

**Subject: Fetal and Neonatal Rodent Euthanasia**

Source Institutional Animal Care and Use Committee (IACUC)

Effective Date 9/14/2026

Replaces: 12/11/2023

Applies to: Personnel involved in Research or Teaching 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) provides oversight of the institution's animal care and use program, ensuring compliance with federally mandated regulations, ethical standards, and institutional policies governing the humane use of animals in research and teaching at the University of Colorado Denver | Anschutz. The IACUC evaluates and reviews all activities related to the care and use of animals and determines if the proposed activities are in accordance with regulations.

Policy Statement

This policy provides information on the requirements of euthanasia of fetal rodents (mouse and rat) and neonatal rodents not older than 10 days of age and establishes procedures to be followed.

- Fetal and neonatal rodents are unusually resistant to hypoxia (via carbon dioxide) and inhalant anesthetics often used as euthanizing agents in adult rodents.
- Inhalant agents alone should not be used for euthanasia in fetal and neonatal rodents. Inhalants may be used to induce unconsciousness, followed by a method of euthanasia.
- When fetal rodents are not removed from the uterus for study, euthanasia of the dam is sufficient to euthanize the fetuses, independent of gestational age, if the uterus is not disturbed. Fetal rodents are unconscious in utero and the cerebral anoxia caused by euthanasia of the dam leads to fetal demise without a significant physiologic response. Therefore, it is not necessary to separately euthanize fetuses following euthanasia of the dam.
- If removing fetuses up to 15.5 days of gestation from the uterus (E15.5), the act of removal should ensure rapid death of the fetus due to loss of blood supply and non-viability of the fetuses at this stage of development.
- If removing fetuses over 15.5 days of gestation from the uterus, the IACUC recommends the following euthanasia methods:
 - An overdose of injectable anesthetic, given IP.
 - Decapitation with sharp surgical scissors or cervical dislocation.
- The IACUC recommends the following euthanasia methods for neonatal rodents (not older than 10 days of age):
 - An overdose of injectable anesthetic, given IP.
 - Anesthesia is induced by one of the following methods until there is no movement and response to noxious stimuli (e.g., foot pinch).
 - Inhalant anesthetics, such as isoflurane
 - Carbon dioxide (CO₂)
 - Hypothermia (not direct exposure to ice)
Anesthetic induction may take longer than isoflurane or carbon dioxide.
 - The neonate is then rapidly and humanely euthanized via another recognized method, such as decapitation, as per the current version of the AVMA Guidelines.
 - Exemption to the second form of euthanasia if the Euthanex Chamber is used for neonatal animals with the neonatal animal cycle.
 - The Euthanex Chamber has engineering controls to guarantee appropriate hold times for CO₂ exposure to ensure irreversible



- euthanasia (I.).
 - The Euthanex Chamber is restricted to OLAR use only and is used for non-medical emergencies.
- It is imperative that all individuals responsible for administering CO₂ for euthanasia be qualified and trained appropriately on the technique and equipment. Documentation of such training/experience must be provided at the time of protocol submission.
- Any deviation from the policy concerning euthanasia of fetal and neonatal rodents will be considered and reviewed by the IACUC on a case-by-case basis and only with adequate scientific justification.

Compliance and Accountability

In accordance with regulatory requirements, failure to comply with this policy will result in a review by the IACUC. Depending on the severity of the violation, you may be required to complete additional training, and your privileges to conduct animal research at CU Denver | Anschutz may be suspended or completely revoked.

If your research privileges are suspended, your funding agency (e.g., NIH) and relevant regulatory agencies (e.g., USDA) may be informed about your violation of federal and/or local policies regarding the humane use of animals. This notification will have a direct impact on your ongoing funding for animal-related research.

References:

1. Artwohl J, et al. 2006. Report of the ACLAM Task Force on Rodent Euthanasia. *Journal of the American Association for Laboratory Animal Science*. 45(1): 98-105.
2. Leary S, et al. 2020. AVMA Guidelines for the Euthanasia of Animals: 2020 Edition. American Veterinary Medical Association. <https://www.avma.org/sites/default/files/2020-01/2020-Euthanasia-Final-1-17-20.pdf>