

**BACKGROUND**

The CCAC guidelines suggest institutional Animal Care Committees (ACCs) develop clear procedures regarding frequency of animal use for Teaching and Resident animals. These procedures should include endpoints, consistent record keeping that documents each animal use, supervision and monitoring of student exercises and/or animal use, maximum duration of residence of an individual animal before replacement, and the maximum number of training/use procedures per animal and rest periods per year. The University of Saskatchewan views animal use for teaching, research, testing and production as valuable for our continued progress in human medicine, veterinary medicine, agriculture, science, and education. However, the university views such use as a privilege with responsibilities to establish pedagogical/scientific merit, ethical approval, and to use animals according to the 3Rs principles (Reduce, Replace, Refine). Animals used for teaching, and resident herds/colonies used for teaching and research, pose a concern regarding the frequency of procedures an individual animal may experience. Repeated use of an individual animal for even non-invasive procedures can become a significant source of distress and discomfort to an individual animal, thus motivating the need to establish clear guidelines on animal re-use to protect the health and well-being of the University's teaching and resident animals.

**PURPOSE**

The purpose of the University Animal Care Committee (*UACC Policy and Procedures on Animal Use Frequency for Teaching Animals and Resident Herds/Colonies*) is to protect the health and well-being of all animals belonging to the University of Saskatchewan's Animal Care and Use Program when such animals are subject to multiple manipulations and/or reuse for teaching purposes. Such protection is afforded through adherence to procedural guidelines governing the use of animals in teaching and research programs as set out in this document.

**SCOPE**

This guideline document applies to all purchased, donated, or resident animals belonging to the University of Saskatchewan's Animal Care and Use Program, which will undergo reuse for teaching and research purposes.

**RESPONSIBILITY**

This policy and procedure document applies to all animal care staff, UACC and facility veterinarians, Course/Lab Instructors, Principal Investigators, University or Contractual Staff,

and Students using animals associated with the University of Saskatchewan Animal Care and Use Program. Administrative heads of faculties/departments, the UACC, and the University Veterinarian are responsible to ensure adherence in principle to the policy and procedures outlined in this document.

## **POLICY**

ALL proposed animal use and reuse for teaching and research must be clearly identified on an animal use protocol (AUP) and have approval from the UACC Animal Research Ethics Board (AREB) and Pedagogical/Scientific Merit established by the appropriate faculty/department before proceeding with the teaching or research activity(ies). The maximum frequency of use, required rest periods, and duration of residence within the animal care and use program depend upon species and proposed category of animal use as identified in the procedures below. The course instructor, facilitated by appropriate facility animal care staff, is responsible for documentation of animal use and maintenance of animal procedures, health, and clinical monitoring records.

## **PROCEDURE**

### **1. GENERAL**

- a. The procedures outlined in this document serve as a minimum guidance, but animal reuse frequency is at the discretion of course instructors and administrative heads in charge of the resident animals contingent upon pedagogical/scientific merit review and AREB approval.

### **2. BACKGROUND**

- a. All procedures will be assigned a '*category of animal use*' based on the level of invasiveness, and the sum of these will identify frequency of use and appropriate rest periods.
- b. No procedure that causes unalleviated pain or distress is allowed.
- c. Individual procedures cause different levels of pain, distress, or discomfort. Each procedure is individually assigned the maximum '*category of animal use*' expected from the activity.
  - i. Individual animals may demonstrate sensitivities or enhanced distress to particular procedures. Avoid such procedures on these animals if possible and allow extended or more frequent rest periods for such animals.
  - ii. Student inexperience may result in enhanced animal distress/discomfort than normally expected. Level of experience must be considered during assignment of '*category of animal use*' of the procedure.
- d. An animal use activity that involves multiple procedures to carry out the activity should be assigned a '*category of animal use*' based on the composite of the procedures or the component that is associated with the maximum level of invasiveness.

- e. Student-animal ratios and instructor-student ratios are such that adequate supervision and monitoring of student performance and animal use and discomfort levels is easily attained during the teaching animal use.

**3. CATEGORIES OF ANIMAL USE**

- a. The following table outlines the ‘*Category of Animal Use*’. The composite score will determine maximum frequency of animal use and appropriate rest periods.
  - i. The categories are guidelines and are subjective. The course instructor, administrative unit heads, pedagogical/scientific review committee, UACC veterinarians, and AREB must reach consensus on the proposed ‘*category of animal use*’ so as to assign appropriate frequencies of use and rest periods for individual animals as identified in this guidance document.
  - ii. The assignment of categories must consider the period of time animals spend in the procedure area as the procedure area represents an environment often unfamiliar to the animal and, therefore, contributes to animal distress.

