

	UCSD INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE POLICY MANUAL	POLICY #26.01 Originally Issued: 11/17/04 Revised: 3/19/14
	Policy and Guidelines on Minimizing Pain and Distress in Animals and Determination of Reportable Pain Categories	

I. Background and Purpose

The UCSD policy is adopted from the U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training.

II. Who Should Read This Policy

All personnel listed on UCSD animal protocols.

III. Definitions

UCSD recognizes three Pain and Distress Categories C, D, and E (corresponding to the USDA reportable pain categories) as follows:

Term	Definition
Category C	Procedures that are considered to produce minimal, transient, or no pain or distress in animals when performed by a competent individual.
Category D	Procedures that have the potential to produce pain or distress in animals, but which are performed using appropriate and adequate anesthetics, analgesics, or tranquilizers to alleviate the pain or distress.
Category E	Potentially painful or distressing procedures that are performed without appropriate and adequate anesthesia, analgesia, or tranquilizers; or are not followed with appropriate measures to alleviate pain or distress; or are not amenable to relief by therapeutic measures.
Pain	A complex experience that typically results from stimuli that damage or have the potential to damage tissue; such stimuli prompt withdrawal and evasive action.
Distress	An aversive state in which an animal fails to cope or adjust to various stressors with which it is presented (page 121 in the Guide).

IV. Policy

1. All research personnel working with animals must be appropriately trained and qualified to monitor for and recognize pain and distress and respond accordingly.
2. Animal use must include the avoidance or minimization of discomfort, distress, and pain consistent with sound scientific practices. Procedures that cause pain or distress in human beings are assumed to cause pain or distress in animals.

3. If procedures may cause pain or distress in animals, a plan for managing pain or distress must be described in the approved protocol.
4. Procedures causing more than momentary or slight pain or distress must be performed with appropriate sedation, analgesia, or anesthesia unless scientifically justified and approved in the IACUC Protocol.
5. If animals experience pain or distress unanticipated in the approved animal protocol or if pain or distress is not relieved by approved intervention, they must receive immediate veterinary care or be euthanized.
6. Animals experiencing unalleviated pain or distress as an anticipated consequence of approved procedures (Category E studies) should be euthanized at the end of the procedure or, if appropriate, during the procedure.
7. USDA-covered species experiencing pain or distress must additionally comply with USDA Policies 11 and 12.

V. Related Documents

Anesthesia	http://blink.ucsd.edu/files/sponsor-tab/iacuc/Policy%2034%20Anesthesia.pdf
Policy on the Use of Neuromuscular Blocking Drugs in Animal Research	http://blink.ucsd.edu/files/sponsor-tab/iacuc/Policy%2010%20NMB.pdf
USDA Policy #11: Painful and Distressful Procedures	http://www.aphis.usda.gov/animal_welfare/policy.php?policy=11
USDA Policy #12: Consideration of Alternatives to Painful/Distressful Procedures	http://www.aphis.usda.gov/animal_welfare/policy.php?policy=12
Public Health Service Policy on Humane Care and Use of Laboratory Animals	http://grants.nih.gov/grants/olaw/references/phspol.htm
U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training	http://oacu.od.nih.gov/regs/USGovtPrncpl.htm
Guide for the Care and Use of Laboratory Animals (Guide)	http://grants.nih.gov/grants/olaw/Guide-for-the-care-and-use-of-laboratory-animals.pdf

VI. Additional information

The researchers should recommend the category for animal assignments. The IACUC will confirm and accept / modify the recommended category during the IACUC's review of the protocol.

Researchers should use the following process to develop a recommendation:

- a. Consider the use of each group of animals within the proposal, and how that group will be used.
- b. Select a Pain and Distress Category (C, D or E) for each experimental group of animals.
- c. List the animals in that group under the highest pain and distress category that will apply to the animals at any time while the animals are being used, even if it is for a short duration of time. NOTE: Do not include non-research related veterinary care in determining the pain and distress category.

Special Considerations for Genetically Modified Animal Models (GMA):

- a. Place animals in category C if the phenotype produced by the genetic alteration is unknown.
- b. Place animals in category D if the phenotype is expected to cause, pain or distress that will be alleviated by IACUC-approved methods.
- c. Place animals in category E if the phenotype is expected to cause, pain or distress that will not be alleviated.
- d. Describe any new information regarding the phenotype, including adverse events, and adjust the pain and distress category as necessary during the amendments or the Third Year Rewrite.

