
❖ BRL BULLETIN ❖

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If you have not heard the great news already, we were notified by AAALAC International Council on March 8th, 2018 that we received continued full AAALAC accreditation! We are thankful for all the effort and continued support by the members of the UIC community to make the Animal Care and Use Program a success. In this edition of the *BRL Bulletin*, we will discuss the response to the AAALAC site visit, and several changes we are making to further improve our program.

After a thorough evaluation of our program in November 2017, the AAALAC site visitors provided positive feedback as well as discussed areas that needed improvement. The site visit team was very impressed with the engagement of the Animal Care and Use Committee as well as the communication between the animal care staff, veterinary staff, ACC members, and investigative staff. They noted the cleanliness of the facilities and the high level of veterinary care provided to the animals. The site visitors also were very impressed with the robust rodent post-operative program that demonstrated consistent and appropriate perioperative care and monitoring of animals. The AAALAC site visitors expressed several items of concern that we need to address. The items pertaining to rodent users are detailed below and include our plans for addressing the concerns.

Overcrowded Rodent Cages

There were concerns over the number of overcrowded rodent cages in the facility. In particular, many breeding records on cages were not filled out with birth dates making it difficult to know when litters should be weaned.

The *Guide for the Care and Use of Laboratory Animals* has minimum space recommendations for group housed rodents. The UIC ACC has a Rodent Occupancy Policy that follows these recommendations based on the specific caging used on the UIC campus. It is essential that

investigators house rodents in accordance with this policy and address overcrowded cages in a prompt manner.

To address the concern of enforcing appropriate weaning ages, the BRL staff will record birth dates and wean dates on cages. The investigative staff is asked to place a breeding card on all cages containing a male and a female or a pregnant female that is due to give birth. The BRL staff will record a birth date when a new litter is observed in the cage. Wean dates will be recorded 21 days after the date of birth for mice and 19 days after the date of birth for rats. The breeding cards also contain a column for the number of pups born and the number of pups weaned. Please note that the BRL staff will not record the number of pups born or weaned. It is strongly encouraged that the investigative staff tracks this information to identify any changes in pre-weaning mortality.

Beginning May 1st, the BRL will implement a new program for the separation of overcrowded cages based on the type of overcrowd. This program helps to differentiate cages that need more immediate attention.

The following overcrowded cages need to be separated by the investigative staff within 24 hours of identification:

- Mouse breeding cages containing more than 2 adult females + 1 adult male (inbred) or more than 1 adult female and 1 adult male (outbred)
- Mouse cages in which more than 50% of the cage floor is occupied

The following overcrowded cages need to be separated by the investigative staff within 5 days of identification:

- Mouse cages containing more than 5
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adults

- Mouse cages containing weanlings 21-28 days old
- Rat cages containing weanlings 19-21 days old

As a reminder, the BRL charges \$20 for every new cage generated when separating overcrowded cages that have not been addressed by the allotted time.

Single Housing Rodents

The AAALAC site visit team had concerns over single housed rodents that did not have a clear indication of why they were housed individually. According to the *Guide for the Care and Use of Laboratory Animals* and the UIC Social Housing Policy, group housing of social species is the standard and any social animal that is single housed must be justified. There are several reasons why animals may need to be single housed including veterinary, breeding colony management, or protocol-approved reasons, but this information needs to be clear and readily available.

In response to this concern we have developed a "Single Housing" card with a checklist of the various reasons for single-housing to be placed on the cage. Below are the reasons provided on the card with explanations.

Attrition of cagemates is when there is one remaining animal due to experimental use or death of cagemate(s).

Aggression/incompatibility is when an animal is separated for fighting either as the aggressive animal or the injured animal.

Breeding colony management is for the separation of the male or female breeding animals for colony breeding purposes, including:

- Pregnant/lactating/resting female
- Retired/resting male

Lack of littermates at the time of weaning is when there are no suitable littermates at the time of weaning.

Post-op is when an animal is recovering from a

post-operative procedure.

Protocol-approved includes any experimental reason for an animal to be single housed that is approved in the ACC protocol. Examples include separation of an animal to collect samples, monitoring of food consumption, or a timed-pregnant female for experimental use of embryos.

Any time a mouse or rat is single housed by the investigative staff, it is their responsibility to place this card on the cage and indicate the appropriate reason for single-housing. The BRL staff will place the cards in the event that they find a dead animal resulting in one animal remaining in the cage or if an aggressive or injured animal is separated. Please note that in some cases of protocol-approved single housing, a sign can be placed on the door rather than on each individual cage. Any questions regarding this should be discussed with the BRL veterinary staff.

Assessment of Effective Cleaning of Behavioral Equipment

The AAALAC site visit team had concerns over the assessment of effective cleaning methods for certain types of hand-washed equipment, particularly behavioral equipment.

Behavioral equipment should be cleaned and disinfected between groups of animals to maintain a healthy environment and minimize the risk of pathogen transmission. The cleaning agent may be influenced by the type of material and the type of research being performed. Regardless of the cleaning method, there should be a program in place to ensure that cleaning is appropriate to reduce unacceptable concentrations of microorganisms. Currently, we require a sign to be posted by behavioral equipment to indicate the type of cleaning method that is used. We are in the process of working with different laboratories representing a variety of cleaning methods and equipment to validate cleaning processes. After the behavioral equipment is used by the investigative staff, it will be tested with a RODAC (Replicate Organism Detection and Counting) plate. The equipment will then be

cleaned and re-tested to demonstrate a reduction in microbial growth.

Sufficient Cage Height for Large Rats

The AAALAC site visit team had concerns over sufficient internal cage height for large rats. The *Guide for the Care and Use of Laboratory Animals* provides the minimum space recommendations and states that larger animals may require more space and that at a minimum, animals must have enough space to make normal postural adjustments. The current caging system appears sufficient for rats less than 500 grams, but rats above 500 grams are not able to exhibit rearing behaviors in the cage.

The resolution for this is to add a cage extender to provide additional height to the current caging system. The BRL has purchased inserts that can be placed into the extra-large (215 square inch) rat cages. Going forward, any rat greater than 500g that is single or double-housed must be housed in an extra-large cage with the additional height extension. Please contact your area veterinarian if you have specific questions.

Announcements

There will be some changes this fall of which you should be aware. First, the OVCR and BRL are in the process of updating the BRL website. The new website will not only comply with UIC website requirements, but also contain updated content and be organized in a more user friendly format. In addition, the BRL business office is working with the OVCR IT department to develop an electronic census (e-census) system using bar codes to track animals and animal cages. Data from this e-census system will be used to track animal census for billing purposes. In addition, there will be features built into the system to help investigators locate animals and animal cages. More information will be forth coming as we approach implementation of the new website and e-census system.

