

ACLAM Position Statement on Pain and Distress in Research Animals

The appropriate use of anesthetics, tranquilizers, analgesics, and nonpharmacologic¹ interventions in research animals is an ethical and scientific imperative. Pain and distress are undesirable variables in most scientific research projects and, if not relieved, can result in unacceptable animal welfare and invalid scientific outcomes. An integral component of veterinary medical care is prevention or alleviation of pain² or distress³ associated with spontaneous or induced disease processes, experimental procedures, housing, and handling. ACLAM supports the premise that animals perceive pain in similar ways to humans, and that investigators should consider that procedures that cause pain in humans may cause pain in research animals unless proven otherwise. Further, ACLAM believes that animals are capable of experiencing negative feelings, and housing, handling, and research methods should seek to eliminate or reduce distress.

1. Fundamental to the relief of pain in animals is the ability to recognize its presence in different species. It is essential that personnel caring for and using research animals be knowledgeable of species-specific and individual behavioral, physiologic, and psychological indicators of well-being. Because many animals instinctively disguise pain as an evolutionary survival mechanism, the presence or absence of pain behaviors should not be used as the sole criterion for administration of analgesics.
2. The professional judgment of a trained laboratory animal veterinarian should be sought for all experimental situations that might result in pain or distress. This should include recommendations for prevention, assessment, alleviation, and effective monitoring of pain and distress in research animals. It should be noted that anesthetic and analgesic agents are not without side effects and the risks associated with using either should be carefully weighed against the benefits accrued by the animal. As new knowledge regarding animal pain pathophysiology emerges and new analgesic drugs are developed, methods of pain relief should be periodically re-assessed and updated. The veterinarian must have the authority to alter the clinical care plan if unexpected pain or distress occur, in cooperation with the research team. The IACUC should review these types of unexpected outcomes as part of the post-approval monitoring process, and require changes to methods of

- 1 Examples of nonpharmacologic interventions include positive reinforcement training, provision of a comfortable environment, fluid therapy, thermal support, tasty food supplements, habituation to procedures, etc.
- 2 Pain is defined as an unpleasant sensory and emotional experience associated with potential or actual tissue damage (1).
- 3 Distress is defined as an aversive, negative state in which coping and adaptation processes in response to stressors fail to return an organism to physiological and/or psychological homeostasis (2). Distress is synonymous with suffering, and includes both physical and mental pain as well as negative emotional feelings such as fear.

pain management in protocols, as needed.

3. Procedures expected to cause more than slight or momentary pain require the use of appropriate pain-relieving measures. Requests for exceptions to provision of relief from pain or distress must be scientifically justified by the research team and approved by the IACUC prior to initiation of the experiment (3-5).
4. Research procedures, special husbandry conditions or other eventualities that may result in animal distress should be alleviated by pharmacologic or nonpharmacologic methods. Animals that cannot adapt to research or husbandry procedures, and that show continued signs of distress, should be removed from the study or conditions that are associated with distress.
5. Research involving pain or distress should be designed and conducted such that endpoints are rapidly identified and the time to reach scientific objectives is minimized (6).

References

1. International Association for the Study of Pain (IASP) Task Force on Taxonomy 1994. Classification of Chronic Pain, Second edition, IASP Press.
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3. United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS) Animal Welfare Regulations 2005.
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5. United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS) Policy # 11 Painful and Distressful Procedures 2011 [Internet]. Available at: https://www.aphis.usda.gov/animal_welfare/downloads/Animal%20Care%20Policy%20Manual.pdf
6. Institute for Laboratory Animal Research 2000. Humane Endpoints for Animals Used in Biomedical Research and Testing. National Research Council Volume 41, Number 2.

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