

CHAPTER 12

EUTHANASIA GUIDELINES, ADOPTION/PROCUREMENT PROGRAM and ANIMAL RE-USE

Euthanasia is the act of killing animals by methods inducing rapid unconsciousness and death without pain and distress. Pain can be defined as the perception that results from nerve impulses reaching the cerebral cortex. Therefore, the unconscious animal cannot experience pain. Rapidly occurring unconsciousness followed by respiratory and cardiac arrest is required for the method to be acceptable. Euthanasia should be carried out in a manner that avoids animal distress. Sometimes vocalization and release of pheromones occur during induction of unconsciousness. Therefore, other animals should not be present when euthanasia is performed.

Euthanasia methods should be consistent with the AVMA Guidelines on Euthanasia unless a deviation is justified for scientific or medical reasons. All methods of euthanasia should be reviewed and approved by the IACUC. When evaluating euthanasia methods for appropriateness some of the criteria that should be considered are the ability to induce loss of consciousness and death with no or only momentary pain, distress or anxiety; reliability; non-reversibility; time required to induce unconsciousness; species and age limitations; compatibility with research objectives; and safety of and emotional effect on personnel.

Euthanasia should be performed by personnel who are skilled in methods for the species in question in a professional and compassionate manner. Persons performing euthanasia can receive instructions from the veterinarian, the principal investigator or the lab manager. The investigator must indicate that personnel in their lab are proficient in euthanasia procedures on the PI training log. When delegating euthanasia responsibilities, supervisors should be aware that some employees or students may find euthanizing animals psychologically difficult.

Death must be confirmed before disposal of any animal remains. A combination of criteria is most reliable in confirming death, including lack of pulse, breathing, corneal reflex and response to firm toe pinch, inability to hear respiratory sounds and heartbeat by the use of a stethoscope, graying of the mucous membranes, and rigor mortis.

The IACUC has established guidelines for euthanasia that can be found on the Animal Care Program website.

II. Common Methods by Species

A. Adult Rodents

Carbon dioxide
Overdose with inhalant anesthetics
Barbiturate Overdose/euthanasia solution

B. Neonate Rodents over 10 days

Overdose of chemical anesthetics
Overdose of isoflurane
Carbon dioxide exposure
Barbiturate overdose

C. Neonate Rodents less than 10 days

Overdose of chemical anesthetics
Decapitation

D. Rodent Feti 15 days after gestation until birth

Decapitation or cervical dislocation
Confirmed euthanasia of mother
Rapid freezing of feti while anesthetized

E. Rodent Feti up to 15 days gestation

Confirmed euthanasia of mother

F. Birds

CO2 to effect
Barbiturates/euthanasia solutions
Overdose of isoflurane

G. FinFish Note: (The IACUC has established specific euthanasia Guidelines for Zebrafish and Fish other than Zebrafish found on the Animal Care Website)

Non-inhaled Agents

Benzocaine or benzocaine hydrochloride, buffered
Carbon dioxide
Eugenol, isoeugenol and clove oil
Tricaine methanesulfonate, buffered
2-phenoxyethanol

Injection

Pentobarbital
Euthanasia solution

Physical methods

Decapitation followed by pithing
Cervical transection followed by pithing
Cranial concussion followed by pithing

Adjunctive Methods

Decapitation, pithing, freezing and other physical methods may be used as the second step of a 2-step procedure when finfish have been rendered

unconscious prior to their application by an acceptable or acceptable-with-conditions method

Dilute sodium hypochlorite or calcium hypochlorite solution for early life stages of finfish, including embryos and larvae

H. Amphibians

Barbiturates, dissociative agents

Buffered tricaine methanesulfonate (MS222), benzocaine hydrochloride

Decapitation or cervical sectioning while anesthetized; confirmed by double pithing

III. Animal Adoption/Procurement Program

The IACUC has established guidelines for animal adoptions/acquisitions by individuals at UWM. An animal adoption form must be completed which can be retrieved from the animal care manager or veterinarian. The veterinarian or animal care manager will examine the animals prior to their release. Information will be sent home to people adopting animals regarding their care.

IV. Animal Transfer

The IACUC has established guidelines for animal transfer and re-use that can be found on the Animal Care Program website.