animals and must include a plan for pain management in their IACUC protocol.

4. RECORD KEEPING

Investigators are responsible for maintaining accurate records of anesthesia, surgery, and post-operative care, including analgesic administration. These records must document the procedures performed, date, and individual performing surgery. Records must be available during the semiannual IACUC inspection.

5. LOCATION FOR SURGERY

It is required that a portion of a room be designated for rodent surgery, be disinfected prior to surgery, and used for no other purpose during the time of surgery.

6. ASEPTIC TECHNIQUE

Aseptic techniques must be followed for all survival surgeries. All surgical equipment, instruments, and supplies that will come in contact with the surgical site must be sterilized before use in survival surgery. The surgeon must wear a surgical face mask and a clean surgical gown, scrub top or lab coat for all rodent surgeries. Sterile or properly disinfected standard gloves must be used. Hair must be removed and the surgical site must be scrubbed three times with a recommended skin

disinfectant, alternating each disinfectant scrub with a scrub of sterile water or 70% isopropyl alcohol. Patient preparation (fur removal) should take place in a space separate from the area where surgery will be performed. For non-survival surgeries, following aseptic technique is not required. However, the surgeon must wear clean gloves, a clean gown or lab coat, and use clean instruments.

7. MULTIPLE RODENT SURVIVAL SURGERIES

The same set of instruments can be used on multiple animals as long as care is taken to maintain the sterility of the instruments. For multiple surgeries occurring on the same day, instruments should not be used on more than five (5) animals before re-sterilization must be performed. The surgeon should change gloves between animals.

8. POST-OPERATIVE CARE

Animals recovering from anesthesia must be monitored by study personnel and provided supportive care until they are fully mobile within the cage. Hypothermia is a major cause of post-operative death in rodents and can be avoided by providing a heat source during the surgical and post-operative period. Following anesthetic recovery, animals must be monitored by study team members as described in the IACUC protocol. All skin sutures and wound clips must be removed between 10-14 days.

9. REFERENCE

1. *The Guide for the Care and Use of Laboratory Animals*. 8th Edition. NRC. 2011.
2. *Comparison of surgeon's gloves used for rodent sterile surgery*. Contemporary Topics 44(4) p. 73. 2005.
3. *Efficacy of Soaking in 70% Isopropyl Alcohol on Aerobic Bacterial Decontamination of Surgical Instruments and Gloves for Serial Mouse Laparotomies*. JAALAS 49(6) p. 832-837. 2010.

10. WHO TO CONTACT FOR HELP

For more detailed information and training in acceptable euthanasia methods, please contact the SHSU IACUC Attending Veterinarian (for the name of the Attending Veterinarian, please see the IACUC Contact page on the Research and Sponsored Programs webpage).

