

**Subject: Moribund Animals**

Source: Institutional Animal Care and Use Committee (IACUC)  
Effective Date: 06/08/2020  
Replaces: 11/13/17  
Applies to: Personnel involved in research or teaching studies involving animals  
Reference: Animal Welfare Act; PHS Policy on Humane Care & Use of Laboratory Animals; Guide for the Care & Use of Laboratory Animals



**Introduction**

The Institutional Animal Care and Use Committee (IACUC) maintains oversight review for federally mandated rules and regulations with regard to animal research, ethics, misconduct and biomedical research for the University of Colorado Denver (UC Denver).

**Policy Statement**

This policy is intended to detail the circumstances which define when any animal is considered moribund. Animals defined as moribund generally must immediately be humanely euthanized.

The effective use of [endpoints](#) requires that properly qualified individuals perform both general and study-specific observations of the research animals at appropriate time points. Studies should be designed to minimize pain and/or distress. If pain or distress is unavoidable, then a scientific justification and the humane endpoints for removing animals from the study or for their euthanasia must be in the IACUC protocol and approved by the IACUC prior to the study. Such endpoints are preferable to death or moribundity since they minimize pain and distress.

Common signs of moribundancy:

- Impaired ambulation (unable to reach food or water easily)
- Evidence of muscle atrophy or other signs of emaciation e.g. ribs showing (body weight is not always proportionate)
- Lethargy (drowsiness, aversion to activity, lack of physical or mental alertness)
- Prolonged lack of appetite
- Chronic diarrhea or constipation
- Inability to remain upright
- Lack of responsiveness to manual stimulation
- Rapid weight loss
- Progressive dermatitis.
- Rough hair coat, hunched posture, lethargy or persistent recumbency
- Coughing, labored breathing, nasal discharge
- Jaundice and/or anemia
- Neurological signs
- Bleeding from any orifice
- Excessive or prolonged hyperthermia or hypothermia.

Additional signs in neoplasia studies that may constitute an endpoint include, but are not limited to:

- A tumor burden greater than 10% body weight.
- In an adult mouse, a tumor may not exceed 20 mm in any one dimension; in an adult rat, a tumor may not exceed 40 mm in any one dimension. (Formulas for calculating tumor size can be found in the literature)
- Tumors that ulcerate, become necrotic or infected.

Federal law authorizes veterinary staff to euthanize animals in states of unauthorized, uncontrolled pain or distress. The PI is strongly encouraged to work closely with UC Denver veterinary staff in such cases.

Per regulatory requirements, failure to comply with this policy may result in notification of your funding agency (e.g. NIH) and regulatory agencies (e.g. USDA) that your research has violated federal and/or local policies regarding the humane use of animals. This notification may affect continuous funding of your animal-related research. Further, depending on the violation, you may be required to take additional training and/or your privilege to conduct animal research at UC Denver might be temporarily suspended or even completely revoked.