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*T*his issue of the *BRL Bulletin* provides updated information on several existing ACC guidelines as well as introduces a new guideline on non-survival surgery procedures in rodents. For more information regarding the specific guideline, please visit the Office of Animal Care and Institutional Biosafety (OACIB) website.

Non-Survival Surgery in Rodents and Lower Vertebrates – Guideline (NEW)

The ACC has developed a guideline on non-survival surgical procedures in rodents to ensure that procedures are in compliance with the minimum requirements of the Animal Welfare Act and the *Guide for the Care and Use of Laboratory Animals*. We have defined non-survival surgery as any surgical procedure that occurs in an anesthetized animal in which the animal never recovers from surgery and is euthanized at the completion of the procedure. The exception to this definition is transcardial perfusion which we are classifying as a method of euthanasia. Based on the AVMA Guidelines for Euthanasia of Animals, perfusion with fixative under anesthesia is an acceptable method of euthanasia. However, the ACC may reclassify a perfusion to a non-survival surgical procedure based upon tissue manipulation, substance administration, level of invasiveness, or duration of the procedure. There are several requirements for non-survival surgeries:

Recordkeeping: For any non-survival surgical procedure lasting more than 15 minutes, a "UIC Small Animal Surgical Record" must be completed. This includes sections on anesthetics administered and anesthetic monitoring. Time of euthanasia should be recorded in the comment section. Records must be maintained in the laboratory, and available for review for a minimum of one year following the date of the procedure.

Personnel Training: Individuals performing the procedures must be trained to conduct the procedure and ensure appropriate anesthetic assessment throughout the procedure.

Anesthetics: All anesthetics must be within date. Anesthetic depth must be assessed prior to the procedure and at least every 15 minutes throughout the procedure.

Surgical Area/Procedures: Areas in which the procedure is conducted should be kept uncluttered, and cleaned before and afterwards. Minimum requirements for performing a non-survival surgical procedure include clipping the hair at the surgical site, the surgeon should wear gloves and a clean lab coat, and surgical instruments should be clean.

NOTE: Aseptic technique is not required, but may be warranted for prolonged procedures or when data may be impacted by introduction of microbial agents.

Euthanasia: Animals must be euthanized with a secondary method prior to and without waking up from a surgical plane of anesthesia.

Update on Humane Experimental Endpoint – Guideline (Updated)

This guideline has been revised to include both general and model-specific humane endpoint criteria. It provides further clarification on study endpoints versus humane endpoints. A study endpoint is the point at which the desired/ necessary data is collected, while a humane endpoint is the point at which pain and/or distress is terminated, minimized, or reduced (including euthanasia). Ideally, the study

endpoint should occur prior to the humane endpoint whenever possible.

Several appendices have been incorporated to provide guidance on specific rodent models. The appendices listed below include ACC approved monitoring frequency, humane endpoint criteria, and a scoring system (if applicable). If using these models, this information should be incorporated into the protocol to facilitate approval. If monitoring or humane endpoints deviate from what is included in the ACC approved appendices, it will require justification.

- Appendix A: Mouse total body irradiation
- Appendix B: Rodent experimental autoimmune encephalomyelitis (EAE) and multiple sclerosis models
- Appendix C: Rodent amyotrophic lateral sclerosis (ALS) and ascending neurologic disease models
- Appendix D: Rodent hind limb ischemia
- Appendix E: Rodent cecal ligation and puncture (CLP), high dose lipopolysaccharide (LPS), and intratracheal *Pseudomonas aeruginosa*

The final appendix (Appendix F) describes mouse and rat body condition scores. This is a valuable tool that is based on visual observation and palpation of bony prominences. The use of body condition is advantageous since weight loss can be masked by tumor growth, organ enlargement, and fluid accumulation. This simple scoring system can be used on any rodent independent of sex, age, and body frame.

Update on Tumor Growth and Cancer Research – Guideline (Updated)

This guideline has been revised to include the following key points:

1. Cell lines or tissues have the potential to become contaminated and should be tested for murine pathogens in accordance with the Biologic Material Testing policy.

2. Humane endpoint criteria for maximum tumor size in rats is considered to be ~4cm diameter.

3. Some tumors, such as those in abdominal organs, lungs, or the brain, are not easily measured but can be approximated by palpation or experimental imaging. If an approximate measurement is possible by palpation or imaging, then this should be used to determine if an animal has met humane endpoint criteria based on tumor size.

4. Humane endpoints should include weight loss of 20% body weight minus tumor volume and/or the use of body condition score.

5. Leukemia or neoplasms that can increase or decrease red blood cells or lymphocytes should be monitored with regular quantitative assessments. Cut-off values for the quantitative assessments should be used as humane endpoint criteria.

Update on Monoclonal Antibody/Ascites Tumor Production – Guideline (Updated)

This guideline has been revised to include the following key points:

1. Prior to *in vivo* use, hybridomas must be tested for murine pathogens in accordance with the Biologic Material Testing Policy.

2. It is a requirement to maintain records for this procedure. Information that needs to be documented on the cage card includes the dates of priming, hybridoma inoculation, and abdominal taps.

3. Veterinary staff must be notified when hybridoma inoculation occurs.

4. Purchase of custom antibodies (antibodies that are produced using antigens provided by or at the request of the investigator) require the following:

- The organization producing the custom antibody must have an Animal Welfare Assurance on file with NIH/OLAW if NIH funds are being used.
- The name of the organization must be included in the ACC protocol and if not from a reputable commercial entity, it must be tested for murine pathogens in accordance with the Biologic Material Testing Policy.

Update on Polyclonal Antibody Production – Guideline (Updated)

This guideline has been revised to include the following key points:

1. It is a requirement to maintain records for this procedure. Information that needs to be documented includes the dates of inoculation, booster immunizations, and blood collection.

2. Observation of animals should include assessment of inoculation site, animal activity, food consumption, and body condition.

3. Veterinary staff should be contacted if clinical signs such as pain, distress, or decreased food consumption are observed.

4. Purchase of custom antibodies (antibodies that are produced using antigens provided by or at the request of the investigator) require the following:

- The organization producing the custom antibody must have an Animal Welfare Assurance on file with NIH/OLAW if NIH funds are being used.
- The name of organization must be included in the ACC protocol and if not from a reputable commercial entity, it must be tested for murine pathogens in accordance with the Biologic Material Testing Policy.

ANNOUNCEMENTS

Due to the holidays, the BRL business office will not be open on 12/23, 12/26, and 1/2; nor will the BRL accept animal order deliveries on those days. The BRL business office will also operate on a reduced schedule of 8:00 am to 3:00 pm on 12/22, 12/27, 12/28, 12/29, and 12/30. For same day placement of animal orders on days with a reduced operating schedule, orders must be submitted by 2:00 pm. Orders submitted after 2:00 pm will be placed the next business day.

HAPPY HOLIDAYS and BEST WISHES for 2017 from the BRL STAFF!!