

Procedure: IACUC-33  
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**UC Davis  
Institutional Animal Care and Use Committee (IACUC)**

**Title:** *Xenopus Oocyte Harvesting via Laparotomy*

**I. Purpose:**

To define the IACUC policy regarding the surgical harvest of oocytes from *Xenopus species* ("African clawed frogs").

**II. Background:**

Amphibian oocytes play an important role in molecular biology, embryology and biochemistry studies. The Office of Laboratory Animal Welfare (OLAW) requires scientific justification for multiple survival surgeries performed on any research or teaching animal. For example, a researcher might document in their protocol that they need to obtain a quantity of genetic material from the same frog that is more than can be obtained during a single survival surgical procedure.

**III. Policy:**

Multiple major surgical procedures on a single animal are acceptable only if they are included in and an essential component of a single research protocol, and it has been scientifically justified (i.e., multiple surgeries on a single animal are justified considering consistency of oocyte quality and the reduction in the total number of animals used). The total number of laparotomies must be described in the approved animal care and use protocol. The total number of laparotomies approved per frog cannot exceed five (5) recovery surgeries (a 6<sup>th</sup> must be terminal) and will depend on the health and lifespan of the animal, as well as the duration of oocyte production.

**IV. Procedure:**

**A.** Surgeries must be performed by trained personnel using appropriate anesthesia, and analgesia as specified in an approved protocol. Contact Campus Veterinary Services (CVS) at (530) 752-0514, (530) 219-3076, or [lahc@ucdavis.edu](mailto:lahc@ucdavis.edu) for additional information pertaining to *Xenopus* anesthesia. Surgeries must be

performed using sterile instruments, materials, and non-powdered gloves.

- B. Surgical/post-operative records must be maintained until the wound is healed or sutures are removed. Daily observations and treatments must be recorded on the post-operative record, for example, the [UC Davis Campus Veterinary Services Anesthesia Record](#).
- C. Post-Procedural Care: Single housing or small group housing for several days after surgery should be considered as part of the post-surgical care of laparotomized animals. If recovering animals are to be housed with other frogs in different stages of recovery, they must be marked for easy identification. Frogs must be monitored at least daily during this period for appetite as well as any complications such as dehiscence or infection. Such adverse effects would be reasons for immediate euthanasia.
  - 1. A recovery tank should be prepared before the surgery is started.
  - 2. Frogs may be placed in a separate recovery tank when they are able to swim normally and where one or more post-operative frogs can be monitored more easily. Alternately, post-operative animals may be returned to a home tank with a small population density to ensure that they can be easily observed.
- D. A minimum of one month recovery time is required between survival surgeries. Investigators should consider rotating frogs so that the interval between surgeries is maximized for a particular animal, or alternating oocyte collection between the left and right ovaries.

V. **Resources:**

- 1. ILAR, Guide for the Care and Use of Laboratory Animals  
<http://nap.edu/12910>
- 2. PHS Policy  
<https://olaw.nih.gov/policies-laws/phs-policy.htm>
- 3. UC Davis Campus Veterinary Services Anesthesia Record  
<https://research.ucdavis.edu/wp-content/uploads/Rodent-Anesthesia-Form.pdf>