Addendum 8 - Laurentian University

Attachment (Terms of Reference)

CCAC: ETHICS OF ANIMAL INVESTIGATION

The use of animals in research, teaching, and testing is acceptable only if it promises to contribute to understanding of fundamental biological principles, or to the development of knowledge that can reasonably be expected to benefit humans or animals.

Animals should be used only if the researcher's best efforts to find an alternative have failed. A continuing sharing of knowledge, review of the literature, and adherence to the Russell-Burch '3R' tenet of 'Replacement, Reduction and Refinement' are also requisites. Those using animals should employ the most humane methods on the smallest number of appropriate animals required to obtain valid information.

The following principles incorporate suggestions from members of both the scientific and animal welfare communities, as well as the organizations represented on Council. They should be applied in conjunction with the Canadian Council on Animal Care's (CCAC) Guide to the Care and Use of Experimental Animals.'

1. If animals must be used, they should be maintained in a manner that provides for their physical comfort and psychological well-being, according to CCAC's 'Policy Statement on Social and Behavioural Requirements of Experimental Animals.'

2. Animals must not be subjected to unnecessary pain or distress. The experimental design must offer them every practicable safeguard, whether in research, in teaching or in testing procedures; cost and convenience must not take precedence over the animal's physical and mental well-being.

3. Expert opinion must attest to the potential value of studies with animals. The following procedures, which are restricted, require independent, external evaluation to justify their use:

i) burns, freezing injuries, fractures, and other types of trauma investigation in anesthetized animals, concomitant to which must be acceptable veterinary

practices for the relief of pain, including adequate analgesia during the recovery period;

ii) staged encounters between predator and prey or between conspecifics where prolonged fighting and injury are probable.

4. If pain or distress is a necessary concomitant to the study, it must be minimized both in intensity and duration. Investigators, Animal Care Committees (ACC), grant review committees and referees must be especially cautious in evaluating the proposed use of the following procedures:

a) experiments involving withholding pre- and post-operative pain-relieving medication;

b) paralyzing and immobilizing experiments where there is no reduction in the sensation of pain;

c) electric shock as negative reinforcement;

d) extreme environmental conditions such as low or high temperatures, high humidity, modified atmospheres, etc., or sudden changes therein;

e) experiments studying stress and pain;

f) experiments requiring withholding of food and water for periods incompatible with the species specific physiological needs; such experiments should have no detrimental effect on the health of the animal;

g) injection of Freund's Complete Adjuvant (FCA). This must be carried out in accordance with *'CCAC Guidelines on Acceptable Immunological Procedures*.'

5. An animal observed to be experiencing severe, unrelievable pain or discomfort, should immediately be humanely killed, using a method providing initial rapid unconsciousness.

6. While non-recovery procedures involving anesthetized animals, and studies involving no pain or distress are considered acceptable, the following experimental procedures inflict excessive pain and are thus unacceptable:

a) utilization of muscle relaxants or paralytics (curare and curare-like) alone, without anesthetics, during surgical procedures;

b) traumatizing procedures involving crushing, burning, striking or beating in unanesthetized animals.

7. Studies such as toxicological and biological testing, cancer research and infectious disease investigation may, in the past, have required continuation until the death of the animal. However, in the face of distinct signs that such processes are causing irreversible pain or distress, alternative endpoints should be sought to satisfy both the requirements of the study and the needs of the animal.

8. Physical restraint should only be used after alternative procedures have been fully considered and found inadequate. Animals so restrained, must receive exceptional care and attention, in compliance with species specific and general requirements as set forth in the *'Guide.'*

9. Painful experiments or multiple invasive procedures on an individual animal, conducted solely for the instruction of students in the classroom, or for the demonstration of established scientific knowledge, cannot be justified. Audiovisual or other alternative techniques should be employed to convey such information.

Version Feb. 05
Reviewed on September 2018