

University of Notre Dames Institutional Animal Care and Use Committee

Aseptic Survival Surgery and Perioperative Care Policy

Purpose

This is a concise description of aseptic surgery standards and perioperative care expected for all survival surgical procedures. Any exceptions to this policy must be scientifically justified and approved by the IACUC prior to implementation.

Aseptic Surgery

1. Surgeons will wear surgical gloves, and use sterilized instruments.
2. Batch surgeries require sterilization of instruments between animals. Hot bead sterilizers are available in FLSC procedure rooms but researchers are encouraged to purchase their own sterilizers.
3. Surgical areas will have hair removed either by shaving or depilatory cream, the exception being reptiles, amphibians or surgeries of the eye and mouth.
4. Surgical incision sites will be prepared using an appropriate antiseptic and an alcohol rinse to remove hair and surface debris. A final wipe with antiseptic solution will act as an antimicrobial barrier.
5. Instruments with obvious rust are not to be used for survival surgeries.
6. Prepare the surgical table/counter by cleaning the surface with disinfectant and wiping with alcohol. Sterile drapes are suggested when opening a body cavity.
7. Use of expired sutures, povidine iodine, fluids or anesthetic/analgesic drugs is not acceptable veterinary practice and does not constitute adequate veterinary care as required under Animal Welfare Act regulations. Expired products may not be used in survival procedures.

Perioperative Care

1. Minimize loss of body heat: avoid wetting the whole animal while preparing the surgical site, place animals on insulating substrate to preserve body heat, use warming pads when needed but avoid excessive temperatures.
2. Minimize blood loss: good surgical technique will prevent hypovolemia, should blood loss occur fluid replacement is necessary. Fluids are warmed prior to injection to prevent inducing hypothermia.
3. Monitor anesthetic depth: use multiple parameters such as toe pinch response, palpebral response, respiratory rate, heart rate, jaw tone, or tail pinch.
4. Re-dose or increase gas anesthetic delivery as needed to maintain a surgical plane of anesthesia. Extended surgeries may require additional anesthesia, fluid administration to avoid hypoglycemia and dehydration, and monitoring of body temperature to avoid hypothermia especially in rodents.
5. Pre-emptive analgesia is recommended, that is giving an analgesic before or during the surgical procedure.

Postoperative Care

1. Postoperative analgesic is required unless scientifically justified and approved by the IACUC.
2. Animals are monitored closely, generally every 10 -15 minutes, for recovery from anesthesia as indicated by ambulation, normal posture, grooming and accessing food or water. Animals are recovered in a cage separate from cage mates that have not undergone surgery concurrently.
3. An ancillary heat source should be provided during the recovery period. Examples are: providing a clean cage on a heat source on low (be sure the heat source is on only one side of the cage to allow the animal to escape the heat if they wish), or beneath a luminous heat source no closer than 12 inches from the animal.
4. Animals may be returned to a clean home cage once anesthetic recovery is complete.
5. Postoperative pain monitoring is required and analgesics provided as necessary. (See IACUC Anesthesia and Analgesia Guidelines for recommended drugs and dosages).
6. Skin closures are removed 7-10 days postoperatively. If an incision has not healed sufficiently in ten days to allow removal of skin closures, a veterinary report must be generated.
7. All surgeries will be recorded and include information such as: date, investigator, IACUC #, species and animal ID, drug or fluid administration, anesthesia/analgesia type/dose/volume. Records will be made available to the IACUC during semi-annual inspections.