Guidelines for Courses Utilizing Surgical Procedures on Living Vertebrates

The IACUC requires that instructors adhere to NIH research guidelines when using survival surgical procedures in teaching. Deviation from the NIH guidelines must be justified in writing.

Students should be informed during the first meeting of the course that surgical procedures will be performed on living vertebrates. The rationale for requiring these procedures to be performed in class rather than observed on film or videotape should be presented. Students should be informed whether procedures will be performed by the instructor or graduate teaching assistants only or by the students themselves.

Prior to each laboratory exercise, a "pre-lab" should be held to review the procedures to be followed in the surgical laboratory. The "pre-lab" should include the following:

- Rationale for the surgical procedure
- A film or videotape of each procedure being performed and a step-by-step discussion of each procedure, including presurgical, surgical, and postsurgical care of the animal
- Instruction in aseptic technique, gloving, gowning, and surgical site preparation
- Procedures to be followed in data collection, including trouble shooting
- Expected outcome(s), if known
- Data analysis
- Final disposition of the animal(s)

Input from students regarding adequacy of pre-lab preparation and availability and preparedness of instructors should be sought.

- During each surgical laboratory, an instructor and/or teaching assistant proficient in the procedures should remain in the laboratory at all times to assist students and answer questions.
- Whenever possible, students should work in teams rather than individually in order to reduce the number of animals used.
- In any course involving anesthesia, whether or not surgery is to be done, students should be provided with animals already anesthetized by experienced personnel, or they must receive prior instruction on the administration of anesthesia. In either case, students must receive prior instruction on monitoring anesthesia.
- Students should practice techniques such as venipuncture on a previously anesthetized animal before attempting the technique as part of a laboratory exercise.
- If animals are to be allowed to recover after surgery, each animal must be inspected by the instructor and/or teaching assistant at the end of the procedure and at regular frequent intervals thereafter until the animal is fully recovered. Written records should be maintained for the anesthesia recovery and postoperative period. Students must be able to contact an instructor as needed for operative and anesthetic emergencies.
- All animals, which are deemed by the instructor or teaching assistant to be unacceptable for recovery due to poor surgical techniques or other complications, must be euthanized or corrective procedures must be performed.
- At the termination of each course involving surgery, the instructor and students should evaluate the effectiveness of each procedure in accomplishing overall course objectives, adequacy of pre-lab preparation, and availability and preparedness of instructors.
- All surgical procedures on non-agricultural animals must take place in appropriate surgical facilities as specified in the "Guide for the Care and Use of Laboratory Animals." The "Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching" provides guidelines for agricultural animal surgeries. Copies of the "Guides" are available in most departmental offices, libraries and reading rooms, and at Laboratory Animal Resources. Surgical garb appropriate for the subject species is required.