Subject: Post Operative / Post Anesthetic Care of Rodents

BACKGROUND

This Standard Operating Procedure (SOP) provides detailed descriptions of procedures to be followed unless alternate procedures have been outlined in an IACUC Protocol Application. If an investigator wishes to deviate from the approved SOP, all changes must be outlined and justified in the protocol application (approval of the protocol indicates approval of the deviation from the SOP for that project only).

It is the researcher’s responsibility to ensure that adequate post-operative/post-anesthetic care is provided. The individual(s) providing post-operative care must be familiar with the approved IACUC Protocol, have the skills and abilities to perform the assessments as indicated below, and must be able to provide support in case of complications. A qualified Laboratory Animal Technician may be hired at an hourly rate to perform these tasks. It is important to note that these guidelines are MINIMUM STANDARDS.

The aim of this SOP is to:

- provide for a rapid, smooth and pain free recovery
- reduce the chances of complications
- identify and correct as quickly as possible, any complications that occur

IACUC Procedure

Immediate Recovery Period

The period from cessation of anesthesia or completion of surgery until animal achieves normal ambulation and can eat, drink, and groom.

1. Animals are carefully observed every 5 minutes; anesthetized animals are never left unattended.
2. The animal is placed in a clean dry cage without bedding, as it may be ingested or inhaled during recovery. The cage should be placed on a supplemental heating source to prevent hypothermia. The use of electric heating pads is discouraged because they can cause thermal burns – water-circulating heating pads are preferred. One should carefully monitor and regulate the anesthetized animals’ core temperature because hyperthermia can easily occur and cause permanent damage and even death. To prevent possible injury to the anesthetized animal, recovering animals should be singly housed. If recovering animals are group housed, more frequent monitoring must be done.
3. Additional eye lubricant is instilled at this time.
4. Rate and depth of respiration is visually monitored, temperature is taken or palpate extremities to check animal’s temperature. Color of mucous membranes, ears and tail are monitored to confirm normal tissue perfusion. Reflexes (i.e. pedal, palpebral and eye position) are monitored to assess recovery from anesthesia.
5. Animals should be turned every 10 minutes to improve respirations and decrease recovery time.
6. For surgical procedures longer than 30 minutes and/or where fluid loss due to hemorrhage or evaporation is anticipated, fluid support will be provided. Warmed subcutaneous or intravenous fluids (Lactate Ringer’s or normal saline) are given at the rate of 10-15 ml/kg/hour.
7. The analgesic regime will be followed as indicated in the approved protocol. Unless justification to the contrary is provided, all animals will receive at least 24 hours of analgesia following any surgical procedure.
8. The procedure performed will be noted on the animal’s cage card.

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9. If no complications arise, animal is monitored and care provided as described above every 30 to 60 minutes.

10. Once animal is has normal ambulation, and is able to eat and drink normally, it will be returned to normal housing (in a cage with bedding) to the DLAR housing facility. Food will be provided on the cage floor. Additional supportive care will be provided by the research team unless DLAR staff is directed to assume this responsibility.

**Long Term Recovery Period**

*The period when normal activity resumes until the incision is healed.*

1. Research staff will check on the animal early the following day and at least daily thereafter. Research staff will ensure that the animal is eating, drinking, eliminating, and ambulating normally. Also, body weight should be obtained on a frequent basis (e.g. daily initially, then weekly thereafter).

2. The incision site is checked for clear or purulent discharge, redness, swelling, pain, suture removal by the animal, or incision breakdown.

3. Signs of surgical complication such as herniation, infection, organ dysfunction, pain, etc. will prompt a consultation with a DLAR veterinarian.

4. Any abnormalities (e.g. dehydration, lethargy, inappetence) will warrant supportive care, consultation with a DLAR veterinarian, and continued frequent monitoring and care; detailed records will be kept. Continued weight loss, dehydration and lethargy are not acceptable and may require early euthanasia.

5. Monitoring will continue daily until incision is healed and sutures/wound clips are removed.

**SUMMARY**

*The PI acknowledges that the above procedure represents minimum standards only. Animals experiencing complications will be afforded more frequent monitoring and care, and a veterinarian will be consulted for further guidance.*