Arizona State University
Institutional Animal Care and Use Committee
STANDARD INSTITUTIONAL GUIDELINE

POST-OPERATIVE CARE

It is the policy of the IACUC that animals undergoing survival surgery will receive appropriate post-operative care as presented in these guidelines.

A. Post-operative Phases

1. Anesthetic Recovery: This phase is often considered to be the most critical, as recovery from the anesthetic involves dynamic changes in physiological processes that can result in crucial disturbances. Therefore, continuous observation of the patient is required until it is lucid.

2. Acute Post-operative Care: During this phase, the animal is maintained in a recovery area appropriate for the species until adequate stabilization allows removal to a more standard husbandry situation (i.e., ambulatory and able to reach both food and water). This requires observation at regular time intervals that may be decreased as the patient begins to display behavior indicative of full recovery from anesthesia (righting, normal movement, ocular reflexes etc.).

3. Long-term Post-operative Care: Management beyond the acute phase involves follow-up care to ensure that the patient returns to as normal of a physiological and behavioral state as possible. This stage includes observation of the animal’s attitude and demeanor, assessment of their physiological functions (urine/fecal output), and monitoring of their physical capabilities. Additionally, surgical sites should be observed regularly, bandages changed as necessary, and sutures or staples removed at the appropriate time.

B. Post-operative Facilities

1. Recovery Room

   a. Anesthetic recovery and acute post-operative care are best accomplished in a dedicated room or area near the surgical space. This space must be easily accessible for personnel who are responsible for post-operative monitoring to ensure that proper care, as outlined above, is provided.

   b. Post-operative patients should be housed in clean cages designed to avoid injury to the animal and of appropriate size for the species. Individual housing may be warranted depending on the species, the procedure(s) performed, and their expected post-operative status.

C. Post-operative Procedure Guidelines

1. Thermometers should be used to monitor body temperature, especially for non-rodent mammals.

2. Heat lamps, heating pads, hot water bottles, increased ambient room temperature, or heated cages may be provided to minimize hypothermia. Careful attention should be paid to the
temperature of the environment to ensure that it is within the correct parameters for the species. While provisioning of external heat is critical for a fast and uneventful recovery, there can be no hot spots that could injure the animal, since heat avoidance behavior is non-existent or subdued during recovery.

3. Supplemental intravenous, subcutaneous, or intraperitoneal fluids should be considered, especially for lengthy procedures.

4. For larger species, a source of oxygen, various-sized endotracheal tubes, a laryngoscope, resuscitation breathing bags, and suction should be available for the maintenance of adequate ventilatory function.

5. Emergency drugs (e.g., epinephrine, corticosteroids, lidocaine, antihistamines, etc.) appropriate to the species being used should be readily available.

6. Sutures or staples should be removed once tissue has healed significantly, and drains and dressings should be checked and changed regularly.

D. Post-operative Patient Evaluation

1. Careful observation by trained personnel is essential during all phases of post-operative care.

2. Anesthetic recovery and acute post-operative care

   a. Attention should be given to the animal’s vital signs (e.g., ventilatory rate, mucous membrane color, capillary refill time, and pulse).

   b. Until the animal has recovered from anesthesia, it should be rotated or turned every 15 minutes to facilitate respiration and avoid dependent edema.

3. Long-term evaluation should include:

   a. Observation of the animal’s attitude and demeanor to assess potential post-operative effects such as pain or other complications. Such observations should be compared to what is normal for that individual.

   b. Monitoring of surgical sites for signs of infection, dehiscence, or self-inflicted trauma.

   c. Monitoring of physiological functions (e.g., breathing, eating, urination, defecation) to ensure they are within normal limits and that post-operative pain is adequately controlled.

   d. Observation of the patient’s physical capabilities to ensure normal ambulation.