

Institutional Animal Care and Use Committee (IACUC) Directive 2.0: Assigning Pain and Distress Categories for USDA Covered Species and Relevant Funding Sources

1.0 Directive Purpose

The purpose of this document is to ensure IACUC protocols are prepared and approved in accordance with requirements for assigning United States Department of Agriculture (USDA)-covered species and species used under Department of Defense (DoD) and the Office of Naval Research (ONR) funded protocols to **Pain** and **Distress** categories.

2.0 To Whom the Directive Applies

This document applies to individuals using USDA-covered species under an IACUC animal use protocol. It also applies to individuals using animals supported by DoD or ONR funding. Finally, it applies to all IACUC members reviewing animal use protocols that meet the criteria for USDA pain categorization.

3.0 Directive Statement

The USDA, DoD, and ONR require that animals be assigned to a Pain and Distress category. Examples of procedures and corresponding Pain and Distress categories (*i.e.*, categories B through E, listed from low (B) to high (E)) are included in the supplemental form found within Section 7.3 below. If an animal or group of animals undergoes any type of procedure, the lowest category to which the animal or group of animals may be assigned is Category C. An animal or group of animals must be assigned to the highest Pain and Distress category that will apply to the animal(s) at any time while the animal is associated with the IACUC protocol, regardless of the duration of time the animal(s) is on the protocol.

4.0 Definitions

For the purpose of this Notice, the terms below have the following definitions:

Distress: An aversive state in which an animal fails to cope or adjust to various stressors with which it is presented. Distress may not induce an immediate and observable pathologic or behavioral alteration, which may make it difficult to monitor and evaluate the animal's state when Distress is present. Both the duration and intensity of the animal's state are important considerations when trying to prioritize attention to and treatment of animal Distress.

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.

5.0 Responsibilities

All individuals to whom this document applies are responsible for becoming familiar with and following this it. Animal research program stakeholders (IACUC, CARE, ARC) are responsible for promoting the understanding of this document and for taking appropriate steps to help ensure adherence to it.

6.0 Consequences for Violating this Directive

Violation of this document may be considered a serious event of noncompliance that is reportable to the IACUC, funding and accrediting agencies, as well as other regulatory agencies. Violations are a serious matter that may adversely affect both the ability to perform animal work and acquire funding sources.

7.0 Related Information

Brown University is a community in which employees are encouraged to share workplace concerns with University leadership. Additionally, [Brown's Anonymous Reporting Hotline](#) allows anonymous and confidential reporting on matters of concern online or by phone (877-318-9184).

The following information complements and supplements this document. The information is intended to help explain this document and is not an all-inclusive list of policies, procedures, laws and requirements.

7.1 Related Policies/Directives/SOPs: N/A

7.2 Related Procedures: N/A

7.3 Related Forms:

- Appendix A: Examples of Procedures and Corresponding Pain and Distress Categories

7.4 Frequently Asked Questions (FAQs): N/A,

7.5 Other Related Information: References

- [Animal Welfare Act](#). United States Department of Agriculture Animal and Plant Health Inspection Service. May 2020. USDA-APHIS
- American Dairy Science Association. 20202. [Guide for the Care and Use of Agricultural Animals in Research and Teaching, 4th edition](#).
- Institute for Laboratory Animal Research, National Research Council. 2011. [The Guide for the Care and Use of Laboratory Animals, 8th edition](#). Washington, DC: National Academies Press.
- National Research Council. 2003. [Guidelines for the Care and Use of Mammals in Neuroscience and Behavioral Research](#). Washington, DC: National Academies Press

8.0 Document Owner and Contact

8.1 Owner: IACUC

8.2 Approved by: IACUC

8.3 Subject Matter Contact: Brown University Animal Research Compliance

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9.0 History

9.1 Effective Date: June 2, 2017

9.2 Last Reviewed: June 3, 2022

9.3 Update/Review Summary: This document was due for its' three-year review and approval.

- IACUC Guidelines for Assigning Animals to Pain and Distress Categories, Date of IACUC approval: October, 2, 2020
- IACUC Guidelines for Assigning Animals to Pain and Distress Categories, Date of IACUC approval: June 2, 2017; Last Updated: October 6, 2017.

