

IACUC Policy on Rodent Survival Surgery

The University endorses the Public Health Service Policy on Humane Care and Use of Laboratory Animals and has provided a Letter of Assurance to the PHS stating compliance with the Policy and the Guide for the Care and Use of Laboratory Animals. The Guide states that rodent survival surgery should be conducted using aseptic technique. The basic concepts of aseptic technique, anesthesia, and post-operative care are similar in all species, but some conditions may be altered for rodent surgery to account for the size and number of animals used during one procedure. Aseptic technique includes preparation of the patient; preparation of the surgeon; sterilization of instruments, supplies, and implanted materials; and the use of operative techniques to reduce the likelihood of infection.

Policy:

1. The Guide does not require a separate facility for rodent surgery, but surgery should be conducted in an area that is easily sanitized and not used for other activities during the time when surgery is being performed. Surgery may be conducted on a clean, uncluttered lab bench or table surface. It is preferable that the surface be reserved primarily for rodent surgery. The surface must be wiped with a disinfectant (e.g. chlorhexidine or quaternary ammonium chloride) before and after use, or covered with a clean drape during surgery.
2. All instruments must be sterilized, but the method of choice may be determined by the type of surgical instruments or devices being used. Steam sterilization is recommended when possible. Acceptable techniques for cold sterilization include soaking in 2% glutaraldehyde for ten hours, in 8% formaldehyde and 70% alcohol for 18 hours, or in 6% stabilized hydrogen peroxide for 6 hours. Alcohol wiping alone does not provide adequate instrument sterilization. Cold sterilized instruments must be rinsed in sterile saline immediately prior to use.
3. Hair should be removed from the surgical site with clippers or a depilatory. The surgical site should be treated first with an antiseptic scrub (e.g. povidone iodine scrub) and then with an antiseptic solution (e.g. alcohol or povidone iodine solution).
4. The surgeon should wash his/her hands with an antiseptic surgical scrub preparation (e.g. povidone iodine scrub) and then aseptically put on sterile gloves. Note: If working alone, the surgeon must have the animal anesthetized and positioned and have the first layer of the double wrapped pack opened before putting on sterile gloves. The surgeon should wear a face mask. A cap and sterile gown are recommended, but not required.
5. Surgery on Groups of Animals: Group surgeries present special problems. After the first surgery, the sterilized instruments may be resterilized by a hot bead sterilizer. Sterile gloves should be changed between surgeries if the surgeon touches nonsterile surfaces.
6. The abdominal or thoracic body wall should be closed with absorbable suture material. The skin should be closed with sterile staples or with a nonabsorbable suture material in a simple interrupted pattern. Skin sutures or staples should be removed 7 to 10 days after surgery.

7. Post-operative monitoring and care should include frequent observation until the animal has recovered from anesthetic enough to hold itself upright. Anesthetic recovery should take place in a warm environment to prevent hypothermia. Fluid support may be needed. Analgesics must be provided unless specific exception has been granted by the IACUC based on scientific justification. The use of expired medical materials such as drugs, fluids, or sutures is not considered adequate veterinary care. Drugs administered to relieve pain or distress, antibiotics, and emergency drugs must not be used beyond their expiration date.
8. Post-operative care records must be maintained on all animals that have undergone surgery. These records must include a daily assessment and record of analgesia, antibiotics, and other drugs given, including name of the drug and dosage. For rodents, individual animal records are not required. The record may be for a group of animals and may be part of the research record. However, records must be readily available for inspections.

Department of Laboratory Animal Resources (DLAR) personnel are available to assist investigators, students, and technicians with all aspects of rodent surgery. Consultation and special training on areas such as sterile pack preparation, anesthesia, sterile technique, and suturing can be arranged for individuals or groups.