

## **Research Involving Laboratory Animals**

**From: <http://www.webguru.neu.edu/professionalism/research-integrity/research-involving-laboratory-animals>**

Biomedical researchers are in general agreement that the most accurate and useful information about biological systems is best derived from in vivo study. Potential health risks may make the study of human beings risky at best and there may be no non-animal alternatives. In these cases biomedical researchers must turn to the study of animals as model systems. As animals are generally regarded as sentient beings (Peter Singer - utilitarianism) capable of feeling hunger, pain, stress, etc., and possess “inherent value” (Tom Regan - deontology) researchers recognize that if animal research is to be done it must be carried out ethically and as humanely as possible.

Therefore there are standards that must be met by researchers whose projects involve the use of laboratory animals. The standards are similar to those used in research involving human subjects. The program must have:

- A clear scientific purpose and objective that will benefit the health of other animals and/or humans;
- be carried out using well designed, humane procedures by personnel who are knowledgeable concerning the proper care and handling of the species being studied.

Institutions carrying out biomedical research using laboratory animals generally have a program overseen by a committee identified as the Institutional Animal Care and Use Committee (IACUC) in place to review research protocols involving animals, train researchers in the proper care and handling of laboratory animals and the possible risks and hazards associated with working with laboratory animals; and to oversee the health of researchers working with laboratory animals.

The standards outlined in the National Research Council’s Guide for the Care and Use of Laboratory Animals are generally regarded as the gold standard for animal care in research studies. The Public Health Service Policy on Humane Care and Use of Laboratory Animals describes the standards required of researchers and institutions whose research programs receive grant support from the National Institutes of Health. On an international level, the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC), oversees the voluntary accreditation and assessment of research institutions committed to responsible animal care and use.

You are strongly encouraged to contact your institution’s IACUC for specific information regarding animal care and use training and information on animal research protocol review. Legally, your research advisor will be responsible for any animal research protocols you use in your research. The following information is provided however to give you insight into the legal requirements for animal research protocols and their institutional review.

## **Typical Animal Research Protocol Application**

Although the details may vary somewhat from institution to institution, an application to use animals in your research usually includes the following information:

- Goals and objectives of the research study;
- Identification of all of the individuals who will be involved in the study and the extent and nature of their experiences in working with the specific species you will use using the protocols you plan to employ;
- Identification of the species you will study including the number of laboratory animals you will require, where and how they will be housed, fed, and exercised;
- Evidence that you have sought alternatives and information as to how you will minimize the pain and discomfort of your research animals (e.g., sedation, anesthesia), if your research protocol will cause the research animals pain and/or discomfort; and
- Detailed description of your experimental protocols involving research animals.

## **Useful Advice**

- It usually takes time for the IACUC to review and approve animal research protocols. Depending on the number and nature of animal research activity at your institution, the review committee may meet infrequently, e.g., monthly. Call and find out what meeting schedule is for the IACUC at your institution and make appropriate allowance for this in designing your research plans.
- If you make any changes to your research protocol after obtaining approval, you should notify the IACUC of the changes you would like to make and wait for their approval before implementing them.
- IACUC approval must be renewed every six months.
- Performing research on animals without obtaining IACUC approval is illegal and can jeopardize your institution's ability to secure federal funding in support of its animal research programs. Research protocols cannot be approved retroactively so be sure to secure written approval for your study from the IACUC before you begin your research project.