A Message From Your IACUC Chair

Contributed by Lisa Muller

The Institutional Animal Care and Use Committee (IACUC) was formed to facilitate animal research and to make sure we remain in compliance with the myriad of animal use regulations. I know the regulations can seem daunting. I work with wildlife and sometimes we have IACUC, state, federal, and park approvals to secure before we can even set foot on a study area. I say this not to whine but to let you know why I became involved with the IACUC. I understand the importance of a committee designed to help people through the process. The regulations can be burdensome, but know we are here to help you and ensure the best possible care for animals at the University of Tennessee. After your protocol is submitted, it undergoes administrative assessment and is then sent for review by the Office of Laboratory Animal Care, the occupational health nurse, the offices of Biosafety and Radiation Safety if applicable, and the IACUC. I will focus on the role of the IACUC.

We currently have twenty members and one alternate member on the IACUC. Members come from all parts of campus and have all kinds of background. Most IACUC members work with animals and most have written proposals themselves. I guarantee all members understand your stress. These folks selflessly serve to make sure we follow all the regulations for animal care and use. By the way, if you are interested in serving, please let me know! We are always grateful for engaged folks and gladly accept suggestions on how to streamline the process while still maintaining compliance.

All protocols are assigned to a designated reviewer to facilitate evaluation and are sent to all IACUC members. We use guidelines to determine if the review can be performed via the designated member review process or if it must be discussed at a regular, monthly meeting. However, any member can call a protocol to full commit-

Need Rodents? Here’s How to Procure Them

Contributed by Jane Czarra

Let’s start with the Office of Laboratory Animal Care Policy on Animal Procurement. The full policy can be found on the newly updated OLAC website under the Guidelines and Policies tab. The basic premise: Procurement of non-agricultural research animals must be approved in advance by the IACUC and the Attending Veterinarian or his/her designee.

This means you first need an active IACUC approved protocol that includes the species and number of animals you wish to acquire.

The next step is to contact your facility manager. The manager has just what you need! First, your manager will provide an order form so they know what species, how many, and from what source you wish to procure animals. The manager will also let you know if they can provide the space and housing you need.

If you wish to order from an approved vendor source, the manager can place the order without further delay. OLAC recognizes four approved vendors for rodents including: Harlan Laboratories, Charles River Laboratories, Jackson Laboratories, and Taconic.

If you wish to order from a non-
What a year! 2008 flew by with lots of progress in our animal care and use program and the facilities. The year began after our sigh of relief from receiving a letter from AAALAC stating no mandatory deficiencies for the first time in over 10 years and a USDA inspection report that was only 2 pages long. The OLAC staff was proud to see Dr. William Hill become a diplomate of the American College of Laboratory Animal Medicine and Jane Czarra became an AALAS certified Laboratory Animal Technologist. Dr. Joleen Adams was promoted to the faculty as a Clinical Veterinarian. We lost one of our clinical specialists, Christopher Hord, to the College of Veterinary Medicine (CVM) Laboratory Animal Facility (LAF). We hired Chris Carter from Large Animal Clinical Sciences (LACS) as our new clinical specialist. The CVM LAF personnel have changed and dedicated animal facilities in the CVM have also changed. New employees for the CVM LAF include Diane Elrod and Christopher Hord. Renovations were completed in Cherokee Building A which now houses dogs and cats. The renovations for Cherokee Building B are in the architectural planning stages. The dedicated animal facilities at Walters Life Sciences (WLS) have new staff, Preston Burckhalter and Debbie Floyd. The staff at the WLS LAF stay busy with the ever growing mouse population and the very productive hamster breeding colony. The Jessie Harris (JH) animal facility has a new student worker, Nick Wilson. The JH staff are closely involved with the nutrition studies and a new study evaluating the effect of nutritional supplements in prostate cancer progression. The staff at the University of Tennessee Medical Center Knoxville (UTMCK) animal facility have stayed busy with the large amount of rodent work for the Soloman/Wall imaging group. They have also added some rodent surgical models of vessel anastomosis.

OLAC staff held 2 wet labs and trained 32 UT employees and students on rodent handling techniques during 2008. In the summer we held wet labs for veterinary technician students from Lincoln Memorial University and for participants in the Veterinary Summer Experience Program. We participated in several lectures and labs for the veterinary students. Dr. Hill successfully applied to the American College of Laboratory Animal Medicine for OLAC to have a residency program in laboratory animal medicine. Dr. Hill is applying for funding to study rodent anesthetics. Dr. Adams is applying for funds to support a study of the infectious diseases in the rodents at the UT Gardens. Dr. Coan is submitting a facility improvement grant for the WLS facility with the hopes of obtaining funding for some critically needed updates. Dr. Hill has been collaborating with Dr. Margo Holland on a rodent mammary development study. Drs. Coan and Adams

