Institutional Animal Care & Use Committee Guideline

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Considerations for Research and Teaching Protocols that have the Potential for More than Momentary Pain or Distress

This guideline is for scientists at Michigan State University who plan to use animals in research or teaching that may experience more than momentary or slight pain or distress.

“Proper use of animals, including the avoidance or minimization of discomfort, distress, and pain when consistent with sound scientific practices, is imperative. Unless the contrary is established, investigators should consider that procedures that cause pain and distress in human beings may cause pain or distress in other animals”

U.S. Government Principle IV, 1985

MSU subscribes to the following guidelines:

1. Assessment of pain and distress in animals is difficult and can be subjective. As such, procedures that cause pain or distress in humans should be assumed to cause similar effects in animals, unless the contrary is established.

2. The attending veterinarian has the authority to ensure the provision of adequate sedation, analgesia, or anesthesia.

3. Investigators are required to consult with the veterinary staff during the course of protocol planning to reach agreement concerning management of pain and distress.

4. When experimental procedures may cause animals more than momentary or slight pain or distress, the investigator in consultation with the veterinary staff must provide a detailed description of how pain or distress will be assessed and which agents will be used to alleviate pain and distress in the animal use form (AUF). We recommend including information about more than one agent and a dosage range if flexibility is desired.

5. For protocols involving surgery, animals should be provided appropriate pre- and postoperative care unless there are scientific justifications to withhold such agents. Analgesia will be given to animals subjected to either minor or major survival surgery according to the following guidelines unless scientifically justified and approved by the Institutional Animal Care and Use Committee (IACUC):

   A. Minor surgery (such as placement of subcutaneous pumps, surgical implantation of catheters or castration) requires a minimum of 24 hours of analgesia.
   B. Major surgery (penetrates/exposes a body cavity and/or produces substantial impairment of physical or physiologic functions after the animal is allowed to recover from anesthesia) requires a minimum of 48 hours of analgesia.
   C. Procedures that potentially cause severe pain (extensive orthopedic surgery, burns, thoracic surgery) require a minimum of 72 hours of analgesia with some animals and/or procedures requiring considerably more.
   D. After these time periods, analgesia may be given on an “as needed” basis. The PI should specify in their AUF what features will indicate a need for further analgesia and how often animals will be monitored.
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6. If the investigator feels it necessary to withhold sedatives or analgesics for any protocol including those involving surgery, the investigator must provide the IACUC with a reasoned, scientific justification for this action. The justification should include the rationale or evidence that the agents would compromise the scientific goals and/or outcomes of the research protocol. If investigators have questions, please direct them to CAR Veterinary Staff.

Scientific justification must address the following questions:

1. How will use of analgesia interfere with the research/teaching activities?
2. What data and scientific justification support the answer to #1?
3. What are the typical signs of pain and/or distress for this species?
4. How frequently will animals be observed post-procedurally for signs of pain and/or distress?
5. Who will be observing the animals?
6. What are his/her qualifications to assess signs of pain and/or distress?
7. What will be done for animals exhibiting abnormal signs of pain and/or distress or other adverse events?

7. The IACUC has the ultimate responsibility for ensuring that pain and distress in research animals is limited to that which is necessary in the course of approved experimentation. This includes review and approval of methods and agents used for prevention and alleviation of pain and distress. Committee decisions in this regard will be based on regulatory requirements as well as advice from the veterinary staff and the investigators.