ANIMAL CARE AND USE NEWSLETTER DECEMBER 2006

The Animal Care and Use Newsletter is a publication of the Office of Research Integrity and Assurance. This publication is intended to provide information on ethical standards and expectations, regulatory compliance, and other practical matters related to the animal care and use program. Recipients are encouraged to share the Animal Care and Use Newsletter with colleagues, students, staff and others in the research community at Cornell University.

CORNELL’S INSPECTION & ACCREDITATION REVIEW

Over the last five months the animal care and use program at Cornell University has undergone review by two organizations: the United States Department of Agriculture (USDA), for its annual inspection of the animal care and use program; and the Association for Assessment and Accreditation of Laboratory Animal Care, International (AAALAC) during the triennial accreditation process. Overall, Cornell University’s animal care and use program received notably high marks. However, both organizations brought concerns to the University’s attention and made recommendations for improvement in the animal use protocol application and review process.

In its commitment to maintaining high ethical standards in animal care and use, the University is responding to the concerns raised by AAALAC and USDA by initiating process improvement steps in the following areas: (1) providing statistical justification of animal numbers in protocol applications; (2) the pre-review of protocols; (3) determining USDA Pain/Distress categories on protocols; and (4) listing emergency contact numbers. In the first half of this edition of the IACUC Newsletter, we discuss the changes these steps bring, what they require of investigators, and how they may affect the ethical review process.

Justification of Animal Numbers

In their recent reviews of Cornell’s animal research program, both AAALAC and USDA indicated deficiencies in the justification for the number of animals to be used on some protocols. AAALAC focused its attention on the eSirius protocol review form, indicating that it should more clearly emphasize the requirement for a statistical justification of the number of animals for appropriate protocols. The University agrees with this assessment and the eSirius protocol review form is being revised to better reflect the information the IACUC needs to review a protocol.

The reasons for carefully determining the number of animals to be used on a protocol are both ethical and pragmatic: on one hand, using too many animals is inappropriate because it is an abuse of the privilege to use animals and is wasteful of scarce research dollars; on the other hand, using too few animals is similarly unethical and often more wasteful because results may not be valid, reliable, or even recognizable.

1 For a consideration of issues involved in determining an appropriate statistical approach to calculating animal numbers, see Hollis Erb’s “A Statistical Approach for Calculating the Minimum Number of Animals Needed in Research” (ILAR News, vol. 32.1, Winter 1990).
For these reasons, Animal Welfare Act Regulations² and Public Health Service Policy³ require a rationale for the species and number of animals to be used in research. For many types of protocols this justification should be provided with a statistical analysis to determine the minimum number of animals needed. In fact, the Guide for the Care and Use of Laboratory Animals, which Cornell University uses as a basis for developing and implementing the institutional program for activities involving animals, specifies that the requested number of animals must be justified statistically whenever possible. Consequently, the IACUC requires that a thorough justification of the number of animals to be used be provided on the eSirius protocol review form.

Actually, the IACUC has been requiring justification of animal numbers for some time. Notification that an investigator has not provided the IACUC with enough information, however, is often only available after Committee review. In order to avoid such delays and provide investigators with better a better indication of what information the IACUC needs in a justification of animal numbers.

Ultimately, there will not be any changes in IACUC review requirements or procedures. Instead, investigators will see a change in page 13.13 of the eSirius protocol review form. The modified page will emphasize the need to provide a statistical justification – such as a power analysis that justifies the animal numbers per group, the number of groups, the power analysis used, etc. – whenever possible. In addition, the page will include references and links to resources at Cornell University and external websites that can provide assistance in the selection, planning and implementation of statistical analyses.

The text in the box below is the new language that will be found on page 13.13:

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Indicate the rationale for the number of animals to be used in the space below. Address how you determined the number of animals required. Your explanation should include the numbers per group, number of groups, number of animals needed for training, etc. The ILAR Guide states that whenever possible, the number of animals requested should be justified statistically. A power analysis must be provided to justify group sizes when appropriate. Internal statistical resources are available (Cornell statistical consulting unit http://www.cscu.cornell.edu/index.html) as well as web based (links listed on IACUC page). However, there are certain types of protocols for which statistical evaluation is ineffective such as pilot studies, breeding protocols, many field studies, and protocols that involve in-depth tissue analysis (link to SOP). Justification for this type of application may involve determining quantities of tissue needed, number of breeders required to maintain a colony, student/animal ratio for teaching purposes etc. Information may be provided in the form of a table or flow chart (please attach file). (Note: Approved numbers may not be exceeded without an amendment.) Be sure that numbers of animals correspond to those in previous sections.
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It is important to recognize that a statistical justification is not appropriate for all types of research protocols. Some protocols for which statistical justification is ineffective include (but are not limited to) teaching protocols, breeding protocols, many field studies, and pilot studies. Nevertheless, a scientific rationale is still required with these types of protocols.