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approved vendor source, the manager must complete two additional forms. The Rodent Quarantine Procedure form will give the conditions of quarantine should OLAC approve the importation. The Rodent History Questionnaire provides contact information for the institution of origin as well as the required housing conditions for the requested animals. After completing, the manager will forward these two forms to OLAC. As shipping coordinator, I will contact the shipping institution and ask them to forward their colony health status reports for the last six months. After receiving the reports, Dr. Hill will review and make a decision regarding importation. If approved, Dr. Hill will define the quarantine duration and conditions. Be aware that OLAC must approve the health status of the animals before they can be received into the facility. All rodents from non-approved vendor sources will be quarantined for a minimum of six weeks. Please account for the time this process takes when requesting non-approved vendor source animals. OLAC will keep the lines of communication going between institutions. Experience shows the process is slowed by material transfer agreement signature delays, incomplete animal request forms, and animal availability from the institution of origin. 🐭
Got Questions? OLAC Launches New Website

Contributed by William Hill

Do you have questions about the University’s animal care and use program? OLAC has recently launched a new, informative website designed to answer many of your questions. OLAC’s home on the World Wide Web can be found at http://www.vet.utk.edu/olac/. The user-friendly site is designed with informational tabs to allow for ready information access.

Want to know how to obtain controlled drugs for research purposes? Click on our website’s “FAQ” tab for the answer to this and other routinely asked questions. Need to import animals from another institution? The “Forms” tab contains the necessary documents to initiate the transfer as well as all other OLAC forms. Are you a new investigator planning to conduct animal research? If so, click on the “Getting Started” tab for a list of key contacts in initiating an animal based research or teaching project. Have questions about the number of mice that can be housed in a cage? Visit the “Guidelines & Policies” tab to view the Mouse Cage Density Policy in addition to all other OLAC approved guidelines and policies. Want to surf sites of other organizations concerned with laboratory animal care?

Well then, visit the “Links” tab for a comprehensive listing of organizations and entities both internal and external to the University related to animal use.

The OLAC staff has worked diligently on the redesign of our website. We hope the information is useful and easily located. In an effort to provide superior customer service, we welcome feedback on the site’s content. Although the site is designed to be a quick source of information, the OLAC staff is still only a phone call or office visit away. Let us be your partner in research!

“Did You Know?” Quick Facts About Blood Collection

Contributed by Joleen Adams

Take the brief quiz to the left to test your knowledge about blood collection basics.

Total Blood Volume

Starting with the basics, the total amount of blood in an animal, or its total blood volume, can be estimated based on body weight. As a general rule of thumb, an animal’s total blood volume is 10% of its body weight (in grams). Therefore, a 10 kg dog would have blood volume equal to 1000 ml or 1 L. The total blood volume of a 20 g mouse would be 10% of 20g or 2 ml. There are more precise estimates of blood volume by species. For example, it is widely accepted that a rabbit’s total blood volume is actually 6% of its body weight. Therefore, the blood volume of a 3.5 kg rabbit would be 6% of 3.5 or 210 mls. However, remembering the 10% rule will give you good estimate of blood volume. Knowing the total blood volume is essential to calculating both the amount of blood that can be safely taken during survival blood collection as well as how much you can expect from a terminal exsanguination.

Survival Blood Collections

According to UTK IACUC guidelines and standard practice, 10% of the total blood volume can be removed during a single survival collection. This amount is equal to 1% of the animal’s body weight (in grams). So in a 10 kg dog, how much blood can be safely removed at a single survival collection? To answer this question, you take 1% of the

**Quiz**

1. What is the average total blood volume of an animal?
   - A. 10% of its body weight in kg
   - B. 1% of its body weight in kg
   - C. 5% of its body weight in kg
   - D. Its body weight in kg

2. What is the maximum amount of blood that you can safely collect from a 4.5 kg cat?
   - A. 4.5 ml
   - B. 45 ml
   - C. 450 ml
   - D. 0.45 ml

3. How much blood can one realistically collect from a terminal exsanguination of a 300 g rat?
   - A. 30 ml
   - B. 3 ml
   - C. 1.5 ml
   - D. 15 ml

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dog’s weight (10,000 g) which would be 100 ml or 0.1 L. In a 20 g mouse, how much blood can you safely collect during a survival blood collection? The answer is 0.20 ml or 200 μl.

Terminal Exsanguinations

How much blood can you expect from a terminal bleed of a 20 g mouse? Optimally, you can only collect half of the animal’s entire blood volume during exsanguinations.1 Therefore, if the animal’s blood volume is estimated to be 10% of its body weight, the volume collected during exsanguination would likely equal 5% of the body weight.


Jessie Harris Laboratory Animal Facility

The Jessie Harris Animal Facility is operated as a conventional, rodent only facility. The facility consists of 288 square feet of animal housing space and 2,261 square feet of support space. Animal care is provided by a facility manager and two part-time student workers.

Meet the Manager

Chuck Corum has spent his entire adult life at the University of Tennessee. After graduating from the College of Education, Health, and Human Sciences in 1990, he immediately took a job in the College of Veterinary Medicine as an assistant animal technician. Chuck later became a senior animal technician and in 2000 he was hired to his current post as facility manager of the Department of Nutrition’s Animal Facility. Chuck is certified as a Laboratory Animal Technologist by American Association for Laboratory Animal Science (AALAS) and has twice received the AALAS Appalachian Branch Technician of the year award. Additionally, Chuck has served as a member of the Institutional Animal Care and Use Committee for over five years.