Category	Definition
I	Minimally invasive procedures of short duration. This category includes physical exams, routine handling procedures, husbandry and general health maintenance procedures (i.e. vaccination, hoof trimming), general palpation and auscultation procedures, and similar activities. <b>Weight = 1</b>
II	Procedures causing minimal discomfort or stress at time of activity but do not cause discomfort beyond the procedure and have minimal risk for complications. This category includes procedures of short-term restraint or positioning of an animal for less than 30 minutes, parenteral injections, routine rectal palpations, clinical monitoring such as for ultrasound, and similar activities. <b>Weight = 2</b>
III	Procedures causing mild discomfort or stress that have potential to continue to cause some mild discomfort following termination of the procedure, but not to the point of impacting animal well-being. This category carries a minor risk for post-procedural complications that may impact the animal’s well-being. This category includes procedures of restraint or positioning of an animal for 60 minutes, more invasive procedures such as urinary catheterization, bronchoalveolar lavage, endoscopy, endometrial biopsy, arthrocentesis, biopsy, and similar activities. <b>Weight = 3</b>
IV	Procedures causing mild to moderate pain, distress, or discomfort and have potential to cause a moderate risk for complications or residual pain and discomfort that can impact animal well-being. Procedures in this category may require use of sedation, regional anaesthesia, general anaesthesia, and/or use of analgesics. This category includes

	procedures of restraint or positioning of an animal for 120 minutes, minor surgeries that do not involve entering a body cavity, and similar activities. <b>Weight = 4</b>
<b>V</b>	Procedures causing moderate to severe pain, distress, or discomfort that will be alleviated with termination of the procedure or use of analgesics or anaesthetic regimens. These include surgical procedures and procedures requiring restraint of an animal or positioning of an animal greater than two hours. <b>Weight = 5</b>

- b. Appropriate physical and/or chemical restraint methods are suggested for the safety of the animals and the animal care staff, course instructor, and/or students using the animal. A description of the physical and/or chemical restraint as well as the procedure area and how animal safety and monitoring is assured in these areas is expected in the AUP.
- c. All '*category of animal use*' requires instructor supervision at all times during the animal use activity.
- d. Animals should be moved to procedure areas by facility animal care staff. Students should not be asked to move animals from their housing location to the procedure area unless under the direct supervision of a facility animal care staff member or the course instructor.

#### 4. MAXIMUM USE FREQUENCY, REST PERIODS, AND DURATION OF RESIDENCE

##### a. Maximum Use Frequency

- i. Each '*category of animal use*' is assigned a weight equal to the particular category. Maximal use is determined based upon the summation of weights associated with the category under which each procedure has been assigned.
- ii. As a general guideline, for an individual animal:
  1. No restrictions on animal use are applied to category I activities when the animal is not subjected to category II – V activities within a 24 h time period.
  2. No individual animal can be subjected to a maximal combined weight greater than 5 in any 24 hour time period.
  3. No individual animal can be subjected to a maximal combined weight greater than 7 in a one week time period when the procedures fall within categories II-IV. Animal use falling within category I should be considered in the total animal use at the discretion of the course instructor, UACC veterinarians, and the UACC.
  4. No individual animal can be subjected to a maximal combined weight greater than 12 in a 4 week time period when the procedures fall within categories II-IV. Similar considerations apply regarding Category I procedures as stated above.
  5. When a procedure falls within category V a maximum of two category V procedures is allowed with no minimal rest period when the second category V procedure is a terminal procedure. Otherwise a 4 week rest

period is required before a second category I-IV procedure is conducted.

**b. Rest Periods**

- i. All animals are assigned a rest period, which is based on the ‘category of animal use’ and the overall number of procedures performed on an individual animal.
- ii. In addition to the general guidelines regarding frequency of animal use, the following minimal rest periods are considered:

Category	Minimum Rest Period
I	No rest period required
II	Minimum 24 hours post procedure
III	Minimum 48 hours post procedure
IV	Minimum 96 post procedure
V	Maximum 2 procedures without rest period when second procedure is terminal. Minimum 4 week rest period when a second category I-IV procedure performed

- iii. Each animal must be allowed a minimum of 8 weeks of prolonged rest from all teaching and research activities. Certain animals may require a longer prolonged rest period as recommended by the UACC or facility veterinarian responsible for the animal.

**c. Replacement**

- i. Animals should not remain indefinitely. The UACC appreciates the importance of well-behaved and well-trained animals for teaching purposes and desire to maximize the use of such animals. However, a clear termination plan is required for resident animals.
- ii. As a guideline, animals for teaching and research purposes are used for 5 years at which time an assessment of their health and suitability is conducted with consultation between the course instructor/administrative head and UACC and/or facility veterinarian. Such assessments continue on a yearly basis until a decision is made to remove the animal from the UACC animal care and use program.
- iii. Animals removed from the UACC program should be adopted, shipped for slaughter, or humanely killed as appropriate or per the policy of the academic unit overseeing the resident animal.

**5. DEVIATIONS FROM PROCEDURE**

- a. The UACC expects any individual witnessing a deviation from policy and procedure to report the deviation to the UACC or to the University Veterinarian. It is the responsibility of all members of the University of Saskatchewan Animal Care and Use Program to assure that animal use is conducted according to all university and national guidelines and procedures.

*Approved by the UACC, 21 May 2014*