DEPARTMENT OF VETERANS AFFAIRS
South Texas Veterans Health Care System
San Antonio, Texas 78229-4404

Research Service Policy Memorandum 16-16

February 19, 2016

ANIMAL CARE AND USE PROGRAM

Euthanasia

1. **PURPOSE:** To establish policy and procedures for the euthanasia of laboratory animals.

2. **POLICY:** At the conclusion of the experiments, animals shall be euthanized in an approved manner unless continuation of life of animal is necessary to determine results of experiments or animal is to be used in related approved research. Euthanasia methods must be consistent with the AVMA recommendations and appropriate to the species.

3. **ACTION:**

a. Endpoint criteria that define when an animal should undergo euthanasia or be removed from the study must be clearly stipulated in the protocol reviewed and approved by the IACUC.

b. **METHODS USED**: All investigators will be provided a comprehensive list of acceptable methods of euthanasia (2013 AVMA Guidelines for the Euthanasia of Animals: 2013 Edition). Although there may be several acceptable methods for each species, investigators are encouraged to use the method of choice. Any deviation from acceptable methods must be supported with written scientific justification. Options include CO2, barbiturate overdose (IV and IP), exsanguinations and K Cl (IV) in anesthetized animals, decapitation and cervical dislocation in small sedated or anesthetized animals or with justification in small non-anesthetized animals, and stunning in small animals.

Species	Method of Choice
Animals <125 gm	CO_2 Barbiturate overdose, decapitation
Rabbits/Rodents >125 gm <1 kg	CO_2 Barbiturate overdose, decapitation
Rabbits/Rodents >1 kg but <5 kg	Barbiturate overdose (IV)
Neonatal rodents (up to 14 days)	As resistant to CO_2, alternative methods are recommended. CO_2 may be used if followed by another method (e.g., decapitation)

b. Training and experience: VMU personnel, research investigators, and technicians carrying out euthanasia must have training and experience in the method used. VMU technicians will be provided extensive on-the-job training by the VMU Supervisor. Principal Investigators are responsible for training of their technicians. The VMU Supervisor will periodically monitor personnel to insure use of appropriate technique.

4. RESPONSIBILITY: Investigators will be responsible for compliance with animal guidelines.

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5. REFERENCES: NIH "Guide for the Care and Use of Laboratory Animals 2011," The Animal Welfare Act of 1976, and 2013 AVMA Guidelines for the Euthanasia of Animals: 2013 Edition.

6. RESCISSION: Research Service memorandum 09-16, dated December 5, 2009.

7. RECERTIFICATION: January 2021

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Attachment:
Carbon Dioxide Chamber Instructions

DISTRIBUTION: Veterinary Medical Unit; Investigators

USE OF CARBON DIOXIDE CHAMBER

1. The euthanasia chamber should allow ready visibility of the animals. Do not overcrowd the chamber – all animals in the chamber must be able to make normal postural adjustments.

2. Compressed CO_2 gas in cylinders is the only recommended source of carbon dioxide as it allows the inflow of gas to the induction chamber to be controlled. Without pre-charging the chamber, place the animal(s) in the chamber and introduce 100% carbon dioxide at the rate of 10-20% of the chamber volume per minute so as to optimize reduction in distress. (For a 10-liter volume chamber, use a flow rate of approximately 1-2 liter(s) per minute.) After the animals become unconscious, the flow rate can be increased to minimize the time of death. Sudden exposure of conscious animals to carbon dioxide concentrations of 70% or greater causes distress.

3. Animals should be left in container until clinical death is ensured (10 minutes)

4. If an animal is not dead following co2 exposure, another method of euthanasia (e.g., decapitation, see 2000 Report of the AVMA Panel on euthanasia) must be added while the animal is under co2 narcosis to assure death.