USDA Pain Category Examples

The USDA requires that all animals used under an IACUC protocol must be assigned to a category of pain. These categories are explicitly described by the USDA according to the following criteria and examples.

Classification B: Includes animals that are used solely for breeding.

Examples:
- Breeding stock of in-house breeding colonies.
- Purchased time-pregnant females used to produce offspring for studies of neonates.

Classification C: Includes the use of animals in procedures involving no pain or distress.

Examples:
- Select procedures performed correctly by trained personnel such as the intravenous (I.V.), subcutaneous (S.C.), intramuscular (I.M.), or intraperitoneal (I.P.) administration of physiologic and non-irritating electrolytes/fluids, administration of oral medication, blood collection from a common peripheral vein per standard veterinary practice or catheterization of same, standard radiography, or tattooing. This does not include intracardiac or intrathecal injections or collection.
- Euthanasia performed in accordance with the recommendations of the most recent AVMA Panel on Euthanasia, utilizing procedures that produce rapid unconsciousness and subsequent humane death (i.e., for tissue or body fluids collection after death).
- Manual restraint that is no longer than would be required for a simple exam; short period of chair restraint for an adapted nonhuman primate.
- Display protocols.
- Rabbit antibody production performed using an ASU SOP and polyclonal antibody production, but NOT including a terminal bleed. If a terminal bleed is done under general anesthesia, then it is a Classification D.
- In vivo subcutaneous propagation of a tumor that is not expected to ulcerate, metastasize, or result in spontaneous death. Tumor size not to exceed 3 cc (measured using the formula V=ab²).
- Procedures involving administration of an anesthetic, analgesic, or tranquilizing drug to an animal for short term restraint purposes to perform a procedure that involves no pain or distress.
- Toe-clipping or tail-clipping of mammals prior to 21 days of age.
- Toe-clipping or tail-clipping of ectotherms less than 40g in body mass.

Classification D: Alleviated pain. Animals used in procedures that could cause pain or distress but appropriate anesthetic, analgesic, or tranquilizing drugs are used.

Examples:
- Surgical procedures conducted by trained personnel in accordance with standard veterinary practice including but not limited to biopsy, gonadectomy, exposure of blood vessels ("cut down"), craniotomy, laparotomy, laparoscopy, and chronic implantation of a catheter, mini-pump, or other foreign body (regardless of whether the procedure is survival or terminal).
- Injection or blood collection by relatively invasive routes such as intracardiac, central vessel, or periorbital sites while under anesthesia.
- Exsanguination/terminal bleeds while under general anesthesia followed by an IACUC-approved secondary method. This includes most rabbits used for antibody production performed under ASU SOP because the rabbits are normally terminally bled under general anesthesia at the end of the project.
- Perfusion under anesthesia.
- Administration of drugs, chemicals, toxins, or organisms that would be expected to produce pain or distress but which will be alleviated by anesthetics or analgesics.
**Classification E: Unalleviated pain.** Includes the use of animals in procedures that involve pain or distress but the use of appropriate anesthetic or analgesic would have an adverse effect.

**Examples:**
- Procedures producing pain or distress unrelieved by analgesics such as toxicity studies, microbial virulence testing, radiation sickness, and research utilizing stress, shock, or pain.
- Surgical and post-surgical sequela from invasion of body cavities, orthopedic procedures, dentistry or other hard or soft tissue damage that produces unrelieved pain or distress.
- Negative conditioning that would cause pain or severe stress in humans.
- In-vivo propagation of tumor that is expected to result in ulceration, metastasis, and/or result in spontaneous death. Irrespective of above considerations, tumor size exceeding 3 cc (measured using the formula $V=ab^2$).
- Death as an endpoint.

**USDA Examples from 2006 Report Information:**

1. An animal experiences unexpected pain due to the research procedures, during the course of a study. The pain is recognized and treated with appropriate analgesic in a timely manner.
   **Answer:** Report in Column D

2. An animal experiences unexpected pain due to a research procedure but when the pain is recognized, the investigator determines that analgesics, anesthetics or tranquilizers would adversely affect the study.
   **Answer:** Report in Column E

3. An animal is unexpectedly found dead in the cage during the course of a study. The animal had been monitored appropriately and there were no pre or postmortem sign of pain or distress. The animal had not experienced pain as part of the study prior to its death.
   **Answer:** Report in Column C

4. An animal experiences unexpected pain or distress due to the research procedures during the course of a study. The pain is recognized and the animal is euthanized in a timely manner.
   **Answer:** Report in Column D

5. An animal accidentally becomes caught in a cage and experiences pain and distress which are completely unrelated to the study. The injuries are treated and appropriate analgesia is provided.
   **Answer:** This animal should be reported in the pain category appropriate to its experiences in the study. The accident does not affect the reporting category. If the animal did not experience any pain or distress as part of the approved study it would be reported in Column C.

6. An animal develops an ear infection and experiences pain or distress entirely unrelated to the study. Analgesics, anesthetics or tranquilizers would adversely affect the study so the animal is treated with palliative husbandry methods.
   **Answer:** This is a tough one and does not fit easily into any of the classifications. Because the pain relief must be withheld due to the study, even though the pain is not caused by a research procedure, report this animal in Column E and provide a justification for not providing pain relieving analgesics.