Institutional Animal Care and Use Committee (IACUC) Policy

DEFINITIONS OF PROCEDURES AND SURGERIES

1. Background

This policy explains the difference between terms used by the ISU IACUC in SOPs and other Policies regarding animal surgeries and procedures.

2. Policy

- **Procedure**: A procedure (compared to a minor surgery) is entering the external body or a preexisting orifice with a catheter, needle, biopsy instrument or similar tool to obtain small samples or inject liquids/medications without disruption of function to an animal.

  o Examples of procedures are:
    - Tail snips and toe clips in mice
    - ICV injection in rodents
    - Fat, skin, or percutaneous liver biopsy
    - Percutaneous catheter placements
  
  o Note: Clipping of hair/fur, use of a surgical scrub and aseptic technique is still required for procedures.

- **Non-survival surgery** (may be called tissue harvest): In this major operative procedure, an animal is anesthetized so that tissues can be harvested and the animal is euthanized while under anesthesia. This can include organ perfusions. Non-survival surgery does not require aseptic technique, but, at a minimum, the animal should be clipped, the surgeon should wear clean gloves and use clean instruments in a clean area.

- **Survival surgery**: Anytime an animal recovers from anesthesia following a surgical procedure. All survival surgeries require aseptic technique as described in the AWARs and the 8th edition of The Guide.

- **Minor surgery**: Minor surgery does not expose a body cavity and causes little or no physical impairment. It is considered an “invasive procedure”. This includes routine agricultural animal procedures such as castration, vasectomy, dehorning, peripheral vessel cannulation that involves a cutdown to the vessel, suturing of a wound, and prolapse repair. Many veterinary laparoscopic procedures are considered to be minor. The Guide considers most procedures done on an “outpatient” basis in veterinary clinical practice a minor surgery.
• Laparoscopic surgeries and some neuroscience research related procedures may be classified as major or minor surgery depending on their impact on the animal. The IACUC will make a determination of major and minor laparoscopic and neuroscience related procedures based on the details on every individual protocol.

• Animals that recover from minor surgical procedures are expected to have little or no post-operative complications and return to normal function in a short time.

• **Major surgery (operative procedure):** Any surgical intervention that penetrates and exposes a body cavity or produces substantial impairment of physical or physiologic function. The Guide states that major surgery generally penetrates and exposes a body cavity, produces substantial impairment of physical or physiologic functions, or involves extensive tissue dissection or transaction.

From 9CFR1.1: **Major operative procedure means any surgical intervention that penetrates and exposes a body cavity or any procedure which produces permanent impairment of physical or physiological functions.**

Examples of major surgery include:
- Ovariohysterectomy in dogs and cats
- Indwelling intracerebral ventricle cannula placement
- Thoracotomy
- Orthopedic procedures including joint replacement
- Laparotomy
- Rumen fistula placement
- Limb amputation

• **Multiple major surgeries:** This occurs when an animal undergoes two or more major survival surgeries as defined above. This does not refer to instances where two surgeries are performed under one operative and anesthetic event. This also does not include a major surgery that is performed as an emergency as part of proper veterinary care.

• The ISU IACUC generally does not approve protocols that use more than one major survival surgery per animal. Requests for exceptions will be reviewed by the IACUC. Requests may be approved by the IACUC if there is sufficient scientific justification provided by the PI. Cost savings is not a scientific justification for multiple survival surgeries on the same animal.

3. **References and Regulations**

- AWA, Section 13(a)(3)(D,E) and 9CFR Part 2, Section 2.31 (d)(1)(x): “Major survival surgery, single vs. multiple procedures.”
• Guide for the Care and Use of Agricultural Animals in Research and Teaching (3rd Edition)
• AWA Section 2143(a)(3)(A,B,C,D,E)

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