

Subject:	Aseptic Technique
Source	Institutional Animal Care and Use Committee (IACUC)
Effective Date	07/13/2026
Replaces:	06/12/2023
Applies to:	Personnel involved in Research or Teaching involving animals.
Reference:	Animal Welfare Act; PHS Policy on Humane Care & Use of Laboratory Animals. Guide for the Care & Use of Laboratory Animals

The Institutional Animal Care and Use Committee (IACUC) provides oversight of the institution's animal care and use program, ensuring compliance with federally mandated regulations, ethical standards, and institutional policies governing the humane use of animals in research and teaching at the University of Colorado Denver | Anschutz. The IACUC evaluates and reviews all activities related to the care and use of animals and determines if the proposed activities are in accordance with regulations.

Policy Statement

Aseptic technique is required by the IACUC for all survival surgeries in all species unless scientific justification is provided.

This policy provides information on aseptic technique requirements and establishes procedures to be followed. Aseptic technique is used to reduce microbial contamination to the lowest practical level. No single procedure, piece of equipment, or germicide alone can achieve that objective. The contribution and importance of each of these techniques will vary with the surgical procedure.

- Surgery location:
 - Non-rodent survival surgery must be conducted only in facilities intended for that purpose unless an exception is specifically justified as an essential component of the research protocol and approved by the IACUC.
 - Rodent survival surgery must be conducted in an area that is dedicated for that use when surgeries are being prepared and performed.
 - Most bacteria are carried on airborne particles or fomites, so surgical facilities will be maintained in a manner that ensures cleanliness and minimizes unnecessary traffic.
 - If it is necessary to use the operating area for other purposes, it is imperative that the area be returned to an appropriate level of cleanliness before it is used for survival surgery.
 - Clipping of the hair and removal of gross debris should occur in a location away from the immediate surgical area. If it must occur in the surgical area, methods to remove hair and other gross debris should be employed before preparing the patient for surgery.
- Standard aseptic techniques include:
 - Preparation of the patient
 - If the animal is haired, removing the hair from the surgical site is required. Methods include clipping, shaving, and chemical removal (i.e. Nair). The method of hair removal should be described in the protocol.
 - If a chemical method is used, the chemical must be included in the protocol, and the procedure should be described.

- The surgical site must be disinfected (alcohol by itself is not a sufficient disinfectant).
 - An example of an appropriate disinfection method is scrubbing with an appropriate disinfectant (betadine or chlorhexidine) alternated with alcohol for three applications each for a total of total applications.
- Preparation of the surgeon
 - A hair bonnet, surgical mask, and lab coat are required. Based on the situation, alternatives to a lab coat may include clean surgical scrubs, or an isolation gown. For large animal USDA species, a sterile surgical gown is generally required.
 - Sterile surgical gloves are required if the surgeon's hands will touch the surgical site. Exam gloves may be used when only the tips of instruments touch the surgical site, and appropriate use of the "Tips Only" technique is employed.
 - The "Tips Only" technique is generally only applicable to non-USDA animal surgical procedures.
- Sterilization of instruments, supplies, and implanted materials
 - All survival surgical procedures require the use of sterile instruments, supplies, and implanted materials using an accepted method of sterilization (i.e. autoclave, vaporized hydrogen peroxide, ethylene oxide).
 - Alcohol and liquid disinfectants are not acceptable for instrument sterilization.
 - Tips only technique may only be used in rodents and requires that instruments begin the day fully sterilized by an acceptable method (see above).
 - Instruments may be used on successive animals (up to 5), provided that the instrument tips are re-sterilized in-between animals by a glass bead sterilizer, or other acceptable method.
 - Newly sterilized tips must be placed into a sterile field.
- Surgical techniques to reduce the likelihood of infection.
 - Create a sterile field (generally achieved through draping)
 - Materials can include surgical drapes, gauze (4x4s), and Press N Seal. These materials are single use only (one per animal) When not in use, instruments must be kept sterile (i.e. placed on a sterile surface)
 - Ensure suture material remains sterile throughout the procedure and within the sterile field. in contact with the surgical site
- General information:
 - It is essential to thoroughly inspect all materials intended for use on the animal to ensure that none are expired, contaminated, or otherwise unsuitable. Additionally, please verify that all agents and procedures are approved in accordance with the approved IACUC protocol.
 - The species of animal may also influence the selection of appropriate aseptic techniques.
 - For example, skin preparation in amphibians and fish is not recommended, as such preparation will remove the protective slime coats.
 - If a non-sterile part of an animal, such as the gastrointestinal tract, is to be surgically exposed or if a procedure is likely to cause immunosuppression, pre-operative antibiotics may be appropriate. However, antibiotics should never be considered as a replacement for aseptic techniques.

- Modifications in standard aseptic techniques may be approved by the IACUC if scientifically justified by the investigator.
 - Each protocol proposing the use of non-standard aseptic techniques will be considered and reviewed by the IACUC on a case-by-case basis.

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In accordance with regulatory requirements, failure to comply with this policy will result in a review by the IACUC. Depending on the severity of the violation, you will be required to complete additional training, and your privileges to conduct animal research at CU Denver | Anschutz may be suspended or completely revoked.

If your research privileges are suspended, your funding agency (e.g., NIH) and relevant regulatory agencies (e.g., USDA) will be informed about your violation of federal and/or local policies regarding the humane use of animals. This notification will have a direct impact on your ongoing funding for animal-related research. Ensure you adhere to the established guidelines to avoid these consequences.