Policy for Ectotherm Survival Surgery and Frog Oocyte Collection

Applicability:
- These guidelines apply to all survival surgical procedures performed on ectotherms at the University of Cincinnati and Shriner’s Hospital for Children. Ectotherms include but are not limited to snakes, lizards, geckos, and salamanders.
- An approved IACUC protocol is required prior to performing any surgical procedure.

Regulatory Principles:
- All survival surgery must be performed using aseptic procedures.\(^1\)
- Survival surgery is any surgical procedure where the animal is expected to awaken from anesthesia, including those in which the animal is expected to survive a short period of time.

Required Surgical Attire:
- Dedicated surgical attire such as a clean lab coat or surgical scrubs (“street clothes” alone are not permitted).
- Mask.
- Sterile surgical gloves.

Pre-Operative Procedures:
- Surgery must be conducted in a clean, uncluttered, minimal-traffic portion of the lab dedicated for surgery. Non-animal procedures may not be performed in this dedicated space during the surgery.\(^1\)
- Pre-emptive analgesics must be provided in accordance with the approved IACUC protocol.
- Animals must be surgically prepared as described in the approved IACUC protocol.
- Surgeons should wash and dry their hands before aseptically donning sterile surgical gloves.
- Begin surgery with sterile instruments and handle instruments aseptically.
- Sterilization indicators, such as autoclave tape, should be used on all sterilized packs.\(^1\)
- The date of sterilization must be noted on autoclaved packs. These packs should be used within 6 months.
- It is recommended that one sterile surgical pack be used for no more than 5 batch surgeries. Instruments may be used for batch surgeries conducted within a surgical session provided they are maintained clean and disinfected between animals. The following methods are recommended:
  - Glass Bead Sterilization- instruments should be cleaned prior to submersion into beads.
  - Immersion in chemical sterilant- instruments must have proper contact time according to manufacturer recommendations for high level disinfection; instruments must be rinsed with sterile water or sterile saline after immersion before using in animals.\(^1\)
Operative Procedures:
- The animal must remain in a surgical plane of anesthesia throughout the procedure.
- Monitor the animal's vital signs throughout surgery.
- Close surgical wounds using appropriate techniques and materials.

Post-Operative Procedures:
- All post-operative monitoring is the responsibility of the Principal Investigator and his/her staff unless prior arrangements are made with LAMS veterinary staff.
- After surgery, move the animal to a warm area and monitor it during recovery.
- Post-operative analgesics must be provided in accordance with the approved IACUC protocol and documented in the surgical record.
- The general condition of the animal must be evaluated post-operatively and any abnormalities must be promptly reported to LAMS veterinary staff. The following frequency of post-operative observations are recommended:
  - Minor surgery- Observe one day post-operatively.
  - Major or invasive surgery- Observe daily for 3-5 days post-operatively.
- Surgical sutures and/or staples are to be removed 10-14 days after surgery unless otherwise noted in the approved IACUC protocol.

Surgical Records
Surgical records must be maintained for all survival surgeries. These records may be maintained in a surgical log or on a surgical cage card. Records must be legible and written in English. The use of LAMS-endorsed surgical logs or surgical cage cards is strongly recommended. The records must contain the following information:
- Date of surgery
- IACUC protocol number and Principal Investigator's name
- Surgeon's name or initials
- Animal species
- Animal identification
- Anesthetics administered, including dosage based on weight and route
- Analgesics administered, including dosage based on weight, route, and time given
- Description of surgical procedure (write “Sx” or “surgery” before the surgical procedure if abbreviations are used)
- Post-procedural care as noted above
- Cage identification card records must indicate the date of the procedure, the type of procedure performed, and the surgeon’s initials
- All surgical records must be available for inspection for the life of the animal. The records may be discarded or archived after the death of the animal.

Requirements for Surgically Manipulated Animals by the Vendor
If animals have been surgically manipulated by the vendor prior to receipt at the University of Cincinnati or Shriner’s Hospital for Children, the date of surgery must be written on the cage card. The surgical staples/sutures must be removed 10-14 days post-operatively.
Frog Oocyte Collection
Multiple survival surgeries for frog oocyte collection may be approved by the IACUC if there is adequate scientific justification.

The total number of laparotomies should be limited and will depend on the condition of the animal and quality of the oocytes as well as the life span of the animal and the duration of egg production. Up to five recovery surgeries (the 6th would be terminal) per animal are acceptable. Animals must be properly identified to ensure compliance with this policy. There should be at least 4 weeks between surgeries and the procedure should only be done if the animal is physically normal with complete healing from the previous surgery. This will minimize the distress experienced by any individual frog while reducing the total number of frogs required for this procedure.

References: