IACUC POLICY EUTHANASIA OF RESEARCH ANIMALS

Purpose

This policy outlines the proper methods of euthanasia for research animals to ensure avoidance or minimization of discomfort, distress, and pain.

Policy

To prevent and alleviate animal suffering, all laboratory animals must be euthanized in a timely manner, either as described in the approved protocol according to time points, or as soon as necessary if humane endpoints are reached. All IACUC protocols must include a description of the primary method(s) that will be used to euthanize animals as well as a description of how death will be confirmed. The method(s) used must be consistent with the AVMA Guidelines for the Euthanasia of Animals: 2020 Edition or specifically approved by the IACUC.

Training

Research personnel must receive adequate and appropriate training in all methods of euthanasia employed in the laboratory. Personnel must be trained to evaluate vital signs in the species used to confirm death. A profoundly anesthetized or severely ill animal can appear dead upon cursory examination and measurements such as lack of movement or visible lack of breathing are not precise enough to declare a euthanized animal dead. Training must be documented by the Principal Investigator and made available for inspection by the IACUC upon request.

If physical methods (e.g., cervical dislocation, decapitation) will be conducted without anesthesia, demonstration of proficiency may be required as a condition of IACUC protocol approval.

Notification

If an animal is found to be in need of early or unscheduled euthanasia due to pain or distress, the AV or animal care staff will contact the researcher immediately via Teams and / or cell phone. The AV or their designee will determine an acceptable time by which the researcher must respond and conduct euthanasia, depending on the status of the animal(s) in question. If researchers are unable to euthanize the animal(s) in question, animal care staff will euthanize on their behalf to ensure animal welfare. The IACUC has empowered the Attending Veterinarian to immediately euthanize any animal that is found near death or suffering from intractable pain. Researchers are advised to ensure that animal care staff can always reach someone with authority to deal with sick or injured animals.

Common Methods

Appropriate primary euthanasia methods depend on many factors, including species, experimental needs, and resources. All primary euthanasia methods must be followed by a secondary method to confirm death. All euthanasia methods must be described appropriately in the IACUC protocol and approved by the Committee before use. Refer to the AVMA Guidelines for the Euthanasia of Animals: 2020 Edition for more information. See below for specific requirements for various euthanasia methods.

IACUC POLICY Euthanasia of Research Animals

INHALATION OF CO_2 GAS

- This is the most common method of euthanasia for laboratory rodents.
- Must be performed according to the IACUC SOP for CO₂ Euthanasia of Rodents.

INHALATION OF ANESTHETIC GAS (E.G., ISOFLURANE)

• Researchers must adhere to the IACUC SOP for Isoflurane Use.

CERVICAL DISLOCATION & DECAPITATION

- Must be performed under anesthesia unless justified in the IACUC-approved protocol.
- If applicable, the guillotine must be maintained per the IACUC SOP for Guillotine Maintenance.

INJECTION OF BARBITURATE COMBINATION AGENT (E.G., EUTHASOL®)

• Researchers must adhere to the Policy for Use of Controlled Substances in Research.

PERFUSION / TISSUE HARVESTING

- Animals must be kept under a surgical plane of anesthesia throughout the procedure.
- This is classified as non-survival surgery and must be described as such in the IACUC-approved protocol.

Confirmation of Death in Euthanized Animals

Any animal euthanized at the University of Rhode Island must be subject to a confirmatory (secondary) method of death immediately after the primary method of euthanasia. Appropriate secondary methods depend on the species and can include decapitation, cervical dislocation, bilateral thoracotomy, vital tissue harvest, exsanguination with or without perfusion of a histological fixative via the major blood vessels, and pithing. Secondary methods must be described in detail in the IACUC protocol and approved by the Committee before use.

Failure to employ both the primary and secondary methods in animals as described in the IACUC protocol will be treated as protocol and regulatory non-compliance. Unintended recovery of animals after apparent death from CO₂ or other euthanasia method must be reported to the IACUC.

References

American Veterinary Medical Association (AVMA). (2020). *Guidelines for the Euthanasia of Animals: 2020 Edition*. https://www.avma.org/KB/Policies/Documents/euthanasia.pdf

Public Health Service. (2015). *Public Health Service Policy on Humane Care and Use of Laboratory Animals*. <u>https://olaw.nih.gov/sites/default/files/phspolicylabanimals.pdf</u>