

Policy on Rodent Major Survival Surgery

Reference(s):

- Guide for the Care and Use of Laboratory Animals (*Guide*), NRC, 1996

Policy:

Aseptic surgical procedures must be used for major survival surgery of rodents. A separate room used primarily for aseptic procedures is desirable; however, the campus Institutional Animal Care and Use Committee (IACUC) may approve performing survival rodent surgical procedures in certain laboratory settings using aseptic technique. The following minimum standards for aseptic procedures have been adopted by the IACUC and LAR:

- A designated (at the time of surgery), clean, uncluttered work area and a sanitized work surface;
- Appropriate preparation of the surgical site, including removal of the fur and adequate disinfection of the skin;
- The use of sterile instruments, supplies and wound closure materials; or mechanisms for rapidly re-sterilizing instruments if they are to be re-used.
- Draping the immediate area around the incision with sterile drapes (such as sterile gauze or autoclaved lab mat/paper towels) to avoid contamination of the incision, instruments and supplies.
- Sterile surgical gloves and surgical mask worn by the surgeon and any assistants working in the immediate surgical field. A surgeon's cap is recommended to prevent hair or dander falling into the surgical area.
- A clean lab coat, surgical gown or other appropriate attire to replace or cover street clothing.
- Use of operative techniques that avoid contamination of sterile instruments and gloves and reduce the likelihood of infection.

Surgical procedures may be performed on multiple rodents during a single session using one sterile surgical pack, providing that:

- Care is taken to minimize contamination
- Instruments are heated in a hot bead sterilizer, flamed with 95% alcohol, or soaked in an approved sterilant observing recommended exposure times and rinsed in sterile saline between animals.
- When appropriately justified in the protocol, the IACUC may approve 'tips only' surgeries where the surgeon touches the animal only with the sterilized instrument tips. This can be performed by properly trained surgeons, using new exam gloves, providing staples are used for wound closures, and sterile surgical gloves are available in case contact has to be made with the incision or tissues of the body cavity.

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Post-operative monitoring and suture removal following wound healing are important post-surgical considerations. These must be described in the animal use protocol and adhere to guidelines in the current NRC *Guide for the Care and Use of Laboratory Animals*. Post-operative analgesia must be in accordance with the campus [Policy on the Use of Sedatives, Analgesics and Anesthetics in Laboratory Animals](#).

Exceptions to the general policy above will be considered by the IACUC with proper scientific justification

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Policy on Use of Sedatives, Analgesics, and Anesthetics in Animals Used in Research and Teaching

Reference(s):

- Guide for the Care and Use of Laboratory Animals, NRC, 1996
- Animal Welfare Regulations, 9 CFR, chapter I, subchapter A
- U.S. Government Principles for the Care and Use of Animals Used in Testing, Research, and Training, 1983

Policy:

Animals that may experience more than momentary or slight pain or distress require appropriate sedation, analgesia, or anesthesia unless there are suitable scientific justifications. Assessment of pain and distress in animals is difficult and can be subjective. As such, procedures that cause pain or distress in humans should be assumed to cause similar affects in animals, unless the contrary is established. The attending veterinarian has the authority to ensure the provision of adequate sedation, analgesia, or anesthesia.

Role of the Investigator

When animals may experience more than momentary or slight pain or distress, the investigator must provide in the animal care and use protocol a detailed description of how pain or distress will be assessed and how agents will be used to alleviate pain and distress. This is done at IUB by developing a pain scale that objectively assesses pain and provides precise instruction regarding analgesic use and euthanasia. Basic pain scales for each species are available from the IACUC-administrator, and these should be modified by the investigator to meet the needs of the specific project. When animals are subjected to major survival surgery, routine provision of postsurgical analgesia is required. If the investigator feels it necessary to withhold sedatives, analgesics, or anesthetics or deviate from the recommendations of the veterinary staff, the investigator must provide the IACUC with a reasoned, scientific justification for this action. The justification should include the rationale or evidence that the agents would compromise the scientific aspects of the research protocol. Investigators are highly encouraged to consult with the veterinary staff during the course of protocol planning to reach agreement concerning appropriate use of drugs for control of pain and distress.

Role of the Laboratory Animal Resources (LAR) and Clinical Veterinary Staff

The proposed methods and use of agents to prevent or alleviate pain or distress in experimental animals must meet the approval of the veterinary staff. The LAR veterinary staff will review animal care and use protocols to determine that proposed methods and agents for anesthesia and analgesia are appropriate. To this end, the veterinarians consult with investigators as needed to arrive at appropriate methods of treatment that meet the clinical needs of the animals and do not compromise the scientific integrity of the experiments.

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In the event of unanticipated pain or distress that is protocol-associated or arises from spontaneous illness or injury, the clinical veterinarian attending to the animal(s) is responsible for determining the cause of pain and instituting ameliorative therapy consistent with established veterinary medical and nursing procedures. The Attending Veterinarian has authority to make independent emergency decisions concerning the treatment regimen of animals experiencing unalleviated pain or suffering. This authority is delegated to clinical veterinarians attending to animals under the auspices of the IUB animal care and use program. Such animals must be provided appropriate veterinary care or be humanely euthanized, unless this is in direct conflict with experimental goals that have been previously described in a protocol approved by the IACUC.

Every effort will be made to consult with the investigator prior to initiating treatment or euthanasia. In all cases, however, the welfare of the animal will be the primary consideration.

Institutional Animal Care and Use Committee (IACUC) Oversight

The IACUC has ultimate responsibility for ensuring that pain and distress in research animals is limited to that which is necessary in the course of approved experimentation. This includes review and approval of methods and agents used for prevention and alleviation of pain and distress. A pain scale must be submitted with the protocol for all procedures that involve subjecting animals to more than momentary or slight pain or distress. Committee decisions in this regard will be based on regulatory requirements as well as advice from the veterinary staff and the investigators. The IACUC will periodically review (at least every 3 years) protocols that involve pain or distress. The review will specifically assess methods and agents being used and deviations (if any) from this policy.

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