Assignment of Animals into Pain Categories

The University of North Carolina at Chapel Hill is required to report an annual census of the number of animals used in research and teaching, the type of species used, and the number of animals placed in each of the four “Pain Categories (B, C, D and E)”. In order to meet these requirements, it is essential that pain category information be provided by investigators prior to initiating any animal-related research or teaching activities. The intent of this document is to provide general recommendations and guidance on how to assign animals to the different pain categories.

When completing the protocol, assign each animal listed on a protocol to one of the following categories: B, C, D or E. Be sure to list each animal under the highest pain category that will apply to the animal at any time while on the protocol. Do not include non-research related veterinary care in determining the pain category. Note that the severity or duration of the pain/distress or the use of anesthesia/analgesia to alleviate pain/distress could result in animals being placed in different pain categories.

Pain Categories (B, C, D and E) with possible examples (not comprehensive)

**Category B:** Animals being bred or held, but not used for research or teaching.
- Breeding with no genotyping or euthanasia
- Housing only
- Observation in natural habitat having no physical contact with the animals

**Category C:** Procedures involving either no pain/distress, momentary pain/distress or slight pain/distress. The level of pain/distress appropriate for this category would not typically require the use of anesthetics or analgesics.
- Routine injections of non-toxic, non-irritating substances
- Blood collection, such as tail nick, tail snip, and venous blood sampling
- Tattooing, ear punching, ear notching and ear tagging
- Tissue collection after approved AVMA euthanasia, but without surgery (e.g. genotyping)
- Restraint for non-invasive procedures
- Genetically engineered phenotype with unknown clinical health complications, but not expected to cause congenital pain/distress
- Mild symptoms after inoculation, tumor induction, or infection by a viral/bacterial agent that do not require clinical treatment for pain relief or alleviation of symptoms
- Observation of animal behavior in research setting, such as locomotion and social interactions
- Assessment of responsiveness to mild noxious stimuli (e.g., hotplate, Von Frey) in which the animal can escape the stimulus
- Mild, transient colitis
- Mild to moderate ascites formation without systemic effects
- Infrequent electric shocks from which an animal can escape or can avoid
- Cancer studies limited to subcutaneous tumors that adhere to Policy
**Category E:** Procedures that involve pain/distress or potential pain/distress not relieved with anesthetics, analgesics, or other methods for relieving pain/distress. The use of Pain Category E must be scientifically justified. Below is a non-exhaustive list of conditions and procedures that *may* cause more than momentary or slight pain or distress: in each case, the pain/distress is alleviated by the appropriate use of analgesics or anesthetics.

- Persistent, severe colitis
- Inflammatory conditions and microbial infections with significant systemic effects
- Application of noxious stimulation, trauma or electric shock from which an animal cannot escape or which an animal *cannot* avoid
- Genetically engineered phenotype that causes pain/distress that will not be alleviated
- Procedures for which needed analgesics, tranquilizers, sedatives, or anesthetics must be withheld for scientific reasons
- Exposure to abnormal or extreme environmental conditions
- Administration of Complete Freunds Adjuvant
- Arthritis models causing prolonged pain or discomfort

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**Category D:** Procedures which involve pain/distress or have the potential for pain/distress and for which appropriate anesthetic, analgesic, or tranquilizing drugs are used. Below is a non-exhaustive list of conditions and procedures that *may* cause more than momentary or slight pain or distress: in each case, the pain/distress is alleviated by the appropriate use of analgesics or anesthetics.

- All non-survival surgeries
- All survival surgeries
- Exsanguination or transcardial perfusion under anesthesia
- Any post procedural outcome resulting in evident pain, discomfort or distress that is treated with anesthetics or analgesics
- Induced infections or antibody production with appropriate anesthesia or analgesia
- Footpad injections under anesthesia
- Injection or blood collection by invasive routes such as intracardiac, central vessel, or periorbital sites under anesthesia
- Physical trauma under anesthesia