



# Curtin University Standard Operating Procedure

## INFIELD ASEPTIC TECHNIQUES

Number: WILD 01

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**Purpose:** To provide guidelines in the use of surgical aseptic techniques for surgical procedures required to be done in a non-sterile area for animals under the control of the Curtin University’s Animal Ethics Committee. This is to minimise any post-operative infections or complications, and to ensure the welfare of the animals.

**Definitions:**

Infield- an area which is not designed for aseptic surgery to be carried out, e.g. a laboratory without a surgical room, a van in the country, the field trial area at Curtin University.

Asepsis: Free from infective organisms / the prevention of contact with microorganisms.

Surgery: any procedure which involves entering through the exterior barrier or skin of an animal

Surgical Scrub- either betadine or chlorhexidine in the appropriate form available commercially for this use.

Alcohol for scrubbing- either methanol or ethanol available commercially for this use.

Autoclave: An autoclave is a device used to sterilize equipment and supplies by subjecting them to high pressure saturated steam

**Procedure:**

The aim is to provide the highest level of asepsis for any animal undergoing any surgical techniques, no matter the location of the surgery.

This involves:



1. Using instruments which have been cleaned thoroughly, dried, packed in appropriate material (such as a drape or autoclave bag), and autoclaved.
2. Ensuring that the operative has everything necessary to carry out the procedure before they begin. This includes:
  - a. Surgical Instruments
  - b. Surgical Scrubs
  - c. Suture Materials
  - d. Anaesthetics
  - e. Analgesics
  - f. Clippers or shavers or scalpel blades to clear the surgical site (Which one required will depend on the animal and the skin covering, access to electricity etc.)
  - g. Sterile swabs
  - h. Sterile gloves
  - i. Scalpels
  - j. Needles and syringes
3. Preparation of the surgical site correctly once the animal is anaesthetised. See SOP TEC 07- Principles of Asepsis for Recovery Rodent Surgery.
  - a. Clipping the hair or removal of feathers around the area to be surgically incised. This should have a wide margin around the expected incision site to allow for thorough cleaning of the area.
  - b. The surgical site should be prepped 3 times. Each time includes a thorough scrub of the area with betadine, starting at the incision site and then working in a circular motion towards the outer margins of the clipped/ bare area; followed by the area being wiped with an alcohol or methylated spirits in a similar fashion.
  - c. Once the site has been cleaned, a fenestrated drape should be put over the area and the only person to touch this area should be the surgeon once their hands are sterile.
4. Correct preparation of the surgeon / researcher carrying out the procedure. This involves a surgical scrub of the hands with either betadine or chlorhexidine scrub. The scrubbing brush should be a sterile brush embedded with the scrubs (are commercially available) or a scrubbing brush purchased for the specific purpose of this which should be autoclaved prior to use, and then the betadine or chlorhexidine applied to the brush. The scrub should take a minimum of 10 minutes contact time, and involve scrubbing all 10 fingers individually, along all 4 sides; both sides of the hand and extending half way down the forearm. The scrub is then rinsed off, allowing the water to rinse of the solution towards the elbow and ground, the hands dried on an autoclaved towel, and sterile gloves then put on in the correct manner. At this point, the surgeon is deemed to have sterile hands, and should only touch the sterile surgical site and the sterile surgical instruments. The assistant should be prepared to be assisting the surgeon in getting prepared,



monitoring the animal and providing any other material such as sutures and needles, to the surgeon.

5. During the procedure, the sterile surgeon must remember not to touch anything outside the field of sterility. The instruments should be kept on a sterile surface (e.g. the drape or paper it was autoclaved in). If the sterility is broken, measures should be taken to correct it. For example, if the surgeon touches the anaesthetic machine which isn't sterile, the surgeon should remove the gloves, and replace them in a sterile manner with a new pair.
6. If there is deemed to be a large breach in the sterility, a veterinarian should be consulted and a course of antibiotics be instituted to prevent a post-operative infection.