

IACUC Guideline - RECOGNIZING PAIN IN ANIMALS

The recognition of pain, discomfort or distress in animals can be difficult. Well-being in animals is often associated with normal species-specific behavior. Therefore, recognition and assessment of pain and distress in research and teaching animals most often relies upon making an observation of abnormal behavior. Assessment for pain or distress can be affected by many complicating factors including the age of the animal, degree of apprehension, the nature and frequency of human contacts, and control of visual, auditory, olfactory and tactile stimuli. As such, it is imperative that personnel involved in the care and use of animals are knowledgeable of normal behavior patterns of the species with which they are working and are able to recognize changes from such normal patterns.

General signs of pain can vary from species to species. The Laboratory Animal Program (LAP) will provide those with a need or interest additional information and a chart detailing species-specific behavioral signs of pain upon request. If an animal is exhibiting pain or distress it may require pain relief (administration of an analgesic) as described in the animal care and use protocol or need veterinary attention. The more common and generic signs of pain and distress/changes from normal behavior, are listed below to assist personnel in making a decision whether or not intervention is needed. Behavioral signs that should serve as criteria for administering an analgesic or seeking veterinary care can include the following:

- **Guarding or protecting** an affected area (e.g., surgical incision, implant site)
- Squeaking, squealing, crying out, grunting, growling, hissing, teeth grinding, whimpering or other forms of **vocalization**
- Change in **posture** or an abnormal posture such as hunching, huddling, crouching, being stiff or rigid, abdomen tucked, head down, recumbent
- Rough looking hair coat due to decreased or **lack of grooming** activity
- **Self-mutilation** / attraction to area of pain as evidenced by licking, biting, scratching
- **Change in personality** such as being docile or aggressive, anxious, dull, depressed, reclusive
- **Restlessness**; frequent changing of positions such as repeatedly lying down and getting up (large domestic species) or pacing
- **Decreased activity**, reluctance to move or other changes in locomotion
- **Isolation** from group
- **Loss of appetite**
- **Grimace/ facial expressions**

Physiologic changes may include an abnormal or increased **respiratory pattern**, fluctuation in **body temperature**, **weight loss** and **dehydration**.

It should also be remembered that animals experiencing mild to moderate pain might not display any signs of pain (i.e., natural “prey response” or reluctance to make its vulnerability known).

A very helpful resource recommended by LAP is titled Pain-Assessment, Alleviation and Avoidance in Laboratory Animals by Paul Flecknell which provides information on pain assessment and management specifically for laboratory animals. Topics covered include: animals and their response to pain; occasions when pain can occur; progress in pain assessment; and anesthesia and analgesia.

Additional information on pain relief is available from the LAP veterinarians and other references available at the LAP office include:

- Recognizing Pain and Distress in Laboratory Animals. (ILAR Journal, Vol. 41 (2), 2000)
- Guideline for the Assessment and Management of Pain in Rodents and Rabbits. (ACLAM. 2006)
- Recognition and Alleviation of Pain and Distress in Laboratory Animals. Committee on Pain and Distress in Laboratory Animals. (National Research Council. 1992)
- Definition of Pain and Distress and Reporting Requirements for Laboratory Animals. (National Research Council Workshop. 2000)
- Monograph: Pain in Animals (Short 1997)
- Animal Pain (Short 1992)

A number of appropriate references are also available through the Purdue University School of Veterinary Medicine library.