LACU NEWSLETTER

THE UNIVERSITY OF TENNESSEE HEALTH SCIENCE CENTER

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Message from the Director

As we are now in the 2nd year of the COVID-19 pandemic, I'd like to send another big **Thank You** to all of the **LACU TEAM** for their hard work and dedication in caring for all animals on campus. Maintaining operations throughout the pandemic has been very challenging and a learning experience for everyone. Social distancing requirements, a reduced workforce, COVID-19 exposures and infections and an altered work schedule all threw roadblocks in our way as we tried to maintain a "normal" work environment as much as possible. In addition, we were recently evaluated by AAALAC and, despite this year's challenges, we received a glowing report! I also want to thank all the research teams for respecting room occupancy limits in the animal facilities and for working to maintain social distancing requirements. It definitely takes a TEAM approach in navigating the COVID-19 pandemic and I truly appreciate everyone's efforts and collaboration.

David Hamilton, DVM, DACLAM
LACU Director

AAALAC Visit Highlights

AAALAC visited the UTHSC campus July 26-29 to evaluate our animal care program. We are very happy to report that the institution received numerous commendations, no mandatory findings, and just 3 suggestions for improvement (SFIs)! The SFIs were to 1) improve signage for cage wash equipment, 2) better documentation of training for research personnel and 3) efficacy testing post sanitization for all equipment that contacts live animals. All 3 SFIs have already been addressed and we were granted continued **Full Accreditation** by AAALAC!! Thank you to the animal care Team, research Teams, the IACUC office, Occupational Health and Safety, the UTHSC Facilities Team, Research Safety Affairs, and the Office of Research for all the expertise, dedication and support of our animal care program!!

Sanitization Efficacy Testing

One of AAALAC's suggestions for improvement in our animal care program, was the verification of sanitization efficacy post cleaning for all equipment that contacts live animals. While cage washing equipment in the animal facilities is routinely monitored and evaluated for sanitization efficacy, no equivalent evaluation has been conducted for research equipment, especially equipment located outside of an animal facility. To address this SFI, LACU is compiling an inventory list of researcher-owned equipment (e.g. behaviour testing devices, restraint devices etc.) and will begin contacting individual labs to schedule a time to perform ATP-swab testing of equipment post-cleaning. Once a cleaning method has been tested and shown to be effective, a standard operating procedure (SOP) must be posted near the equipment so that everyone cleans it in the same identified manner going forward. The utilization of the SOP will negate the need for re-testing of the cleaning method. If you have an SOP written and equipment that needs to be tested, please contact Casey Inman or Leadra Williford.

Occupational Allergies when Working with Animals

The *Occupational Health and Safety in the Care and Use of Research Animals* guide states that "Allergic reactions to animals are among the most common conditions that adversely affect the health of workers involved in the care and use of animals in research, with one survey demonstrating that three-fourths of all institutions with laboratory animals had animal-care workers with allergic symptoms."
Because allergic reactions to animal proteins are so common among laboratory animal care workers and research staff members, the LACU takes great effort to limit the exposure of all UTHSC employees to these proteins. When you are working in the animal facilities, you can help with this protection.
Typically, allergies to animals start when a person is exposed to an allergenic protein that has become airborne. For most lab animal species, the primary form of allergen produced is through the urine. To limit the amount of allergen exposure, all personnel working with research animals should take steps to limit the amount of aerosolized urine or dirty bedding. Several simple measures can reduce this exposure significantly.

1. Make certain that all cages are opened within a biosafety cabinet or an animal change station
BSC's and animal change stations are designed to eliminate exposure to aerosolized allergens coming from cages when they are opened. Always make certain to use these cabinets, they are our best weapon in preventing allergen exposure!

2. Wear all appropriate PPE while in the facility
Your Personal Protective Equipment (gloves, gown) will also ensure that any allergens you contact in the facility will stay there when you leave. Always be sure to wear all the PPE listed when working with animals and properly dispose of the PPE before leaving the animal facility.

3. Make certain that all dirty cages dropped off in cage wash have a lid on them
Open cages waiting to be washed are a major source of allergen exposure for all personnel. An easy solution is to place a lid on the cage to contain the dirty bedding. If you ever see an open cage in a facility, please be sure to cover it up!

4. Wash your hands thoroughly upon removal of PPE
Washing your hands after taking off your PPE will help eliminate any small amounts of allergens that may have made it past your gloves and gown. Be sure to always wash up before you leave the animal rooms.
By taking these simple steps you will ensure that your exposure to animal allergens is minimalized, and you will also help the LACU in protecting all of the people who work in our research facilities. We thank you all for your continued efforts to help us keep everyone at UTHSC safe and healthy!

Water Lixit Valve Signage

We want to remind everyone if your study requires removing the attached water lixit valve on rodent IVC cages (for special water, study purposes, etc.), we ask that you place a **NO LIXIT** card around the removed valve. This serves as a reminder to everyone that the lixit has been removed.

