SOUTHERN ILLINOIS UNIVERSITY CARBONDALE

Institutional Animal Care & Use Committee

IACUC Policy #:	**580**
Policy Title:	***Animal Analgesia Guidelines***
Date Approved:	**November 15th, 2023**
Date Reviewed:	
Who must know:	**Principal investigators, personnel, and researchers approved to perform research activities using vertebrate animals and cephalopods**

Purpose:
To ensure vertebrate animals and cephalopods used for research, testing, and/or teaching experience only the minimal amount of pain or distress necessary as the result of research or teaching procedures.

Definitions:
Researchers: In addition to principal investigators and other personnel, the term researcher also includes volunteers and/or students approved to complete research in the designated protocol.

Pain: A basic body sensation that is induced by a noxious stimulus, is received by naked nerve endings, is associated with actual or potential tissue damage, or is characterized by physical discomfort or stress. A painful stimulus normally prompts a withdrawal or evasive action.

Policy:
In general, unless the contrary is known or established it should be assumed that procedures that cause pain in humans, are damaging or potentially damaging to tissue, or elicit withdrawal or evasive action, also cause pain in animals.

Legal and ethical obligations require minimizing unavoidable discomfort, distress, and pain in vertebrate animals and cephalopods used in research, testing, and/or teaching. Principal Investigators must seek the least painful techniques feasible that will allow the protocol objective(s) to be pursued adequately.

Painful procedures, as applied to vertebrate animals and cephalopods involved in research, testing, and/or teaching at Southern Illinois University Carbondale, are any procedures 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 (e . g . , pain in excess of that caused by injections or other similar minor procedures). If a procedure will cause more than momentary slight pain or distress to the animal, the pain should be minimized both in intensity and duration through the administration of appropriate analgesics consistent with acceptable standards of veterinary medicine. It should be emphasized that the requirement for the alleviation/reduction of pain applies not only at the time the procedure is being conducted but also following the procedure until such time when the pain is either alleviated or reduced to an acceptable tolerance level. If pain cannot be alleviated or reduced to an acceptable level while using analgesics, the animal(s) should be euthanized. If a procedure has associated pain, discomfort, or distress, it is imperative that the investigator estimates the probable occurrence, magnitude, and duration of the pain,

discomfort, or distress in order to adequately plan for the treatment of pain.

It is essential that personnel caring for and using animals be very familiar with species-specific clinical signs of discomfort in order to assess and monitor pain and distress. In some circumstances, physiological or biochemical parameters (e.g., plasma cortisol, catecholamines, white blood cell counts, and cardiovascular parameters) may be used, in addition to clinical signs, for assessment of wellbeing.

The selection of analgesics should be appropriate for the species involved and the dose, frequency, and duration of treatment must be appropriate for the type, severity, and duration of pain or discomfort without compromising the scientific aspects of the animal procedures. Some classes of drugs, such as sedatives, anxiolytics, and neuromuscular blocking agents, do not have analgesic properties and thus do not relieve pain. In no case should animals be under the influence of a neuromuscular blocking agent without being fully anesthetized and mechanically ventilated.

When possible, it is preferable to administer analgesics prior to the noxious insult, which is referred to as preemptive analgesia. Preemptive analgesia may reduce the severity or delay the onset of pain greater than that achieved with the same regimen initiated after the procedure.

It is recognized that in certain animal procedures the administration of analgesics can compromise the scientific validity of the experiment. If withholding analgesics as part of these procedures is proposed, the Principal Investigator must provide scientific justification on the animal use protocol to the Institutional Animal Care and Use Committee (IACUC) for approval before commencement of the procedure. The justification should be supported by literature references or data acquired from pilot studies. The justification should describe why all classes of analgesics are incompatible with the proposal objective, and when applicable, specific animal endpoints ensuring the length of time animals may experience unrelieved pain or distress is the minimum possible.

References:

National Institute of Health, Office of Laboratory Animal Welfare. (2015) *PHS Policy on Humane Care and Use of Laboratory Animals.* https://olaw.nih.gov/policies-laws/phs-policy.htm