

**Instructions for Submission of
Proposal for Laboratory Vertebrate Use in
Research or Teaching
Forms IACUC A 0903 and IACUC B 0903**

Proposals may only be submitted by a GWU Faculty member who will serve as the Principal Investigator (PI) and Responsible Faculty Member in the case of student research proposals. The PI bears direct accountability and responsibility for the proper conduct of the project or activity described in the proposal and approved by the IACUC.

Research or teaching that uses vertebrate animals may not be initiated until (1) a Proposal for Laboratory Vertebrate Use has been approved by the Institutional Animal Care and Use Committee (IACUC), (2) training in the care and use of laboratory animals (of the species named in the proposal) is received (see V below), and (3) the use of hazardous agents or materials in animals has been approved by the Ross Hall Safety Committee (IRSC), Radiation Safety Committee (RSC) and/or Recombinant DNA Committee (IRAC) as appropriate. It is the responsibility of the Principal Investigator to assure that copies of the [IRSC, RSC, IRAC] Safety Committee Letter of Approval are submitted to the IACUC. It is also the responsibility of the Principal Investigator to assure that the *Protocol Risk Assessment and Hazardous Management for Basic Science and Animal Research Protocol* form has been submitted to the IRSC.

Three proposal forms are currently in use: IACUC-A, a comprehensive form, IACUC-B, an abbreviated form for continuations and IACUC-C, a form for addenda. Directions for use of each form follow. Forms are modified with changing regulatory requirements. Please use the most recent form. These are available in the Office of the Animal Research Facility (ARF), Ross B-12. All three forms may also be downloaded in Word for Windows from the Office of Research Home Page at <http://www.gwumc.edu/research>.

Filling out and signing the form: New formats are designed to be opened in Word and the information entered directly into the response space provided. Those requiring forms that must be typed directly on a hard copy of the form may pick up or request a form for typewriter from the ARF Office at 202 994 2871. Applicants are asked not to add or delete items on any form. Incomplete forms will be returned. Print, sign form and submit the signed hard copy to the IACUC Office located in Ross Hall Room B-12.

I. RESEARCH

For New, Renewal, and Revised Grant Applications and for ongoing projects extending beyond three years complete form IACUC-A.

Investigators are urged to submit applications to the IACUC at the time of grant submission to prevent delay in the onset of NIH-funded research. Items 1-5 of this form are in a standardized format for submission to extramural sponsors. You may duplicate these items on the appropriate continuation pages and include them in your grant application, e.g., under item F in NIH proposals.

For Non-Competing Continuation Proposals complete form IACUC-B, when there are no significant changes in the number or species of animals used, procedures performed on animals,

procedures designed to limit discomfort or injury to animals, or methods of euthanasia. In your continuation application under the heading, Vertebrate Animals, a statement that there are no changes in the above listed items is required. If there are significant changes in any of these items listed above, or if the project is continuing beyond three years, complete form IACUC-A. A de novo review of continuing projects is required every three years).

For minor changes in animal use or care in ongoing studies complete addendum form IACUC-C.

II. TEACHING

For New Teaching Projects complete form IACUC-A.

For Continuing Teaching Projects complete form IACUC-B for which IACUC approval has been previously obtained and in which there are no significant changes in number and species of animals used, in procedures performed on animals, in procedures designed to limit discomfort or injury to animals, or in methods of euthanasia.

For minor changes in animal use or care in ongoing studies complete form IACUC-C.

III. ANNUAL CONTINUATION

IACUC approval for all research and teaching projects must be renewed yearly dating from the approval date of the previous proposal.

IV. INFORMATION NEEDED FOR NIH PROPOSALS

- A. The George Washington University Animal Welfare Assurance number is A3205-OI.
- B. A suggested description of the Animal Research Facility for the resources and environment section of PHS 398 follows:

The Animal Research Facility (ARF) and its satellite facilities are fully accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC). The Animal Research Staff is qualified in veterinary medicine and laboratory animal care and management. The modern ARF core facility located in Ross Hall features administrative offices, refrigerated diet storage, quarantine, examination and treatment room, necropsy, cage sanitation, storage rooms, procedure rooms, a diagnostic laboratory, a surgery suite, and fully contained Barrier and Biosafety Level 3 Facilities. Conventional animal holding rooms and a barrier facility are readily accessible to investigator laboratories and are equipped with sinks, flushing drains, seamless floors, automatic watering, light cycle timers, and HVAC (Heating, Ventilation and Air Conditioning) support stipulated by the Guide in accordance with all facets of applicable laboratory animal research industry standards. Animal care and management practices also comply with the Guide, the Animal Welfare Act, and other applicable local and federal regulatory requirements and meet AAALAC quality standards.

