

- SOP No:** AST 01
- SUBJECT:** Clean Technique for Laboratory Animal Surgery
- POLICY:** Surgery must only be performed by fully trained personnel.
Record all surgical details including dose rates and postoperative monitoring on an observation or score sheet.
- PRECAUTIONS:** Surgical cap and mask, surgical scrubs (freshly laundered), closed shoes, sterile gloves.
- EQUIPMENT:** Sterile surgical instrument pack,
Disinfectant (surface),
disinfectant (skin),
Small animal clippers
Anesthetic of choice
- PROCEDURE:**
1. Vacuum floor. Disinfect all surrounding benches and surfaces with surface disinfectant*.
 2. Anaesthetise the animal and lay on a warming mat.
 3. Prepare the surgical site to minimize risk of entry of bacteria into the wound. Clip hair from surgical site, clean and disinfect with skin disinfectant**.
 4. Scrub and dry hands and don clean surgical gowns, sterile hairnet, surgical mask and gloves (ref to point #4 in references).
 5. Drape the surgical site with sterile drape(s). Only sterile drapes, instruments, packs and gloves should come into contact with the surgical site.
 6. No additional personnel should enter the surgical room during a surgical procedure, without an appropriate clean gown and approval from the surgeon.
 7. For recovery, ensure animals are placed in a clean, warm cage with sterile feed and water, with access to food on the floor of the cage during recovery, and appropriate nesting materials for warmth.
 8. Ensure appropriate heating devices are used during surgery and in recovery. Check regularly to prevent overheating.
 9. Animals should be monitored at all times during the surgery and recovery phase until fully ambulatory and according to the animal ethics protocol.

Where possible, clip the animal in an area away from where the proposed surgery is to be performed.

RECOMMENDATIONS:

***Recommended hard surface disinfectants:**

AGENT	EXAMPLES *	COMMENTS
Alcohols	70% ethyl alcohol 85% isopropyl alcohol	Contact time required is 15 minutes. Contaminated surfaces take longer to disinfect. Remove gross contamination before using. Inexpensive.
F10	benzalkonium chloride polyhexamethylene biguanide	Rapid kill times – less than 30 secs for gram positive bacteria, 60 secs for gram negative bacteria Non-corrosive, non-toxic, non-tainting, non-irritating, aldehyde-free Cost effective.
Vircon S	Potassium monopersulphate. alkyl benzene sulphonate	Corrosive as a powder Viricidal Aquatic application
Quaternary Ammonium	Roccal®, Quatricide®	Rapidly inactivated by organic matter. Compounds may support growth of gram negative bacteria.
Chlorine	Sodium hypochlorite (Clorox® 10% solution) Chlorine dioxide (Clidox®, Alcide®, MB-10®)	Corrosive. Presence of organic matter reduces activity. Chlorine dioxide must be fresh; kills vegetative organisms within 3 minutes of contact.
Glutaraldehydes	Glutaraldehydes (Cidex®, Cetylclide®, Cide Wipes®)	Rapidly disinfects surfaces.
Phenolics	Lysol®, TBQ®	Less affected by organic material than other disinfectants.
Chlorhexidine	Nolvasan®, Hibiclens®	Presence of blood does not interfere with activity. Rapidly bactericidal and persistent. Effective against many viruses.

****Recommended skin disinfectants:**

AGENT	EXAMPLES *	COMMENTS
Iodophors	Betadine®, Prepodyne®, Wescodyne®	Reduced activity in presence of organic matter. Wide range of microbicidal action. Works best in pH 6-7.
Cholorhexidine	Nolvasan®, Hibiclens®	Presence of blood does not interfere with activity. Rapidly bactericidal and persistent. Effective against many viruses. Excellent for use on skin.

DATE ISSUED: 28.10.2009

REVISED:

REFERENCES

1. Brown PA and Hoogstraten-Miller S (2004). Principals of aseptic rodent survival surgery. Part 1 & 11 – General training in rodent survival surgery. In: *Laboratory Animal Medicine and Management*, Reuter JD and Suchow MA (eds), International Veterinary Information Service (IVIS) Ithica, NY.
<http://www.ivis.org>
2. NHMRC (National Health and Medical Research Council) (2008). *Guidelines to promote the health and wellbeing of animals used for scientific purposes. The assessment and alleviation of pain and distress in research animals.* NHMRC, Canberra
3. NIH (National Institutes of Health) (2005). *Intramural Research Program. Guidelines for Survival Rodent Surgery.*
<http://oacu.od.nih.gov/ARAC/surguide.pdf>
4. <http://www.sesiahhs.health.nsw.gov.au/albionstcentre/documents/pdfdocs/handwashing.pdf>