

POLICY REGARDING EUTHANASIA OF LABORATORY MICE AND RATS

PURPOSE:

Liberty University has a commitment to maintain regulatory compliance as a part of the Institutional Animal Care and Use Program. As such, Liberty University seeks to provide appropriate, humane euthanasia for all laboratory rodents when and where applicable.

POLICY:

It is the policy of Liberty University to adhere to the following guidelines as the minimal acceptable standard for animal care regarding euthanasia. Any form of euthanasia that does not follow the AVMA Guidelines on Euthanasia must be requested and justified in the study protocol during the IACUC approval process. According to “The Guide for the Care and Use of Laboratory Animals”:

“Euthanasia is the act of humanely killing animals by methods that induce rapid unconsciousness and death without pain or distress. Unless a deviation is justified for scientific or medical reasons, methods should be consistent with the current [AVMA Guidelines](#) on Euthanasia. In evaluating the appropriateness of methods, some of the criteria that should be considered are ability to induce loss of consciousness and death with no or only momentary pain, distress, or anxiety; reliability; irreversibility; time required to induce unconsciousness; appropriateness for the species and age of the animal; compatibility with research objectives; and the safety of and emotional effect on personnel.

Euthanasia may be planned and necessary at the end of a protocol or as a means to relieve pain or distress that cannot be alleviated by analgesics, sedatives, or other treatments. Criteria for euthanasia include protocol-specific endpoints (such as degree of a physical or behavioral deficit or tumor size) that will enable a prompt decision by the veterinarian and the investigator to ensure that the endpoint is humane and, whenever possible, the scientific objective of the protocol is achieved.

The selection of specific agents and methods for euthanasia will depend on the species involved, the animal’s age, and the objectives of the protocol. Generally, chemical agents (e.g., barbiturates, nonexplosive inhalant anesthetics) are preferable to physical methods (e.g., cervical dislocation, decapitation, use of a penetrating captive bolt); however, scientific considerations may preclude the use of chemical agents for some protocols. Furthermore, because neonatal rodents are resistant to the hypoxia-inducing effects of CO₂ and require longer exposure times to the agent (Artwohl et al. 2006), alternative methods should be considered (e.g., injection with chemical agents, cervical dislocation, or decapitation; Klaunberg et al. 2004; Pritchett-Corning 2009).” All methods of euthanasia should be reviewed and approved by the IACUC.”

AS IT RELATES TO EUTHANASIA, LIBERTY UNIVERSITY UPHOLDS THAT:

- Chambers are not to be pre-loaded with CO₂ when using them for euthanasia. When using a CO₂ chamber for euthanasia, the user must be properly trained and be familiar with the SOP for the process and equipment. All posted instructions must be followed.
- When using an inhalant for the purpose of euthanasia, a secondary method must be used to confirm animal death. Such methods include: cervical dislocation, exsanguination, thoracotomy, or decapitation. The appropriate method for the species shall be used, and must be included in the approved IACUC protocol.
- Mechanical euthanasia without anesthesia must be scientifically justified and noted in the IACUC protocol.
- Prior to performing any euthanasia, it is the responsibility of the PI to ensure that all persons are adequately trained in such procedures.