

# UNC IACUC Anesthetized Procedure Standards for Rats and Mice

## (Non-survival and survival procedures)

### I. Requirements for ALL anesthetized procedures (anesthesia only, survival surgery, non-survival surgery):

- a. Pre Procedure Planning:
  - i. Procedures must be performed by qualified personnel according to the approved IACUC protocol.
  - ii. Recommend contacting DLAM Veterinarians for consultation prior to submission of protocol.
    1. [Analgesia and Anesthesia Formulary – Mice](#)
    2. [Analgesia and Anesthesia Formulary – Rats](#)
  - iii. Observe the [Acclimation period for received animal transfer/shipments](#)
  - iv. Pharmaceutical Grade controlled substances, emergency, anesthetic, analgesic, and euthanasia drugs **may not** be used beyond the date of expiration, **even if used only for terminal procedures.**
- b. Supportive care for anesthetized animals:
  - i. Apply pharmaceutical or veterinary grade ophthalmic lubricant to the eyes and reapply as necessary.\*
  - ii. Provide an appropriate source of heat for the entire animal, including the tail, with care taken to avoid overheating and burns from heat sources.\*
  - iii. Animals must be recovered and fully ambulatory before placing back in the animal room unattended.
  - iv. Anesthetized animals must be observed at all times during anesthesia (including induction and recovery) and not left unattended until ambulatory.  
\* - Not necessary for inhalant anesthesia lasting <10-15 minutes
- c. **Documentation:** Dates and times of all observations, treatments, and procedures must be recorded (including anesthetic and confirmation of appropriate anesthetic depth). Any deviations from the procedure as approved in the protocol must be reviewed by a DLAM veterinarian prior to implementation and then amended to the appropriate protocol and approved by the IACUC. All records must be available for review at any time by IACUC representatives and external regulatory officials. If a cage card will be your primary documentation record, than this card must be kept for the life of the IACUC protocol\*. **An example Rodent Anesthesia/Analgesia/Procedure Record template, available for download [here](#).**
- d. \* - *if controlled substances are used they must also be recorded in the controlled drug log per [DEA requirements](#).*

### II. Additional Requirements for Survival surgery:

- a. **Aseptic Technique: must be utilized as described in the [Standard for Aseptic Technique for Rodent Survival Surgeries](#) for all rodent survival surgeries, unless otherwise approved in the protocol:**
- b. preemptive analgesia for survival procedures is recommended.
- c. **Date of procedure, procedure name, and date/time of postoperative analgesics/observations must be recorded at the cage level.** An example of the required cage card, provided in all animal rooms by DLAM, can be found [here](#).

- d. **Post-Operative and Recovery care:** During recovery the animal should be observed no less than every fifteen minutes. The animal should not be returned to the home cage until fully ambulatory.
  - i. Provide the animal a quiet, warm place to recover until fully ambulatory.
  - ii. Do not supply food or water until the animal is fully ambulatory.
  - iii. If an endotracheal tube was used, extubate the animal when swallowing reflexes return.
  - iv. Rotate the body every fifteen minutes to avoid lung collapse.
  - v. Monitor according to approved protocol. Any abnormal behavior or physiological changes should be reported to the DLAM veterinary technical staff at 966-2906.
  - vi. A moist/soft food source can be provided on the floor of the cage to reduce the amount of exertion required by a post-surgical animal.
  - vii. Check the incision site daily (look for swelling, infection and dehiscence).
  - viii. Note the animal's hydration status. This can be achieved by pinching the skin. Skin that remains tented or is slow to return indicates dehydration. Warm fluids should be given if the animal is dehydrated. If the animal does not seem to be recovering as expected, report this to Veterinary Services, 966-2906.
- e. **General Postoperative Analgesia Guidelines:**
  - i. The IACUC requires the administration of analgesics for all survival surgeries. Selection of the appropriate analgesic agent(s) should be based on the type of surgical procedure, be provided for a minimum of 24 hours (minor surgery) to 48 hours (major surgery), and continued longer if the animal is displaying any symptoms associated with pain.
  - ii. Analgesic administration should be documented and administered according to the approved protocol and any deviations should be reviewed by a DLAM veterinarian prior to implementation and then amended to the protocol.
  - iii. For specific agents, dosages, and routes please refer to the DLAM Formularies (links in section II of this document), or contact the DLAM veterinary staff at 919-962-5335.

### III. Non-Survival Surgery:

- a. Expired medical materials may be used in non-survival procedures with restrictions (Refer to the [Guidelines for Administered Compounds](#) for more details.)
- b. Non-survival surgery does not require aseptic techniques or dedicated facilities.