In order to provide further clarification of when a protocol may require a statistical justification, and to offer descriptions of what such justifications should include, the IACUC is providing a Standard Operating Procedure on the Justification of Numbers of Animals for Protocols, which will be available on the IACUC website early in the coming year.

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² §2.21.e.1; §2.31.e.2.
Pre-Review of Protocols
Currently, the IACUC has a pre-review process in place that is intended to inform IACUC members of questions, concerns, or suggestions regarding an investigator’s protocol. This pre-review is conducted by Center for Animal Resources and Education (CARE) veterinarians, the Animal User Health and Safety Program (AUHSP) working group, the Office of Research Integrity and Assurance (ORIA), and individuals working on behalf of the IACUC. As an informal practice, the comments and suggestions from this pre-review have been shared with investigators upon their request.

In an effort to better serve investigators submitting protocols for IACUC review, this process has been enhanced by changing from the informal practice of sharing pre-review suggestions to a formal procedure for distributing comments. In November, investigators began receiving suggestions about their protocols and had the opportunity to take three courses of action:

1) address any concerns identified in the suggestions,
2) provide additional clarification to the IACUC, or
3) not address the concerns identified in the suggestions.

Under the new procedure, investigators receive an eSirius alert via email notifying them that comments, questions, and/or suggestions are pending on their new protocols or protocol amendments. These recommendations are distributed after CARE veterinarians, the AUHSP working group, and ORIA have conducted their pre-review. Investigators have five (5) days to make revisions or respond with clarifications.

This enhancement of the pre-review process should be of notable benefit to investigators because it will provide the opportunity to respond to comments and suggestions prior to the convened IACUC meeting. In turn, submitting revisions prior to IACUC review should be advantageous because it will improve the protocols being submitted, increase the likelihood that protocols will be approved by the IACUC at the next meeting, and decrease the amount of time from submission of protocols to receipt of approval notices.

Emergency Contact Numbers
Investigators are now being required to provide the name and phone number of the designated emergency contact for a protocol. Emergency contact information is traditionally posted in the animal rooms. However, AAALAC recommended it also be listed in eSirius, in case an individual who does not have access to the facility can find emergency contact numbers listed with the protocol. This information will appear on the eSirius protocol review form on page 3, which currently asks for protocol type, title, and abstract. Below is a screen-capture image of the new required fields.
OTHER NEWS

Data Integrity
Toward the end of October, ORIA began a process of correcting data within eSirius to ensure the information on file for a protocol is accurate. This process was initiated in order to clean up errors that may have inadvertently occurred in using some of the eSirius features. For instance, the drop-down lists eSirius utilizes offer selections that appear similar, but may in fact result somewhat erroneous information (e.g., selecting CO₂ for anesthesia under the drug list, when CO₂ for euthanasia is the intended drug on the protocol). Also, ORIA is working to eliminate instances where redundant information may cause errors or miscommunications (e.g., if Robert Smith is entered as Robert, Bob, and Bobby, ORIA is sure that investigator and protocol information is cross-referenced correctly and the appropriate CARE or OEHS training is assigned).

During this process, ORIA will be notifying investigators when a minor correction is made on their behalf, or contacting investigators to be sure consolidated information is accurate and properly cross-referenced.

New IACUC Website & Web Address
Recently, the IACUC website was revised and reformatted to improve access to information for users, and to meet Cornell University visual identity standards. In addition, the IACUC website was given a new independent web address: http://www.iacuc.cornell.edu/. Please make a note the new address and update any bookmarks or links you may have set up (currently there is a forwarding link, but it will only be available for a limited time).

COMPLIANCE REMINDERS: Housing Animals & Inspection of Procedure Areas
Investigators planning to use animals for research or teaching must have written IACUC approval for their protocol or amendment before housing any of the animals intended for such use. Additionally, there are federal requirements mandating that the IACUC inspect all procedure areas before a given procedure on a protocol begins, and that the IACUC inspect any and all areas (including procedure areas) listed on a protocol every six (6) months.

It is in an investigator’s best interest to assure receipt of written IACUC approval before housing any animals, because housing animals before receipt of written approval becomes a compliance issue, making it significantly more difficult for a protocol to receive approval. Similarly, using a procedure area without (or prior to) IACUC inspection causes a compliance issue, may result in suspension or termination of a protocol, and could result in a reportable incident to the Office of Laboratory Animal Welfare (OLAW).
**Submission Deadlines & Meeting Dates**
Below are lists of the IACUC meeting dates and submission deadlines for calendar year 2007. Please make note of these important dates.

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