

SAN JOSE STATE UNIVERSITY

INSTITUTIONAL ANIMAL CARE & USE COMMITTEE

GUIDELINES FOR CONDUCTING A LITERATURE SEARCH FOR ANIMAL CARE AND USE SUBMISSIONS

The Federal government requires an Institution's Animal Care and Use Committee (IACUC) to consider several topics when reviewing proposals for the care and use of laboratory animals. Among these, every effort must be made to *reduce* the number of animals used in a study, *refine* procedures to that which is necessary and will minimize distress to the animal and *replace* live animals wherever possible. As part of the IACUC's review process at SJSU, Principal Investigators (PI) are expected to address the following when preparing an animal care and use proposal:

1. **Purpose of the proposed use of animals.** Research proposals must describe in layman's terms the purpose for using live animals and instruction-based proposals must adequately associate the use of live animals in a classroom exercise to the institution's curricular mission.
2. **Rationale for the proposed use of animals.** All animal care and use submissions must address why alternatives to the use of live animals cannot be incorporated into the study. Examples of non-animal alternatives are isolated organ preparations, preserved specimens, cell or tissue culture, computer simulations, mathematics, and inanimate models.
3. **Justification for the proposed species and number of animals.** It is the responsibility of the PI to justify the proposed animal model selected for a study and to reduce the number of animals to that, which is the minimum number necessary to produce scientifically valuable results.
4. **Availability and appropriateness of the use of less invasive procedures.** Individuals conducting experiments on live animals must proceed under the assumption that what is considered painful or causes distress to humans can be perceived as painful or distressing to animals. On that premise, the PI will be expected to adequately support that the experimental design and all procedural aspects have been refined to what is considered to be current veterinary practice and alleviates or minimizes any potential for pain and distress to the animal.
5. **Unnecessary duplication of experiments.** For research projects in the laboratory or in the field, the PI must be able to substantiate the novelty of the project or identify or substantiate that the project entails reproducing a previous study.

It is the responsibility of researchers and instructors alike to conduct a literature-based examination to appropriately rationalize the use of animals and provide procedural justification. The purpose of a literature search as it relates to an animal care and use proposal is to educate the submitter by reviewing and exploring relevant citations and articles of their field of interest. At the same time the submitter is comparing their proposal to what is current practice and gain a better sense of their project's design and implications. A successful literature search would have the submitter support methods that benefit the animal's welfare and optimize data collection.

USING ELECTRONIC DATABASES TO CONDUCT A LITERATURE SEARCH

There are several modes in which publications can be explored, and utilizing an electronic database to review citations and articles should prove most helpful and time effective. Some of the most resourceful search engines on the Internet used today to conduct literature-based searches for medical journals and related publications are Agricola, BIOSIS, Bioabstracts, Bio/Agricultural index, PubMed and Medline. These popular links should prove useful in locating publications to support most aspects of the rationalization to live animal use the IACUC requires except perhaps resources on the use of non-animal alternatives.

Formulate Key Words. A meaningful literature search is primarily founded on the key words used to explore the articles of interest. The key words used to initiate the search should be well thought out before the literature search findings are compiled. It may take the individual several attempts at using the right combination of words or terms before relevant articles can be located. The UAC office is available to assist investigators with any aspect of conducting a literature-based search.

Review the Citations. Responsibly, one should take the time to review citations of interest to stay current, support their rationale for using animals or hopefully, inform the researcher of a novel alternative approach or method that may improve the care and well-being of the animal.

EXAMINATION INTO THE USE OF NON-ANIMAL ALTERNATIVES

Although journals and related publications can keep an investigator current on procedural approaches when using animals, little information is yielded concerning the use of non-animal models. As a result, several organizations have created and maintain huge databases and networks to support the cause. Some of the more common links used for searching the use of non-animal models are Johns Hopkins altweb, Animal Welfare Information Center (AWIC) and UC Center for Animal Alternatives.

What if there is a non-animal alternative for my project? If a non-animal alternative to the proposed work or study is revealed, the public has placed the expectation upon IACUC's to see that every effort is made to employ these. It is the investigators responsibility to address and rationalize why such alternatives are not being used.

Are Field Studies an Exception to the Rule? Although rationalizing the use of animals when proposing a field study of any species may seem like an open-and-shut case, the investigator is not exempt from rationalizing their approaches to animal use and handling. Some of the most valuable resources for field researchers are available from dedicated organizations to their field of study. Animal care and use information can be found at the various herpetological, mammalogical, ichthyological, society websites, including the Federal or State agencies that regulate the species of interest.

Compile the Information. Before composing your thoughts and findings as a result of the literature search, make certain that the following information is included in the proposal summary: date the search was conducted, all relevant key words used in the search, the inclusive dates of the publications that were searched and reviewed (e.g., 1984 to present), include select citations revealed from the search and their significance to the proposal, and confirm that all 5 salient points for rationalizing and justifying the use of live animals as proposed has been addressed.

Informative Resources and Organizations for Using Non-animal Alternatives

Institute for Laboratory Animal Research (ILAR)

American Association for Laboratory Animal Science (AALAS)

Fund for the Replacement of Animals in Medical Experiments (FRAME)

Division of Laboratory Animal Resources (DLAR)

European Resource Centre for Alternatives in Higher Education (EURCA)

The Norwegian Reference Centre for Laboratory Animal Science and Alternatives (NORINA)

The Universities Federation for Animal Welfare (UFAW)

Scientists Center for Animal Welfare (SCAW)

National Library of Medicine; Alternatives to the Use of Live Vertebrates in Biomedical Research & Testing