- C. Information on the Veterinary Care of the Animals Used:

All animals used in this study will receive care under the direction of a trained and experienced staff veterinarian. The attending veterinarian has devised programs to insure daily observation of animals; use of appropriate methods to prevent, control, diagnose, and treat diseases and injuries;

monitor surgery, post-surgical and postprocedural care; and provide guidance regarding handling, anesthesia, analgesia, and euthanasia.

V. TRAINING REQUIREMENTS

All animal handling personnel (except Principal Investigators on research projects or Professors on teaching projects who are experienced with the animal species and the procedures to be performed) must view videotapes relevant to the animal species to be used. Once approval for use of an animal species is obtained, there is no present requirement for updating training for use of that species. All animal handling personnel must be certified by the Laboratory Animal Training Association (LATA) for the species to be used. To become LATA-certified contact the ARF Facility Manager. In addition, the directors of all research and teaching projects are required to procure and have available to animal handling personnel training manuals including the IACUC *Guidelines for Investigators Using Animals in Research and Teaching* (2002 or later revision). All animal handling personnel are encouraged to attend the annual IACUC lecture on animal use and care, which is announced in advance. Training requirements must be met before an access code to animal rooms is assigned, prior to initiating any studies employing animals and before animals can be ordered. Additional special training is required for access to the barrier facility. Call 202 994-2871 to schedule training and to obtain the latest version of the IACUC Guidelines.

VI. SURGERY

For IACUC purposes, major surgery is defined as an incision that penetrates and exposes a body cavity or the central nervous system (CNS), or that produces a permanent impairment. Multiple major survival surgeries on a single animal are discouraged and must be fully justified. All survival surgery must be conducted aseptically in all species of warm blooded animals. For all animals, except rodents, such surgery must be conducted aseptically in the surgical suite of the ARF. For rodents, use of sterile instruments and supplies, skin prep, gloves, and mask are minimal requirements. Removal of tissue or fluid after death or under anesthesia followed immediately by death constitutes a non-surgical procedure though personnel must comply with use of proper attire and personal protective equipment needed to address occupational safety concerns. An incision for subcutaneous placement of a drug or drug-containing pump is considered a minor surgical procedure and sterility and analgesia must be assured in such instances.

VII. NON-SURGICAL PROCEDURES

Some non-surgical procedures produce permanent impairment of the physical or physiological functions of an animal, i.e., reduce its normal range of motion, abilities, functions or produce permanent impairment or result in a handicap (e.g., impact tests, burns, prolonged immobilization, deprivation and drug tumor, toxicology or disease models). Multiple procedures producing impairment on a single animal are discouraged and must be fully justified. Researchers must also be aware of the time course of disease progression for various genetically engineered or natural disease models and the impact of disease progression on animal health and well-being, as well as on the level of pain, stress or distress experienced by the animal during any given period.

VIII. PAIN

Pain, stress or distress that is experienced is defined in human standards. (If a procedure would be painful for you, it is considered similarly painful to animals.) Pain is estimated on a 0-4 scale.

Category

0 (Nonpainful or no pain perception)	Nonliving vertebrate animal, use of eggs or embryos, tissue culture, invertebrates without complex CNS, slaughterhouse tissues, necropsy tissues
1 (little or no discomfort)	Non-survival procedure under general anesthetic Injections of non-irritant, non-toxic materials Euthanasia (AVMA-approved) Short term restraint (<15 minutes) Blood sampling not requiring sedation or anesthesia Use of invertebrates with complex CNS (unless proven otherwise)
2 (minor stress/ short duration pain)	Minor procedure or small\first degree burn under anesthetic Blood vessel catheterization or infusion pump implantation Use of Freund's Adjuvant once per animal Moderate restraint (15-60 minutes) Food/Water deprivation (a few hours)
3 (significant, but unavoidable pain/stress)	Major procedure or burn under general anesthesia with survival but without use of post-op analgesia Moderate to severe restraint (>1 hour) Use of Freund's Complete Adjuvant (more than once per animal) Whole body radiation (causing G-I or CNS syndromes) Death as end point (with little apparent suffering, e.g., hemorrhagic or septic shock) Decapitation or cervical dislocation without prior sedation Behavioral stress (cold exposure, shaker stress) <i>(Investigators must explore alternative designs to minimize or eliminate animal distress and must develop assessment and intervention tools that call for the earliest possible euthanization of animals.)</i>
4 (severe pain near, at or above pain tolerance)	Major survival surgery, burn, or trauma

threshold)	<p>infliction without general anesthesia, or without post-op analgesia Use of muscle relaxants or paralytic drugs alone for surgical restraint Death as end point accompanied by suffering (e.g., some toxicity testing, disease production models) Euthanasia accompanied by suffering and unapproved by the AVMA. Any procedure accompanied by severe and prolonged stress or pain, not relieved by analgesia, tranquilizers, or anesthetics <i>(Highly questionable irrespective of significance and could result in loss of federal funds)</i></p>
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IX. FOR PROPOSALS THAT ARE NOT PEER-REVIEWED FOR SCIENTIFIC MERIT BUT ARE FUNDED BY DEPARTMENTAL, COMMERCIAL, OR PRIVATE SOURCES, PROVIDE A DESCRIPTION OF THE PROJECT FORMATED AS BELOW:

