



University of Michigan

Criteria for Non-Rodent Mammal Surgical Suites

Background

The Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC) Intl., the National Institutes of Health (NIH), and the United States Department of Agriculture (USDA) require that aseptic surgical technique be used when survival surgical procedures are performed on non-rodent mammal species such as rabbits, dogs, cats, primates and farm animals. Aseptic surgery performed on non-rodent mammals must be conducted in a surgical facility that meets certain minimal criteria, as designated by the Institutional Animal Care & Use Committee (IACUC). For guidelines regarding rodent surgery, please see [Guidelines for the Performance of Surgery on Rodents](#).

Purpose

To describe criteria for approval of facilities for surgical procedures in non-rodent mammals.

Operating Room Criteria

1. The floor, ceiling, and walls must be constructed of materials that are easily sanitizable. They must be kept physically clean. The room must be thoroughly cleaned prior to aseptic surgery.
2. The room should be free of supplies and equipment that are not relevant to the surgical procedures being performed. Long term storage and storage of supplies not used in operative procedures are not permitted. A useful standard practice is that any stored item must have been used in the operating room for the most recently performed procedure or will be used for the next procedure. Supplies must be stored in closed cabinets, constructed of sanitizable materials, preferably on carts or in cabinets with wheels to facilitate cleaning.
3. The operating room must be separated from human occupancy areas. It cannot be used as an office, laboratory, or storage room. *The Guide* states “surgical facilities should be sufficiently separate from other areas to minimize unnecessary traffic and decrease the potential for contamination.”
4. A surgical light and an easily sanitizable surgical table must be available.
5. Appropriate scavenging mechanisms must be provided whenever gas anesthesia is used. (e.g., F/air (A.M. Bickford, Inc), Pure-Guard (Surgivet) or in-house units. Canisters should be discarded when they reach the manufacturers recommended time usage and or weight limit.
6. Waterproof electrical outlet covers must be used in the operating room.
7. The operating room must normally be used only for aseptic surgery. Non-sterile surgery also may be performed if the operating room is thoroughly decontaminated prior to performing the next aseptic surgical procedure.
8. Decontamination consists of washing the ceiling, walls, floors and equipment with a disinfectant. A record of room decontamination must be maintained.



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D. Surgical Support Rooms

1. There should be at least two surgical support rooms separate from the operating room one for surgeon preparation, and the other for animal preparation. The former may also be used for instrument and pack preparation and the latter for post-operative recovery. A single room could be used for all of these functions, but distance between areas or by the timing of appropriate cleaning and disinfection between activities must be implemented to prevent breaks in aseptic technique that could put the patient at risk.
2. **Surgeon's Preparation Room/Area** - Preparation of the surgeon (i.e. surgical scrub) must be performed in a room separate from the operating room. This room should be equipped with a surgical sink that permits aseptic preparation without contamination of the hands (e.g., foot, knee, elbow or electric eye operated faucets). The surgeon's preparation room should be contiguous with the operating room. If the surgeon's preparation room is used for other activities as well, all other activities must cease for 15 minutes prior to and during the surgeon's scrub so that aseptic preparation of the surgeon is not compromised. Instrument cleaning and pack preparation may also occur in this area but must not occur in the operating room.
3. **Animal Preparation Room** - Preparation of the animal (i.e., anesthetization, clipping and preliminary surgical scrub) must be performed in a room separate from the operating room. The animal preparation room need not be contiguous with the operating room. After the animal has been moved to the operating room, a final scrub should be performed on the operating table. If the same room is used for animal preparation and surgeon's preparation, the activities cannot occur simultaneously. Generally, animal preparation should occur prior to the surgeon's preparation.
4. The animal preparation room may also be used for intensive care and supportive treatment during the post-anesthetic recovery period. The facilities required for intensive care and supportive treatment will vary with the anesthetic and surgical procedure being performed. Only uncomplicated and short anesthetic recovery (less than one hour to sternal or sitting position) can occur in the animal's home cage. Prolonged and complex recovery should occur in an area where animals can be appropriately monitored. Postsurgical (postanesthetic) monitoring and record keeping must be in accord with the [University of Michigan's Policy on Medical Care and Records for USDA-Regulated Mammals Following Anesthesia and/ or Surgery.](#)

Additional Recommended Features

In addition to these minimal criteria, a well-designed and operated surgical suite should have the following features:

- No recirculation of room air, unless it has been treated to remove particulate or toxic gaseous contaminants.
- The air supply plenum should not be placed over the surgery table; and exhaust plenum should be placed at floor level.



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- The operating room should be maintained at positive pressure with respect to the adjacent preparation area or hallway to prevent contamination of the room.
- Lockers and an area for changing into surgical attire should be provided
- Convenient access to autoclave and gas sterilization equipment should be available.
- Surgical lights should provide for adequate illumination.
- To facilitate cleaning, have as little fixed equipment as possible within the operating room.
- Sufficient electrical outlets for support equipment, and gas-scavenging capabilities should be available.

Criteria for Non-Survival Surgical Areas

Although there are no regulatory stipulations for non-survival surgery suites as an institution the best practices are recommended in the section below.

- Preparation area should be separate from surgery area.
- Minimization of personnel traffic flow through the surgery area.
- Airflow should be away from the surgery area (e.g. positive room pressure, use of filtered, laminar flow air).
- Work surfaces should be non-porous and easily sanitized.
- The surgery area should be free of all equipment and materials not necessary for the procedure. Storage items should be placed in cabinets or drawers.
- A regular room cleaning and disinfection schedule should be established.
- Surgical site should be clipped or shaved, instruments clean and the surgeon must wear gloves.
- Aseptic conditions should be considered for extended surgeries (e.g., > 6 hours) to avoid endotoxemia.

References

- Guide for the Care and Use of Laboratory Animals
- IACUC Handbook
- Animal Welfare Regulations
- <http://www.vetequip.com/knowledge/knowtrace.htm>
- <http://www.acva.org/professional/Position/waste.htm>