



Johns Hopkins University

Animal Care and Use Committee

Rodent survival surgery^{ab}

BACKGROUND: These guidelines apply to all rodent survival surgical procedures performed at Johns Hopkins University¹. Survival surgery on rodents must be performed using sterile techniques to minimize microbial contamination of exposed tissues. Minor surgical procedures such as wound suturing and peripheral vessel cannulation should be performed in accordance with standard veterinary practices¹.

Pre-Operative:

1. A dedicated surgical facility is not required for rodents.
2. Surgery should be conducted in a disinfected and uncluttered area. Access to the area by personnel not directly involved in the surgery must be limited when surgery is being performed.
3. Apply sterile non-medicated ophthalmic ointment to eyes to prevent corneal drying.
4. Administer sterile isotonic fluids as indicated to replace losses.
5. Remove hair from the surgical site(s), in a separate location from where the surgery is conducted.
6. Prepare the surgical site(s) with an appropriate skin disinfectant.
7. Use a sterile drape to lay out instruments
8. Surgeons must^c wear a clean laboratory garment, a facemask, head cap/hat, and wash and dry their hands before donning sterile gloves. If working in a laminar flow hood a facemask and head cap/hat are not necessary.
9. Assistants working in the immediate vicinity must^c wear a clean garment, head cap/hat, facemask and gloves.

Intra-Operative:

1. The animal(s) must be maintained in a surgical plane of anesthesia throughout the procedure.
2. Begin surgery with sterile instruments and handle them aseptically.
3. Instruments and gloves may be used for a series of similar surgeries provided they are maintained clean and disinfected between animals.
4. Lay instruments on a sterile drape in between use.
5. Monitor and/or maintain the animal's vital signs.

^a For additional training call 410-955-3713 or 410-955-3273

^b Approved by the ACUC on: May 24, 2001, revised July 16, 2009, minor revisions September 25, 2012; reviewed 1/31/18, 1/15/21

^c When working in a laminar flow hood, of the appropriate level, head cap/hat and mask are not mandatory

6. Handle tissue gently and prevent tissue from drying.
7. Close surgical wounds using appropriate techniques and materials.

Post-Operative:

1. Move the animal(s) to a warm, dry area and monitor during recovery.
2. Provide analgesics as specified in the protocol.
3. Skin sutures should be removed as soon as the wound is healed and no later than 14 days post-operatively.
4. Maintain a surgical record (e.g. on cage card indicating procedure and date).
5. Seek veterinary assistance in case of complications (infection, wound dehiscence, etc).

References:

1. *Guide for the Care and Use of Laboratory Animals* (8th edition), 2011.
2. Animal Welfare Act Regulations.