



**A. PURPOSE**

To provide investigators with general guidance on assessing the potential for indicators/symptoms associated with research procedures, and general signs of pain and distress in common research animal species.

**B. GUIDELINES**

**Chart 1:** Examples of Pain Potential and Categorization to Determine the minimum duration of the postoperative analgesic treatment recommended.

*\*Note: Veterinarians should be consulted as a specific procedure has nuances that may not be included in these general guidelines*

<b>Minimal to Mild Pain</b> <i>Provide analgesia for 8-12 hours</i>	<b>Mild to Moderate Pain</b> <i>Provide analgesia for 48 hours</i>	<b>Moderate to Severe Pain</b> <i>Provide analgesia for &gt;48 hours</i>
Catheter Implantation	Minor Laparotomy incisions	Major Laparotomy
Tail Clipping (see IACUC Guidance 203)	Embryo Transfer	Organ Incision
Ear Notching (see IACUC Guidance 216)	Orchiectomy	Orthopedic Procedures
Superficial Tumor Implantation	Cesarean Section (C-Section)	Heterotopic Organ Transplantation
Multi Intra-dermal Antigen Injections	Craniotomy	Craniotomy (Increased manipulation)
Orbital Sinus Venotomy	Ocular Procedures	Thoracotomy
Superficial Lymphadenectomy	Hypophysectomy	Burn Procedures
Intracerebral Electrode Implantation	Thymectomy	Trauma Models
Vasectomy	Thyroidectomy	Vertebral Procedures
Vascular Access Port Implantation		Orthotopic transplantation

**Chart 2: Signs of Pain and Distress in Laboratory Animals**

<b>Species</b>	<b>Signs of mild to moderate pain or distress</b>	<b>Signs of severe or chronic pain or distress</b>
Gerbil	Ocular discharge; eyelids partially closed and matted with dry material; may “faint” when handled; changes in activity and burrowing behavior; arched back; hunched posture.	Loss of weight and condition; sores on the face; hair loss on the tail.
Guinea Pig	Eyes sunken and dull; changes in respiration; increased timidity; increased sleepiness; arched back; increased vocalization.	Weight loss; hair loss; scaly skin; dehydration; decreased timidity; unresponsiveness; excessive salivation (oral problems); increased barbering; loss of righting reflex; decreased vocalization; hypothermia.
Syrian Hamster	Ocular discharge; increased aggression; hunched posture; reluctance to move.	Loss of coat and body condition; increasing depression; extended daytime sleep periods; lateral recumbency; hypothermia; sores on lips, paws.



Mouse	Eyelids partially closed; changes in respiration; rough hair coat; increased vibrissae movement; unusually apprehensive or aggressive; possible writhing, scratching, biting, self-mutilation; hunched posture; sudden running; aggressive vocalization; guarding.	Weight loss; dehydration; incontinence; soiled hair coat; eyes sunken, lids closed; wasting of muscles on back; sunken or distended abdomen; decreased vibrissae movement; unresponsive; separates from group; hunched posture; ataxia; circling; hypothermia; decreased vocalization.
Pigs	Changes in gait or posture; increased efforts to avoid handling; increased squealing when approached or handled.	Depression; unwillingness to move; attempts to hide; withdrawal from pen mates; anorexia.
Non-human primate	Generally few signs, especially in the presence of humans; decreased activity; decreased food and water intake; increased vocalization.	Huddled or crouching posture, with hand folded over abdomen; clenching or grinding of teeth; depression or increased restlessness; withdrawal from cage mates; increased (generally aggressive) attention from cage mates; anorexia; weight loss; decreased grooming.
Rabbit	Ocular discharge; constipation or diarrhea; depression; facing back of cage; excessive self-grooming; stretched posture; early failure to eat and drink; dull attitude or increased aggression when handled; possible vocalization when handled; tooth grinding; respiratory rate may increase.	Tooth grinding; apparent sleepiness; dehydration; weight loss; fecal staining; wasting of lower back muscles; decreased production of night feces; unresponsive.
Rodents	Aggressive vocalization; licking, biting, scratching; guarding; rough hair coat + hair loss; reduced exploratory behavior.	Eyes closed, piloerection and ungroomed appearance; dehydration; weight loss; incontinence; soiled hair coat; self-mutilation; recumbent position with head tucked into abdomen; decreased vocalization; hypothermia; staggering/falling; squirming; poor gait; writhing; poor posture.
Sheep, Goat	Lying with legs extended; stamping feet; swaying stance; mild ataxia; restlessness or depression; increased aggression on handling; guarding; tooth grinding.	Rolling; frequently looking or kicking at abdomen; falling over; walking backward; rapid, shallow respiration; weight loss; tooth grinding; grunting; vocalization on handling (goats especially); rigidity; unwillingness to move.

**C. REFERENCES, MATERIALS, AND/OR ADDITIONAL INFORMATION**

1. Public Statement (2007). Guidelines for the Assessment and Management of Pain in Rodents and Rabbits. Public Statement, American College of Laboratory Animal Medicine. 46:97-108.