Georgia State University
Institutional Animal Care and Use Committee
(IACUC)

It is the responsibility of the Georgia State University (GSU) Institutional Animal Care and Use Committee (IACUC) to ensure judicious and humane use of animals used in its teaching and research programs that is consistent with federal requirements.*

Policy on Humane Endpoints

Humane Endpoints

Humane endpoints refer to one or more predetermined physiological or behavioral signs that define the point at which an experimental animal’s pain and/or distress is terminated, minimized, or reduced by taking actions such as euthanizing the animal or terminating a painful procedure. Humane endpoints function as an alternative to experimental endpoints and provide investigators with an effective way to refine their research. The establishment of humane endpoints prior to the start of a study allows the investigator to prevent unnecessary animal pain and distress while ensuring accurate and timely data collection. Humane endpoints should be clearly defined for each protocol submitted to the IACUC for review.

The following default humane endpoints, adopted by the IACUC, will be applied only if investigators do not delineate and adequately justify alternative endpoints. Prior to submitting protocols to the IACUC, investigators are encouraged to develop more refined endpoints that avoid or minimize discomfort, distress and pain to the animals and that are compatible with experimental objectives.

Default humane endpoints for the following laboratory animals including rodents, nonhuman primates, birds, frogs, and lizards.

Rodents
1. Loss of 20% of body weight from baseline weight when assigned to the protocol. If protocol is utilizing a young growing animal, a growth nomogram must be used to adjust the 20% weight deviation from a basal weight growing animals.

2. Surgical complications unresponsive to immediate intervention; i.e. bleeding, vascular graft/circulation failure, infection, and wound dehiscence.

3. Poor body condition score, 2 out of 5, (reference Manual Ullman-Culler MH Lab Animal Sci 49(3):319-23, 1999) will either be selected for euthanasia or the condition will be reported to the veterinary staff to determine if treatment/support is appropriate and possible.

4. Clinical or behavioral signs unresponsive to appropriate intervention within 24 hours.
   - inactivity (decreased movement about the cage)
   - labored breathing
- sunken eyes, squinting
- hunched posture
- intractable diarrhea
- hemorrhage from a orifice
- self-mutilation
- failure to right itself when placed on side
- neurologic signs (circling, ataxia)
- piloerection/matted fur
- progressive ulcerative dermatitis
- one or more un-resolving skin ulcers
- abnormal vocalization when handled
- tumors that affect normal function or that become ulcerated
- anorexia

NHPs
1. Humane endpoints are determined by the veterinarian(s) in conjunction with the Language Research Center (LRC) director as studies conducted at the LRC are not invasive, therefore the studies are not expected to have any adverse effects on the animals.

Birds
1. Loss of 20% of body weight from baseline weight when assigned to the protocol. If protocol is utilizing a young growing animal, a growth nomogram must be used to adjust the 20% weight deviation from a basal weight growing animals.

2. Clinical or behavioral signs unresponsive to appropriate intervention within 24 hours.
   - inactivity (decreased flying about the cage)
   - labored breathing
   - sunken eyes, squinting
   - crouched posture
   - fluffed feathers
   - shaking
   - self-mutilation
   - failure to right itself when placed on side
   - neurologic signs (circling, ataxia)
   - abnormal vocalization when handled
   - anorexia
   - hemorrhage from a orifice

Frogs
1. Clinical or behavioral signs unresponsive to appropriate intervention within 24 hours.
   - inactivity (decreased swimming around the tank)
   - anorexia
   - lack of response to stimuli
   - failure to right itself
   - neurologic signs (circling, ataxia)

2. Surgical complications unresponsive to immediate intervention; i.e. bleeding, circulation failure, infection, and wound dehiscence.
**Lizards**

1. Clinical or behavioral signs unresponsive to appropriate intervention within 24 hours.
   - inactivity (decreased movement around the tank)
   - anorexia
   - abnormal posture
   - skin darkening to dark brown or black
   - lack of response to stimuli
   - failure to right itself when placed on side
   - neurologic signs (circling, ataxia)

2. Surgical complications unresponsive to immediate intervention; i.e. bleeding, circulation failure, infection, and wound dehiscence.

The IACUC requires the following for research proposals that include death as an endpoint:

1. Written justification including discussion of alternative endpoints.
2. Justification of the numbers of animals to be included.
3. Justification for non-use of analgesics if this is so.
4. At least twice daily monitoring once animals exhibit abnormal signs.
5. Maintenance of written records of monitoring.

**Pertinent Regulations**

U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training
Public Health Service Policy
Guide for the Care and Use of Laboratory Animals
Animal Welfare Act (AWA) and AWA Regulations

IACUC Approval Date:
Signature IACUC Chair:
Revision Dates: