Animal Care and Use Program
Policies & Procedures

Anesthesia: Large Animal Surgical Procedure Requirements
(Central and Waterfront Campuses)

Version 2.0
Date Effective: April 2012

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DEFINITIONS:
The Department of Comparative Medicine (DCM): Provides training for investigators and research staff and peri-operative support for personnel working on the Central or Waterfront Campuses.

Purpose:

To define the responsibilities of both investigators and Department of Comparative Medicine (DCM) staff for surgical or anesthetic procedures on large animals. These requirements ensure optimum animal health and well-being, and they insure compliance with federal regulations pertaining to animal research. This policy applies to rabbits, dogs, cats, sheep and pigs and any other animals as designated by the DCM.

Responsibility:

Investigators and research staff in cooperation with DCM husbandry/veterinary staff.

Requirements:

1. Anyone actively participating in a procedure involving animals (excluding DCM staff) must be named on the approved animal use protocol prior to engaging in the procedure. All procedures being done to animals must be described in the approved animal use protocol. Investigators must submit any changes from the protocol for review and approval by the IACUC prior to performing the procedure.

2. Investigators must discuss any pilot or new surgical protocols that have been approved by the IACUC, but have not been previously performed at OHSU, with DCM veterinarians and/or technicians well in advance of the proposed procedure.

3. Animals should have a minimum 72-hour acclimation period upon arriving at the animal facility prior to undergoing any procedure involving surgery and/or anesthesia that the animal is expected to **survive**. A 4 or 5-day interval is preferred. Exceptions to this acclimation period may be granted by the IACUC if requested by the Principal Investigator as part of their animal use protocol submission. The IACUC will consider scientific justification, length and method of transport, the type of housing the animals experienced prior to transport and/or any other relevant information before granting an exception.

4. Investigators or research staff must schedule surgeries to be done in the DCM surgical suite as far in advance as possible but no later than 48 hours before the procedure. Contact the experimental surgical suite staff at 503-494-2482 for assistance.Space is provided on a first

come, first served basis. Investigators or research staff must also inform DCM of any peri-operative supplies or assistance that DCM staff will be expected to provide at the time of scheduling.

5. Either the investigators, research staff, or DCM (if DCM is administering anesthesia) are required to maintain complete anesthesia records (required by federal agencies and AAALAC). These records should include:

a. Animal ID number
b. Approved Animal Care and Use Protocol Number
c. Name of the Procedure
d. Name of the Surgeons, anesthetists and any assistants
e. Drug name(s), dose, route and time of any pre-medications given
f. Size and location of any catheters placed
g. Size of endotracheal tube and whether a ventilator is being used.
h. Name and dose of anesthetic agent(s) used
i. Anesthesia and surgery start- and stop-times
j. Routine recording of subject monitoring parameters every 30 minutes (we recommend every 15 minutes, if possible) – these parameters include heart rate, respiratory rate, oxygen flow rate, percent inspired gas, end tidal CO2, oxygen saturation, and mucous membrane and/or skin color. Subject temperature should also be monitored at least every 30 minutes during the anesthetic period.
k. Dose and route of any additional agents given
l. Type, route, flow rate and total volume of any supplemental fluids
m. Any abnormal reactions observed at any stage of the anesthetic or surgical procedure including time of onset, description of efforts to correct the problem, and outcome
n. Description of anesthetic recovery (e.g., recovered well, slow to recover, vomited, painful, etc.)
o. Method used for euthanasia if terminal procedure (including route and volume)

A copy of this record (or the original if anesthesia performed by DCM veterinary staff) will be provided on the day of the procedure to DCM and placed in the animal medical record for non-survival as well as survival procedures. Forms can be obtained from DCM

6. The investigators or research staff must make arrangements with the veterinary staff prior to the procedure to insure that DCM staff is available to administer any postoperative care or medications and monitoring required. If animals will be returned after 2:30pm, DCM veterinarians should be notified directly.

7. The investigator or research staff is required to monitor subjects post-surgically until they are extubated, conscious, and ambulatory (if appropriate to the procedure). If an animal is not sufficiently recovered by 4:00 pm, the investigator or research staff will be responsible for monitoring and treating the animal unless a specific request for DCM services has been made in advance. If DCM will be involved in post-surgical care, the investigator or research staff must provide a post-surgical care plan in writing. This should include:

a. Description of any expected complications
b. Expected recovery time
c. Special housing or feeding requirements or other needed supportive care
d. Medications to be administered – drug name, dose, route, frequency and duration of treatment including a pain management plan
e. Anticipated survival time
f. After-hours contact information

The investigator or research staff must record any medications they administer in the animal record.

The investigator or research staff must contact DCM immediately if an animal experiences complications from the procedure. If DCM staff is required to stay past 4:00pm to monitor post-operative animals, an hourly fee will be charged to the PI's account for services provided.

8. The investigator or research staff is responsible for assessing the animal's condition for three days post-operatively. This includes obtaining a body temperature, taking heart and respiratory rates, inspecting the incision site(s), noting food and water intake, and evaluating overall condition (i.e., if the animal is Bright, Alert, and Responsive [BAR], or exhibiting signs of pain, etc.). For sheep, auscultation of the rumen to confirm GI motility is also recommended. The investigator or research staff must record these observations in the animal's medical record in a format consistent with USDA and DCM standards. The investigator or research staff must immediately report any abnormalities to the DCM veterinary staff. If, during the exam, the animal is resistant and you are unable to obtain these observations, please note this in the animal record. DO NOT overly stress an animal to obtain these observations. At a minimum, record appetite, activity level, and a description of how any incisions are healing. DCM can provide the post-operative daily assessment service for a fee if requested.

9. The investigator or research staff must record any treatments including medications given or manipulations done (e.g., bandage changes, fluid administration, etc.) in the animal medical record. All members of the research staff that provide animal care should be properly trained to perform the task. Species' variations may require special attention.

Authority

Guide for the Care and Use of Laboratory Animals, 8th ed. 2011; pp. 105,106; 115-120.

Animal Welfare Act. 9 CFR Part 2(C, D, G), Part 3(A-F)