Appendix A - Examples of procedures and corresponding Pain and Distress categories

Category B	Category C	Category D	Category E
Animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery, but not yet used for such purposes.	Animals upon which teaching, research, experiments, or tests will be conducted involving no Pain, Distress, or use of Pain-relieving drugs.	Animals upon which experiments, teaching, research, surgery, or tests will be conducted involving accompanying Pain or Distress to the animals and for which appropriate anesthetic, analgesic, tranquilizing drugs or other qualifying interventions <u>will be used</u> .	Animals upon which teaching, experiments, research, surgery, or tests will be conducted involving accompanying Pain or Distress to the animals and for which the use of appropriate anesthetic, analgesic, or tranquilizing drugs will adversely affect the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests and, therefore, will be withheld.
Example	Example	Example	Example
<ol style="list-style-type: none"> Breeding colonies of any animal species that are handled in accordance with IACUC approval, the <i>Guide</i> and other applicable regulations; breeding colony includes parents and offspring Newly acquired animals that are handled in accordance with IACUC approval and applicable regulations Animals held under proper captive conditions or wild animals that are being observed without manipulating the animal or its environment Exhibition 	<ol style="list-style-type: none"> Manual restraint that is no longer than would be required for a simple exam; short period of chair restraint for an adapted nonhuman primate In-laboratory observation Tattoo; ear punch; microchip <u>Rodent tail biopsy</u> <21 days Peripheral injections Peripheral phlebotomy <10% Peripheral catheter placement Special diet for animals with no clinical problems Positive reward training Environmental alternation - mild <u>AVMA approved Euthanasia</u> New phenotype - not Painful Imaging Superovulation 	<ol style="list-style-type: none"> Survival surgery Non-survival surgery Perfusion while anesthetized Rodent tail biopsy >21 days Induced illness with medical relief Tumor induction Painful phlebotomy requiring anesthesia Food/fluid scheduling (e.g., <u>food and fluid restriction for non-human primates</u>) Laparoscopy or needle biopsies Retro-orbital blood collection Blood collection by more invasive routes such as intracardiac or periorbital collection from species without a true orbital sinus Administration of drugs, chemicals, toxins, or organisms that would be expected to produce 	<ol style="list-style-type: none"> Procedures producing Pain or Distress unrelieved by analgesics such as toxicity studies, microbial virulence testing, radiation sickness, and research on stress, shock, or Pain Surgical and postsurgical sequelae from invasion of body cavities, orthopedic procedures, dentistry or other hard or soft tissue damage that produces unrelieved Pain or Distress Burn studies Sepsis Ocular/skin irritancy testing Negative conditioning via electric shocks that would cause Pain in humans Forced smoking Environmental alteration - extreme Paralysis New phenotype - Painful Antibody production using ascites Footpad injections Total body irradiation without reconstitution Death as an endpoint

	<p>15. Nonsurgical embryo collection</p> <p>16. In vivo tissue/cell labeling</p> <p>17. Gavage</p> <p>18. Procedures performed correctly by trained personnel, such as the administration of electrolytes/fluids, administration of oral medication, blood collection from a common peripheral vein per standard veterinary practice or catheterization of same, standard radiography, and parenteral injections of non-irritating substances</p>	<p>Pain or Distress but which will be alleviated by analgesics, anesthetics, tranquilizers, or supportive care</p> <p>13. Protocols involving exercise</p>	<p>15. Chairing of nonhuman primates not conditioned to the procedure for the time period used</p> <p>16. Unusual or prolonged restraint (please refer to the <u>IACUC Policy on Physical Restraint</u> for further guidance).</p>
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