Sometimes cages can move to another location, so it's important to keep that card on the lixit so that another cage is not inadvertently placed in this cage slot, thus depriving the animals of a source of water. These cards can be found in the hallway with other cage cards, or you can ask LACU staff to assist you with locating the cage cards.

If a lixit has been removed by the research lab staff, it will be the lab's responsibility to secure the removed lixit in the same room, ensure the cage is provided a secondary source of water (water bottle, gel diet supplement, etc.), and replace the lixit when the cage has been deactivated, or special water is no longer needed.

In general, when placing a new cage on a rack, always make sure the lixit valve is present, attached, and properly working by gently pressing on the middle of the valve and observing for any continuous water flow. Just make sure to place your hand under the valve to avoid wetting the animals in the cage below. If you are unsure if a lixit is working, please place a water bottle, and notify a member fo the LACU to evaluate the situation.

Rodent Analgesia Updates

Based on some recent publications, LACU and the IACUC have modified their recommendations for rodent analgesics and anesthetics. The updated document can be viewed here. Below are the most used or preferred analgesics, and the new recommended doses. To provide the highest quality of care, it is recommended that you update your approved IACUC protocols accordingly to include the below mentioned doses. If you have any questions on dosing or drug availability, please reach out to LACU veterinary staff.

Local anesthetics (both mice and rats):

- 1:1 mix of 2% lidocaine and 0.5% bupivacaine diluted 1:20 in medical grade saline. Administer no more than 0.05mL per 10g body weight locally/intradermally at the incision site

NSAIDS for Mice:

- Carprofen 5mg/kg SC, IP, or oral. Dosed 2X a day (or ad-lib for medicated treats/gels)
- Carprofen 10-20mg/kg SQ once daily*
- Meloxicam 5mg/kg SQ or oral. Dosed 2X a day (or ad-lib for medicated treats/gels)
- Meloxicam 10-20mg/kg SQ once daily*

(* higher dose only recommended in young, healthy mice. Dilution with sterile saline recommended to prevent dermal ulceration)

Opiates for Mice:

- Buprenorphine SR (available from Zoopharm with DVM prescription) 0.6mg/kg SQ once prior to surgery. Provides 48-72 hours of analgesia from a single injection.
- Buprenorphine XR (available through veterinary distributers from Ethiqua XR) 3.25mg/kg SC once prior to surgery. Provides 48-72 hours of analgesia from a single injection.

NSAIDS for Rats:

- Carprofen 5mg/kg SC, IP, or oral. Dosed once a day (or ad-lib for medicated treats/gels)
- Meloxicam 1mg/kg SQ or oral. Dosed up to 2X a day (or ad-lib for medicated treats/gels)

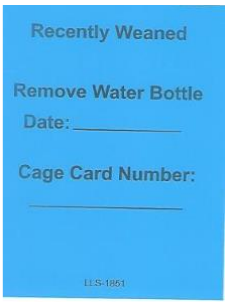
Opiates for Rats:

- Buprenorphine SR (available from Zoopharm with DVM prescription) 1.2mg/kg SQ once prior to surgery. Provides 48-72 hours of analgesia from a single injection.
- Buprenorphine XR (available through veterinary distributers from Ethiqua XR) 0.65mg/kg SC once prior to surgery. Provides 48-72 hours of analgesia from a single injection.

Rodent Colony Management Guidelines

Rodent weaning should occur at 21-days post birth unless an extended weaning is required and approved in your IACUC protocol. If extended weaning is approved, there should be some indication of this on the barcoded cage card associated with the animals receiving extended weaning. If an individual cage of animals appears to be too small at the time of weaning, please contact LACU veterinary staff for evaluation of the animals, and potentially a one-time extension on weaning. Be sure when animals are weaned that you provide food and water to these newly weaned cages and print out new barcoded cage cards for the animals. If you are unable to print out new cards, please contact the LACU supervisor, and label the cages with, at a minimum, the PI name and the protocol number.

As weaning is a rather stressful time for animals, it can help to provide some supportive care at this transition time. LACU recommends placing a water bottle and some lightly moistened chow on the cage floor to aid weanlings in their transition. This is especially helpful if the pups are a bit small, and may not be able to easily reach the food hopper or manipulate the lixit. Alternatively, some labs choose to purchase a gel diet that can be placed in the cage with weanlings as opposed to using moistened chow. These diets/supportive care products can be purchased from Bio-Serv or Clear H_2O. It is the lab's responsibility to purchase these products and provide them to their animals. If assistance is needed in purchasing a desired gel diet, please contact the LACU. Regardless of the supportive method being used, a blue **"Recently Weaned"** card should be placed on the cage indicating that the animals have been recently weaned. This card will act as a marker indicating that a water bottle placed should be removed approximately 2 weeks after weaning (for animals where the caging system is connected to automatic water).



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If you have any questions or would like further information related to material presented in this newsletter or on the LACU website, please contact us at 901-448-5656 or lacu@uthsc.edu.