

Policies and Procedures

SECTION: Research and Compliance	NUMBER: R&C-ARF-12,0			
CHAPTER: Animal Resource Facility	ISSUED: 11/2005	REV. A: 4/7/2009	REV. B:	REV. C:
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1. PURPOSE

This policy describes common indicators used in pain recognition and assessment of laboratory animals. This procedure is approved by the Creighton University Institutional Animal Care and Use Committee (IACUC). All investigators are required follow this policy as part of the investigators' IACUC-approved protocol unless scientific justification is provided and approved by the IACUC.

2. APPLICATION

The recognition of pain, stress, and distress is critical in maintaining the well-being of laboratory animals. "Unless the contrary is established, investigators should consider that procedures that cause pain or distress in human beings may cause pain or distress in other animals" (NRC 1992, IRAC 1985). Because animals cannot verbalize what they are experiencing, investigators and caretakers must deduce the animals' condition based on appearance and behavior. Changes in body weight, external physical appearance, clinical signs, changes in unprovoked behavior, and behavioral responses to external stimuli are general parameters used for assessing pain. When observing animals for signs of pain, keep in mind the following:

- Observation frequency must be adapted to the protocol (minimum once daily).
- Start observing the animal from a distance, so the animal's behavior is not altered by the presence of the observer. Then observe the animal more closely.
- The most reliable signs of pain and distress are changes in behavior. This implies a good knowledge of species and individual normal behavior.

3. RESPONSIBILITY

The major responsibility for animal protection and monitoring lies with the Principal Investigator, but this is a shared responsibility with animal care and veterinary staff. This policy applies to any Creighton University faculty, resident, staff, student, or fellow who is involved in the care and use of laboratory animals.

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4. INDICATORS OF PAIN IN SEVERAL COMMON LABORATORY ANIMALS:

SPECIES	GENERAL BEHAVIOR	APPEARANCE	PHYSIOLOGY
Rat	Reduced activity; reduced appetite; reduced drinking; licks; guards limbs; self-mutilates; increased aggression and vocalization; aversion toward con-species	Ungroomed; piloerection; abnormal stance; hunched posture (“dormouse”); ocular porphyrin secretion (“red tears”); eyelids partly closed; pupils dilated; nasal discharge; recumbent	Sleep disrupted; hypothermia; rapid shallow breathing; may grunt on expiration
Mouse	Similar to rat; increased vibrassal movement	Similar to rat; no ocular porphyrin secretion	Similar to rat
Guinea Pig	Squeals; stampedes when handled; or quiet	Similar to rat	Similar to rat
Rabbit	Anxious; hides; squeals or cries; or aggressive; scratches/bites; reduced appetite; cannibalizes young; tonic immobility	May not show large change	Salivates, rapid shallow breathing
Dog	Bites, scratches, guards; whimpers or howls; growls; quiet, submissive; or more aggressive to handling	Stiff, moves less or lies still; “hang-dog” look; tail between legs	Shivers; pants; urinates
Swine	quiet, submissive; or more aggressive to handling; reduced appetite	Altered gait, posture	Rapid, shallow breathing