IG014: EUTHANASIA GUIDELINES

Euthanasia is the act of humanely killing animals by methods that induce rapid unconsciousness and death without pain or distress. Euthanasia may be planned and necessary at the end of a protocol or as a means to relieve pain or distress that cannot be alleviated by analgesia, sedatives, or other treatments. Unless a deviation is justified for scientific or medical reasons, methods are to be approved in the protocol and consistent with the current AVMA Guidelines on Euthanasia (https://www.avma.org/KB/Policies/Documents/euthanasia.pdf).

In evaluating the appropriateness of methods, pertinent selection criteria for consideration include:

- Species and age
- Ability to induce loss of consciousness and humane death with no or only momentary pain, distress, or anxiety
- Reliability
- Irreversibility
- Minimal time required to induce unconsciousness
- Compatibility with research objectives
- Safety of and emotional effect on personnel
- Selection of specific agents and effective methods that comply with the species involved, the age of the animal(s), and the objectives of the project

Euthanasia may elicit distress vocalizations or pheromones that other animals in the room could hear or smell. Euthanasia is not to be performed within the animal housing rooms. CAR housing facilities are equipped with a euthanasia area where the procedure is to be carried out. If animals are to be euthanized within the laboratory space or other areas, either in sequential groups of cages or at various time points, this should be planned and performed in a timely manner to reduce the stress on the animals.

It is essential that euthanasia be performed by properly trained and qualified personnel skilled in the appropriate methods for the species. Euthanasia must always be conducted in a professional and compassionate manner. All training on euthanasia methods is to be documented; contact cartrain@ora.msu.edu with any questions.

When an inhalant gas (e.g., CO₂, isoflurane, sevoflurane) is used to euthanize animals, this must be followed by a physical method to confirm death, unless prolonged gas exposure is used, i.e. Euthanex equipment. Examples of confirmatory physical methods include decapitation, cervical dislocation and creation of bilateral pneumothorax.

For specific information regarding CO₂ euthanasia in rodents, including euthanasia of pregnant animals and neonates, please refer to CAR SOP "Rodent Euthanasia using Carbon Dioxide". Neonatal rodents are not susceptible to CO₂, therefore prolonged exposure or other methods must be used.

For agricultural species, contact the representative Farm Manager for review of approved Description and Operating Guidelines (DOGs) describing applicable euthanasia methods.

Euthanasia is not always possible during mass animal-health emergencies because of the need to act quickly to slow or stop the spread of disease. In these emergency situations depopulation methods may be necessary, which involve substantially reducing large numbers of animals. While depopulation may employ euthanasia techniques, not all depopulation methods meet the AVMA criteria for euthanasia. Depopulation methods are to be consistent with the AVMA Guidelines for the Depopulation of Animals. (https://www.avma.org/KB/Policies/documents/AVMA-Guidelines-for-the-Depopulation-of-Animals.pdf).

Euthanasia should be done with the highest regard for the welfare of the animals; please contact carvets@ora.msu.edu with any questions or concerns.