



## Euthanasia of Laboratory Rodents Policy

### I. Purpose

This document guides approved methods for euthanasia in procedures that involve the use of laboratory rodents.

### II. Scope

This policy applies to all personnel performing euthanasia in rodents.

### III. Definitions

**Euthanasia:** Euthanasia is derived from the Greek terms *eu* meaning good, and *thanatos* meaning death. The term is usually used to describe ending the life of an individual animal in a way that minimizes or eliminates pain and distress. A good death is tantamount to the humane termination of an animal's life.

### IV. General Information

- A. Procedures used to euthanize laboratory animals must be consistent with the U.S. Government Principles for the Utilization and Care of Vertebrate Animals used in Testing, Research and Training, the NRC Guide for the Care and Use of Laboratory Animals, the AVMA Guidelines on Euthanasia, and the Code of Federal Regulations.
- B. Personnel who perform euthanasia must demonstrate proficiency in the use of the technique before working independently.
- C. The chosen form of euthanasia must be in the IACUC-approved protocol, and exceptions to this policy must be scientifically justified and approved by the IACUC before implementation.
- D. Euthanasia may be performed only in the ARC, satellite animal housing facilities, and IACUC approved study areas (e.g., lab areas).

### V. Rodent Euthanasia Methods

- A. CO<sub>2</sub> inhalation using CO<sub>2</sub> from a tank source (use of dry ice is not allowed).
- B. Overdose with an injectable drug or gas anesthetic (e.g., pentobarbital at 3 times the anesthetic dose, ketamine/xylazine at 5 times the anesthetic dose, or isoflurane).
- C. Cervical dislocation or decapitation following induction of anesthesia.

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- D. Exsanguination following induction of anesthesia.
- E. Cervical dislocation without anesthesia. Scientific justification is required. Personnel must receive appropriate training and training/competency documented before performing this method.
- F. Decapitation without anesthesia. Scientific justification is required, and personnel must receive appropriate training and training/competency documented before performing this method.

#### VI. Secondary/Confirmatory Methods

- A. The IACUC requires that a confirmatory/secondary form of euthanasia **must** be performed following euthanasia with the exception of decapitation. Regardless of the method of euthanasia selected, care must be taken to ensure that the animal(s) are dead before disposal.

Approved confirmatory/secondary forms of euthanasia are:

1. Removal of major organ(s) for tissue harvest
2. Cervical dislocation
3. Decapitation
4. Creation of a pneumothorax by perforating the chest wall
5. Exsanguination – cutting the major blood vessels(e.g., aorta or vena cava)

#### VII. Carcass Disposal

- A. The carcass must be disposed of in accordance with ARC standard procedures regarding Risk Group 1 and 2 infectious agents or chemical hazards below.
  1. Place deceased animals in a clear plastic carcass bag and seal the bag.
  2. Transfer carcasses to the necropsy refrigerator located in the ARC facility. Alternatively, carcasses may be stored temporarily in a designated freezer in an IACUC approved animal use lab area before transfer to the ARC carcass freezer.
- B. Animal carcasses that are exposed to Risk Group 3 infectious agents are autoclaved.
- C. Radiological carcasses are picked up by the RSO and then stored in the radiation storage laboratory.

#### VIII. References



National Institutes of Health. 2015. Public Health Service Policy on Humane Care and Use of Laboratory Animals. Office of Laboratory Animal Welfare, National Institutes of Health, Bethesda, Md.

National Institutes of Health. 2011. Guide for the Care and Use of Laboratory Animals National Research Council, National Academy Press.

AVMA Guidelines for the Euthanasia of Animals. 2020 edition.

Code of Federal Regulations. 1985. Title 9; Subchapter A-Animal Welfare, Animal and Plant Health Inspection Service, Office of the Federal Registrar, Washington, D.C.