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tee review. Either method may generate questions/concerns that must be addressed before final approval is granted. Keep in mind, these concerns are based on federal guidelines and our assurance with the Public Health Service. We are your advocate through the maze of regulations.

The IACUC is also responsible for reviewing animal facilities and the entire animal care and use program twice a year. These inspections are not punitive, but serve to ensure work is conducted according to the many regulations involved. We are charged with maintaining compliance so you can continue your animal research in the best way possible. We are here to help! If you have questions or need help with pre-review of your protocol, please contact either myself (lmuller@utk.edu, 4-7981) or Betsy Bailey (IACUC Coordinator, ebailey@utk.edu, 4-3631).
The College of Veterinary Medicine research and teaching animal holding facilities include the Lab Animal Facility, Cherokee Building A, and two rooms in JARTU. The three facilities offer a combined 6,177 square feet of animal housing space and 7,815 square feet of support space including a dedicated surgical suite. Housing is available for rodents, rabbits, birds, dogs, and cats. Animal care is provided by a facility manager and four animal care technicians.

Meet the Manager

Robbyne Williams began her career working with animals in a privately owned animal hospital in 1983. Shortly thereafter, the clinic downsized, and her boss told her about an opportunity at the College of Veterinary Medicine (CVM). Robbyne was hired as a caretaker at the CVM Teaching Hospital in November 1984. In June of 1985, she was promoted to Small Animal Caretaker Supervisor. In 1992, Robbyne was hired as Laboratory Animal Technician Supervisor. She received AALAS Certification as a Technologist in 1994. Robbyne admits she was very surprised at all the regulations that were in place for laboratory animals! In 1998, Robbyne was hired to work in the Office of Laboratory Animal Care as a technician. In this role, she was responsible for conducting the campus wide health surveillance program. In 2003, she was promoted to manager of the CVM Laboratory Animal Facilities including the Laboratory Animal Basement Facility, Cherokee Building A, and two rooms in the Johnson Animal Research and Teaching Unit.

Robbyne comments that she hopes to stay with the University of Tennessee until retirement. 🐾

The University of Tennessee Medical Center of Knoxville Animal Facility is operated as a conventional facility and consists of 2,783 square feet of animal housing space and 3,217 square feet of support space. The facility is equipped to house rodents and other small mammals. Animal care is provided by a facility manager and one animal care technician.

Meet the Manager

Ronnie Roberts is the manager of the Graduate School of Medicine (GSM) Laboratory Animal Facility. Ronnie has been an employee of the University for over thirty-five years. Beginning as an animal husbandry technician, Ronnie has assumed various roles with increasing responsibilities on his way to his current position. In 1978, Ronnie received certification as an AALAS Laboratory Animal Technician. Because of his long tenure, Ronnie has been a part of the GSM facility’s evolution. He remembers when dogs, goats, and sheep were housed at the GSM! What’s more, Ronnie recalls a time when there was no Institutional Animal Care and Use Committee! Ronnie comments that a lot has changed in the field of laboratory animal science and the changes have been all for the good. 🐾
The Walters Life Sciences Animal Facility is operated as a conventional facility and consists of 7,083 square feet of animal housing space and 11,000 square feet of support space. The facility is equipped to house rodents, rabbits, and amphibians. In addition, the facility can support Animal Biosafety Level 2 studies. Animal care is provided by a facility manager and four animal care technicians.

Meet the Manager
Sally Fridge is manager of the Walters Life Sciences Laboratory Animal Facility. She was eight years old when her family moved from Saudi Arabia to Pullman, Washington. Sally graduated with a bachelor’s degree in Animal Science from Washington State University in 1985. As an undergraduate, she gained experience working with a variety of animals in various research settings. Prior to moving to Knoxville, Sally worked as a supervisor in an animal research facility housing ferrets, skunks, and even pocket gophers. She received her AALAS Laboratory Animal Technician certification in 1991. That same year, Sally relocated to Knoxville and assumed her current position. She was certified as an AALAS Laboratory Animal Technician in 1992. Sally and her husband Evan, a glass blower, enjoy spending time with their children and grandchildren, traveling, and taking drives in the beautiful Tennessee countryside. Sally is an avid sports fan, and her favorite sports include bull riding and football.

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are collaborating with Dr. John Biggerstaff with a murine melanoma model to study the effect of fibrin on tumor progression and metastasis. OLAC veterinarians held a senior clinical experience session for Jodi Swain and had five clinical exposure weeks with Paul Nolen, Lauren Hiatt, Amelia Jones, Cynthia Alvarez, and Lei Bridwell. Veterinarians in the OLAC started a student chapter of the American Society of Laboratory Animal Practitioners for the CVM. Dr. Craig Franklin from the University of Missouri treated the CVM students to lunch from the Hibachi Factory and gave a seminar on laboratory animal medicine during our interest group meeting. We started the holiday season with our second annual Silly Santa party. We look forward to a wonderful 2009.