- I. RESEARCH PLAN
 - A. Specific Aim(s) (Include in this section what new information is expected.)
 - B. Method of Procedure
 - C. Significance of this Research
 - D. Facilities Available

- II. SUPPORT DATA
 - A. Previous Work Done on the Project
 - B. Results Obtained by Others
 - C. Personal Publications
 - D. Curriculum Vitae

Optionally investigators may provide a copy of the entire grant proposal (excluding salaries).

X. ADDITIONAL REQUIREMENTS FOR USDA COVERED SPECIES:

ALTERNATIVES

A literature search for alternatives is required for all **potentially** painful procedures on all warm blooded species covered by the Animal Welfare Act (AWA), which currently excludes rats, mice, and birds. **Potentially** painful procedures are defined as those procedures that cause more than momentary or slight pain, stress or distress (Note: A procedure in which pain/distress/suffering is relieved is defined in the AWA as a potentially painful procedure, e.g., collection of tissues under general anesthesia is still a potentially painful procedure). Such procedures are categorized by USDA based on whether or not anesthesia/ analgesia/ sedation/

tranquilization is given to alleviate or minimize pain, stress or distress. Alternatives (reduction, refinement or replacement) must be considered for animals subjected to potentially painful procedures.

Alternatives are defined as the three "R's": Replacing -- use of non-vertebrate animals, tissue culture, other models; Refining -- use of less invasive, less painful procedures; and Reducing -- using the minimum number of animals consistent with statistical reliability. A literature search is the most often utilized method of fulfilling this requirement (though other methods are accepted but must be fully documented). An alternative search requires identification of the **search databases** (*Medline, Biological Abstracts, Index Medicus, the Animal Welfare Information Center, etc.*), the **period searched** (*a minimum of 10 years to present is recommended*), the **key words** used (*Be sure to use study aim, species, etc. and then filter the results using alternative-finding-- words such as in vitro, ex vivo, mathematical model, cell culture, computer simulation, reduction, refinement, replacement, etc.*), the **number and types of alternatives found** (*Ex.: 2 cell culture methods, 1 in nonvertebrate model, etc.*) and a **statement of conclusions** [*indicating whether the alternatives found were suitable (and incorporatable) or unsuitable based on study objectives*]. Those using noncovered species are urged to conduct this exercise on their own as a means of seeking alternatives to procedures that cause more than momentary pain, stress and distress.

Researchers are referred to the IACUC Guidelines for additional information on searching for alternatives. The Himmelfarb Library and the Animal Welfare Information Center are also prepared to assist in your search of databases for alternatives to painful procedures.

XI. ENDANGERED ANIMALS

A variety of federal and international laws and agreements exist to protect animals. Statutes such as the Endangered Species Act prohibit or control acquisition of wild or captive-bred, domestic and non-domestic animals classified as “endangered” or “threatened.” Applicants are referred to the applicable federal and State regulations for further information.

XII. HAZARDOUS AGENTS OR MATERIALS AND SELECT AGENTS

If use of hazardous agents or materials poses a risk to ARF personnel and/or animals on other experiments and/or the environment resulting from substances in the diet, air (dust or aerosol), water, research or caging equipment or by living or dead animals and their secretions or excrement, the PI must apply to the appropriate Safety Committee(s) [IRSC, RSC, IRAC] for approval to use these agents/ materials. [It is the responsibility of the PI to gain Safety Committee approval and to submit the Safety Committee letter of approval to the IACUC.](#)

Note: While the IACUC is solely concerned with in vivo use and safety issues related to that use, Safety Committees (SC) require approval of both in vivo and ex vivo (in vitro) use of hazardous agents or materials. The use of radioisotopes or irradiating devices requires RSC approval. Use of biological, chemical or other hazards requires IRSC approval. Use of recombinant DNA requires both IRSC and the IRAC approval.

Select Agents: Select Agents (SA) are a group of biological agents or their toxic byproducts

deemed to represent a potential risk for use in carrying out acts of terrorism or with potential for catastrophic accidental release. Based on these potential risks the federal government has promulgated strict regulations regarding SA transport, transfer, acquisition, storage, use and disposal and a stringent SA registration process. Listed agents represent potential health risks for humans, animals, plants and the environment. The current list of SA as of 07/25/03 is appended. Researchers are responsible for assuring they have the most updated list by accessing the Centers for Disease Control (CDC) website at <http://www.cdc.gov/od/sap/ria.htm> and by contacting the Institutional Research Safety Committee at (202) 994-3282.