



# University of Maryland College Park Animal Care and Use Standard

## Animal Euthanasia

**Purpose:** This document describes essential elements of humane euthanasia and establishes the American Veterinary Medical Association (AVMA) Guidelines for the Euthanasia of Animals (current edition) as the primary standard for animal euthanasia on campus.

**Background:** A number of animal and human factors should be considered when selecting an appropriate method of humane euthanasia for animals. The AVMA Guidelines rely on the best research and empirical information available to set criteria for euthanasia and specify appropriate euthanasia methods and agents for a variety of animal species in various settings. The regulatory and guidance documents governing animal care and use in research, testing and teaching stipulate that euthanasia methods should be consistent with the current AVMA euthanasia guidelines unless a deviation is justified.

**Definitions:**

1. *Euthanasia*<sup>(2)</sup> - the act of humanely killing animals by methods that induce rapid unconsciousness and death without pain or distress.

**Standards:** Methods of euthanasia used will be consistent with the recommendations of the AVMA Panel on Euthanasia, unless a deviation is justified for scientific reasons in writing by the investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A deviation for medical reasons may be authorized by the Attending Veterinarian (AV)/designee. 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. When consistent with the needs of the animals and the protocol, chemical agents (e.g., barbiturates, inhalant anesthetics) are generally preferable to physical methods (e.g., cervical dislocation, decapitation, penetrating captive bolt, etc.). Criteria for euthanasia (including protocol-specific experimental endpoints and early removal criteria) will help to ensure that the endpoint is humane and, whenever possible, the scientific objective of the protocol is achieved.

**Methodology:**

1. Euthanasia methods (including methods used to ensure death) for animal use activities will be described in the Animal Study Protocol (ASP). Deviations from methods considered acceptable under the AVMA Guidelines must be justified in the ASP and approved by the IACUC.
2. The following considerations apply to the selection and review of appropriate euthanasia methods:
  - Ability to induce loss of consciousness and death with no or only momentary pain, distress, or anxiety;
  - Reliability and irreversibility;
  - Time required to induce unconsciousness;
  - Appropriateness for the species and age of the animal (with special consideration given to euthanasia of fetuses and larval life forms, depending on species/gestational age);
  - Compatibility with research objectives; and
  - Safety of and emotional effect on personnel.

3. Standardized methods of euthanasia that are predictable and controllable will be developed and approved by the AV and IACUC. When appropriate, chemical methods should be used.
4. Personnel performing euthanasia must be trained and proficient in species-specific methods (special attention is required to ensure proficiency when using physical methods) and must do so in a professional and compassionate manner.
5. Death must be confirmed by someone trained to recognize species-specific cessation of vital signs. A secondary method of euthanasia (e.g., thoracotomy, exsanguination) may also be used to ensure death.
6. Euthanizing animals may be psychologically difficult for some staff members. Supervisors assigning euthanasia responsibilities should be sensitive to issues related to repetitive euthanasia or emotional attachment to animals.

**References:**

1. Office of Laboratory Animal Welfare, National Institutes of Health. (2015). Public Health Service Policy on Humane Care and Use of Laboratory Animals. NIH Publication No. 15-8013. Bethesda, MD: National Institutes of Health.
2. Institute for Laboratory Animal Research, National Research Council. (2011). Guide for the Care and Use of Laboratory Animals. Washington, DC: National Academy Press. Retrieved from <https://grants.nih.gov/grants/olaw/guide-for-the-care-and-use-of-laboratory-animals.pdf>
3. Federation of Animal Science Societies. (2010). Guide for the Care and Use of Agricultural Animals in Research and Teaching. 3<sup>rd</sup> Edt. Champaign, IL: FASS. Available at <https://www.aaalac.org/pub/?id=E900BDB6-CCCF-AB13-89B6-DA98A4B52218>
4. American Veterinary Medical Association. (2020). AVMA Guidelines for the Euthanasia of Animals: 2020 Edition. Retrieved from <https://www.avma.org/KB/Policies/Documents/euthanasia.pdf>; accessed January 20, 2021.