Policy on Surgery

This document establishes the policy of the IACUC regarding the performance of surgical procedures at the University of Kentucky. Specific research requirements that deviate from this document must receive IACUC approval prior to initiating.

Definitions

Aseptic technique– Aseptic technique is the technique used to reduce microbial contamination to the lowest possible practical level. No procedure, piece of equipment, or germicide alone can achieve this objective.

Non-survival Surgery (Terminal Surgery) – Non-survival surgery is a procedure where the subject animal is placed in a surgical plane of anesthesia prior to starting the procedure and maintained in the surgical plane of anesthesia until the animal is euthanized at the termination of the procedure. At no point during the procedure is the animal permitted to regain any level of conscious pain perception. Examples of non-survival surgery include perfusion or tissue collection that leads to death of the anesthetized animal.

Survival Surgery – Survival surgery is any surgical procedure where the animal is permitted to regain any level of pain perception either during or after completion of the surgical procedure.

Minor Survival Surgery – As defined in the Guide and the Ag Guide, minor survival surgery does not expose a body cavity and causes little or no physical impairment. Examples of minor surgical procedures include skin biopsies, vascular catheter implantation, subcutaneous implants (osmotic minipumps, tumor cells, etc.), routine agricultural procedures such as castration and tail docking, and wound suturing. Laparoscopic surgeries may be classified as either minor or major surgical procedures depending upon the impact of the procedure on the animal (Guide p 117).

Major Survival Surgery – As defined in the Guide and the Ag Guide, major survival surgery penetrates and exposes a body cavity, produces substantial impairment of physical or physiologic functions, or involves extensive tissue dissection or transection (e.g. laparotomy, thoracotomy, craniotomy, joint replacement, limb amputation, stroke models, etc).

Multiple Survival Surgeries – Multiple survival surgeries are defined as two or more separate surgical procedures performed on the same animal, with recovery from anesthesia occurring between each procedure. Procedures conducted during a single anesthetic event are **not** considered multiple survival surgeries. Multiple surgical procedures on a single animal should be evaluated to determine their impact on the animal's wellbeing. (Guide p 31)

Policy

Successful surgical outcomes in research animals of all species require adherence to current standards of veterinary care. Accordingly, all researchers performing surgical procedures on any research animal must comply with the following requirements:

- All survival surgeries (major and minor) on biomedical, agricultural, or wildlife species must be performed using proper aseptic techniques and appropriate anesthesia and analgesia unless scientifically justified and approved by IACUC.
- A procedure room or a space dedicated for surgery is appropriate for rodents, birds, and non-mammalian vertebrates
- Multiple major survival surgeries on a single animal are acceptable only if they meet one or more of the following criteria:

    - Essential components of a single research project or protocol, where the surgeries are integral to achieving the scientific aims,
    - Scientifically justified by the investigator and approved by the IACUC, or
    - Necessary for clinical reasons, such as to preserve the health or welfare of the animal.

- All surgeries must be performed by qualified, trained personnel using techniques that avoid or minimize pain (e.g. gentle tissue handling, minimal dissection of tissue),
- Research personnel must maintain adequate intra-operative (i.e. during the surgery) and postoperative monitoring records. IACUC members and veterinary staff may request copies of all such records for review without prior notice.
- For non-survival surgical procedures in which the animal is euthanized before recovering from anesthesia, full aseptic technique may not be required; however, the instruments and surgical environment must still be clean and well-maintained to minimize contamination.
- The minimum requirements for surgical procedures are detailed in the Animal Welfare Regulations (AWR's) [9 CFR, Chapter 1, Subchapter A - Animal Welfare], the *Guide for the Care and Use of Laboratory Animals (Guide)* and the *Guide for the Care and Use of Agricultural Animals in Research and Teaching (Ag Guide).*

The document titled *Guidelines for Meeting Policy 102 Surgery Requirements* outlines the standards for conducting surgical procedures. Please note that specific requirements may vary depending on the animal species and whether the use is biomedical or agricultural.

References

Federation of Animal Science Societies (FASS). 2020. Guide for the Care and Use of Agricultural Animals in Research and Teaching. 4th ed. Champaign, IL: American Dairy Science Association, American Society of Animal Science, and Poultry Science Association.

Institute of Laboratory Animal Resources (U.S.). 2011. Guide for the Care and Use of Laboratory Animals. Washington, D.C.: National Academy Press.

United States., United States. Animal and Plant Health Inspection Service. 2017. Animal Welfare Act and Animal Welfare Regulations. Washington, D.C.: U.S. Dept. of Agriculture, Animal and Plant Health Inspection Service.

Guidelines and References for Meeting Policy 102 Surgery

Approved and Adopted by the IACUC:
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