

AUP Section: Animal Disposition

Species: Mice or Rats

Methods of euthanasia: (select all that apply)

Primary methods:

Agent/Method Name	Dosage (in mg/kg if possible)	Route
Carbon Dioxide (CO2)	30-70% chamber volume per minute (Flow meter: Rat: 6-8 L/min; Mouse cage: 4-6 L/min)	Inhalation
Isoflurane	Open drop method or Precision Vaporizer 5%	Inhalation

Secondary methods:

Agent/Method Name	Dosage (in mg/kg if possible)	Route
Cervical dislocation	Not applicable	Not applicable
Decapitation	Not applicable	Not applicable
Bilateral thoracotomy	Not applicable	Not applicable

Description of Euthanasia Procedure: (select all that apply):

Procedure	Description
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Carbon Dioxide (CO2)

Euthanasia will be carried out as described in the most current [AVMA Guidelines for the Euthanasia of Animals](#).

Procedural Steps:

1. When possible, animals will be euthanized in home cage. Animals will **never** be euthanized in an overcrowded cage or with unfamiliar individuals.
2. Cage lid/wire bar may be removed and designated euthanasia lid will be placed over cage. CO2 will be delivered from a pressurized tank into a cage.
3. The flow rate will be set to displace 30-70% of the chamber or cage volume/minute. (Flow meter: Rat: 6-8 L/min; Mouse cage: 4-6 L/min).
4. Animals will be monitored for cessation of respiration and will remain in chamber for an additional 60 seconds after respiration has ceased.
5. Animals will be removed from cage/chamber, and after confirming a lack of a palpable heartbeat, a physical means of euthanasia will be performed

<u>Isoflurane</u>	<p>Euthanasia will be carried out as described in the most current AVMA Guidelines for the Euthanasia of Animals.</p> <p><u>Procedural Steps:</u></p> <ol style="list-style-type: none">1. Isoflurane inhalation at an overdose may be utilized as a method of euthanasia, either by precision vaporizer or open-drop method2. If open-drop isoflurane is utilized, it must be adequately scavenged to prevent personnel exposure. Animals will be placed in chamber with a barrier to protect animals from direct contact with isoflurane, as isoflurane may be irritating if direct skin contact occurs. Animals may need to be exposed for prolonged time periods to ensure death.3. Animals will be monitored for cessation of respiration and will remain in euthanasia chamber for an additional 60 seconds after respiration has ceased.4. Animals will be removed from chamber, and after confirming a lack of a palpable heartbeat, a physical means of euthanasia will be performed.
<u>Cervical Dislocation</u>	<p><u>For rats <200g and mice</u></p> <ol style="list-style-type: none">1. Place your fingers or an instrument at the base of the skull.2. With the other hand, hold the mouse at the base of the tail. Place pressure at the base of the skull by pushing down with your fingers or instrument while simultaneously pulling back with the other hand.3. Verify adequate cervical dislocation by feeling a separation between the skull and cervical vertebra.

<u>Bilateral Thoracotomy</u>	<u>For rats >200g</u> 1. Using a scalpel blade, make an incision between midthorax ribs, parallel to the ribs. Ensure the incision perforates the thorax. 2. Extend the incision to at least ¼ of the space between the spine and sternum. 3. Alternatively, if the abdomen is opened post mortem, incise the diaphragm, ensuring both sides of the thorax are exposed to ensure animal cannot inflate lungs
<u>Decapitation</u>	<u>For neonates</u> 1. After confirming a lack of a pedal reflex animals will be quickly decapitated with sharp, clean scissors or sharp guillotine.

Details for Carcass Disposal:

Carcasses will be bagged and placed in approved necropsy cooler or designated refrigerator or freezer. They will then be disposed of by an OLAC approved manner.

References:

American Veterinary Medical Association. 2020. AVMA Guidelines on Euthanasia, 2020 update.

Edit history:

5/3/2015 - Final Version

10/15/20 - Edits to reflect updates in AVMA Guidelines on Euthanasia, 2020 update

Jan. 2022 – Edits to reflect updates to match Animal Disposition format in eProtocol AUP form