



## DEFINITION: PAIN/DISTRESS CATEGORIES

The *Animal Welfare Act* defines a painful procedure as “*any procedure that would reasonably be expected to cause more than slight or momentary pain or distress in a human being to which that procedure was applied; that is, pain in excess of that caused by injections or other minor procedures.*”

**A simple rule of thumb: If a procedure would be painful/distressful for a human, assume that it would also be painful/distressful for an animal.**

Investigators must assign a pain/distress category to all procedures listed in their animal protocol using the following USDA categories\*; this is the case for all animals, not just “USDA covered species”.

**CATEGORY B:** *Animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery, but not yet used for such purposes.*

**Example:** Animals being held in appropriate caging and handled in accordance with the *Guide*.

**CATEGORY C:** *Animals upon which teaching, research, experiments, or tests will be conducted involving no, or very minimal, pain or distress that require no use of pain-relieving drugs.*

### Examples:

- Procedures such as the administration of electrolytes/fluids, administration of oral medication, routine blood collection, standard radiography, parenteral injections of non-irritating substances that are performed correctly by trained personnel.
- Euthanasia performed in accordance with the recommendations of the most recent AVMA Guidelines on Euthanasia utilizing procedures that produce rapid unconsciousness and subsequent humane death. *Note that, if scientifically justified, the IACUC may approve decapitation without anesthesia for rodents as a form of euthanasia. Provided no other procedures are done that cause pain/distress, such rodents can be classified in Category C.*

**CATEGORY D:** *Animals upon which experiments, teaching, research, surgery, or tests will be conducted involving accompanying pain or distress to the animals for which appropriate anesthetic, analgesic, or tranquilizing drugs will be used.*

### Examples:

- All surgical procedures (minor and major) conducted by trained personnel in accordance with standard veterinary practice including biopsies, gonadectomy, exposure of blood vessels, chronic catheter implantation, and laparotomy, etc.
- Blood collection by more invasive routes such as intracardiac or periorbital collection from species lacking a true orbital sinus (such as rats).
- Administration of drugs, chemicals, toxins, or organisms that would be expected to produce some pain or distress but which will be alleviated by analgesics.

**CATEGORY E:** *Animals upon which teaching, research or testing will be conducted involving accompanying pain or distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs will not be used because this would adversely affect the procedures, results, or interpretation.*

**Examples:**

- Procedures producing pain or distress unrelieved by analgesics including toxicity studies, microbial virulence testing, radiation sickness, tumor studies, and research on stress, shock, or pain.
- Surgical and post-surgical sequels from invasion of body cavities, orthopedic procedures, dentistry or other hard or soft tissue damage that produces unrelieved pain or distress.
- Negative conditioning via electric shocks at intensities that would cause pain in humans.

**Notes Regarding Category E:**

A thorough explanation of the procedures producing pain or distress in vertebrate animals and a strong scientific justification for not using appropriate anesthetic, analgesic or tranquilizing drugs must be provided. In addition the PI must provide a solid Harm:Benefit assessment of the work which will be considered during IACUC review. A comprehensive search for alternative methods must also be included. If the procedures involve a USDA-covered animal species, this information is reported to the USDA and will be publically available under the Freedom of Information Act.

**Search for Alternatives:**

If any animals fall into Categories D or E (more than momentary pain or distress), the IACUC protocol application must contain a description of the investigator's search for alternatives. This must include the databases searched, the date of the searches, the period covered, and the keywords used. Alternatives include methods that (1) Refine existing tests or procedures by minimizing animal distress, (2) Reduce the number of animals necessary for an experiment, or (3) Replace whole animals with in vitro methods or other tests. While rodents, birds, amphibians, and fish are not USDA-covered species, they are covered under PHS regulations; thus the IACUC requires that a search for alternatives be considered for those species whenever they fall into Category D or E as well.

*\*Note: there is no USDA Pain/Distress Category "A".*