Category C	Category D	Category E
<p>Animals that undergo procedures that cause no pain or distress, or only momentary or slight pain or distress. These procedures DO NOT require the use of pain-relieving drugs.</p>	<p>Animals that undergo procedures that are potentially painful or distressful; AND for which they receive appropriate anesthetics, analgesics and/or tranquilizer drugs.</p>	<p>Animals that undergo procedures that are potentially painful or distressful; AND for which they DO NOT receive anesthetics, analgesics and/or tranquilizer drugs.</p>
Examples	Examples	Examples
<ul style="list-style-type: none"> • Holding or weighing animals in teaching, outreach or research activities • Observation of animal behavior • Ear punching of rodents • Tail snips in mice ≤ 21 days old • Peripheral injections and blood collection • Feed studies, which do not result in clinical health problems • Live trapping • Positive reward training or research • Chemical restraint • Exposure to alterations in environmental conditions (not extreme) with appropriate conditioning and microenvironment • Food restriction that reduces the animals weight by no more than 20% of normal age matched controls • AVMA approved euthanasia procedures • Euthanasia of breeding animals or unused offspring • Exsanguination under anesthesia • Transcardial Perfusion • Unknown genetically engineered phenotype • Non-invasive, routine, field procedures (capture, tissue sampling, marking, etc.) Note: Includes marine tissue collection. • Subcutaneous tumors within the size allowed by the Neoplasia Policy (Policy 9.03) 	<ul style="list-style-type: none"> • Survival surgery • Non-survival surgical procedures • Laparoscopy or needle biopsies • Retro-orbital blood collection • Exposure of blood vessels for catheter implantation • Induced infections • Tattooing • Tail snips in mice > 21 days old • Genetically engineered phenotype that causes pain or distress that will be alleviated 	<ul style="list-style-type: none"> • Toxicological or microbiological testing, cancer research or infectious disease research that requires continuation after clinical symptoms are evident without medical relief or require death as an endpoint • Ocular / skin irritancy testing • Application of painful stimuli such as electrical shock that the animal cannot avoid/escape • Any procedures for which needed analgesics, tranquilizers, sedatives, or anesthetics must be withheld for justifiable study purposes • Exposure to extreme environmental conditions • Euthanasia by procedures not approved by the AVMA • Paralysis or immobilization of a conscious animal • Genetically engineered phenotype that causes pain or distress that will not be alleviated • Experimental autoimmune encephalomyelitis (EAE) • Adjuvant arthritis

The following are examples of clinical signs of pain in various species.

<u>Species</u>	<u>Clinical Signs of Pain</u>
Rodents, rabbit	<ol style="list-style-type: none">1. Avoidance, vocalization and aggressiveness (mainly if the animal cannot escape)2. Spontaneous activities are reduced. The animal is isolated from the social group3. Altered gait4. Hunched posture5. Pilo-erection6. Reduced grooming7. Dark-red stain around the eyes and at nostrils (rodents)8. Reduced appetite and subsequent weight loss9. Increased respiration rate10. Failure to explore cage when disturbed
Cat, dog	<ol style="list-style-type: none">1. Avoidance, vocalization, eyebrow movements, escape and aggressiveness2. Spontaneous activities are reduced. The animal is isolated from the social group3. Apathy, anxiety, lethargy4. Altered gait5. Nibbling, licking, scratching, rubbing6. Eyes are semi-closed7. Head shaking (ear pain)8. Reduced appetite and subsequent weight loss
Swine	<ol style="list-style-type: none">1. Tolerate manipulations2. Lying down more frequently, immobile, "dog-sitting"3. Aggressive vocalization and behavior4. Altered gait5. Increased muscle tension around the eye6. Pilo-erection7. Reduced appetite (sometimes)8. Reluctance to move
Ruminants	<ol style="list-style-type: none">1. Vocalization2. The animal is isolated from the social group3. Lying down more frequently, immobile4. Apathy, depression5. Altered gait, lameness6. Increased respiratory rate (abdominal pain) or shallow respiration7. Cessation of rumination; teeth grinding, dorsal lip-curling (goats)8. Loss of appetite (partially or totally)9. Tucked abdomen

Birds

1. Inappetence
2. Wasting
3. Ruffled feathers
4. Altered gait or posture
5. Rapid open mouth breathing (panting)
6. Dull eyes