



BELLA MOSS
FOUNDATION

Patient Prep For Surgery



Procedures





Skin Preparation Principles

The purpose of preoperative skin preparation is to remove transient microorganisms from the skin and to reduce the residual microbial count to sub-pathogenic levels in a short space of time, and with as little tissue irritation as possible (Fossum, 2007). Whilst it is impossible to make the skin completely sterile, the aim is to free the surgical site from a large microorganism burden prior to surgery. Skin preparation has a mechanical and chemical element. Mechanical cleaning is caused by friction, such as rubbing the skin. This is necessary to remove bacteria and enable antiseptic solutions to penetrate the deeper layers of the dermis where there are resident microorganisms. Chemical cleaning involves the destruction of microorganisms and the prevention of 'rebound' microbial growth after scrubbing.

Staff undertaking clipping and initial skin preparation should don a disposable apron and gloves to minimise contamination of uniforms.

Patient skin preparation should comprise three stages:

1 Clipping

Clipping of patient fur should be performed in a separate preparation area outside of the operating theatre area. This room may be used for other purposes, but it is important that it is away from the operating theatre. Clipped hair should be removed by vacuuming (using a designated preparation/theatre vacuum) or by a lint roller. Cleaned and disinfected clipper blades should be used for each patient.

The table and equipment should be cleaned and disinfected between patients.

Ensure the clipper cleaning brushes are disinfected after each use and changed weekly.

2 Initial Skin Preparation

This step should be performed in a separate preparation area outside of the operating theatre area.

3 Final Skin Aseptic Preparation

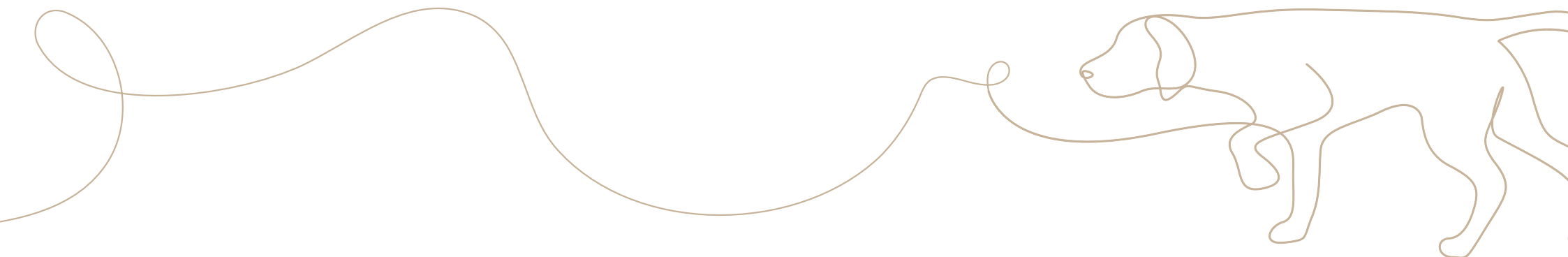
This stage should be performed following initial skin preparation, once the patient has been moved to the operating theatre and positioned for surgery. This should be carried out in a sterile theatre area under aseptic conditions.





Initial Skin Preparation Methodology

- > If the patient is to undergo limb surgery, the distal portion of the limb can be bandaged, e.g. using a cohesive bandage.
- > Feet can be cleaned and soaked in an examination glove with a scrub solution of 4% chlorhexidine gluconate and warm water in equal parts.
- > Prepare a scrub solution of 4% chlorhexidine gluconate and warm tap water in equal parts in a sterile kidney dish. Ensure correct dilution rates are used (NB – an appropriately diluted alternative disinfectant such as povidone iodine should be used in patients sensitive to chlorhexidine).
- > **Do not make up solutions in bulk and use across the days (or weeks) surgical load. Antiseptic contamination can be a source of infectious outbreaks.**
- > Non-sterile examination gloves should be worn, to prevent cross-contamination. Using lint free gauze swabs, scrub the surgical site area using a methodical back and forth motion (McDonald Vox San, 2006) (McMillan, 2014) for 90 seconds, starting at the incision site and moving out to the periphery. Using a new swab each time, repeat this procedure until swabs are clean.
- > If right handed use the left hand to pick up a swab and pass it to the right hand to prevent contamination. (vice versa if left handed)
- > Excessive pressure is not necessary and will abrade the skin, causing inflammation and the wound may be more prone to healing complications if the dermal layer is compromised. It will also cause the native skin microbes to rise to the surface.
- > Once the surgical site area has been adequately prepped as above, the patient can be moved into the operating theatre.





Final Skin Preparation

- Before removing the examination gloves, correctly position the patient appropriately for the required procedure. If limb surgery is to be performed it is useful to suspend the limb to prevent contamination of the surgical site.
- Remove and dispose the examination gloves, wash hands and replace with a pair of sterile surgical gloves.
- Another scrub solution of 4% chlorhexidine gluconate solution should be prepared (1 part chlorhexidine: 1 part warm water). Again, using lint free gauze swabs, the surgical site should be scrubbed using a back and forth motion until the correct contact time has been achieved (3-5 mins)
- The final sterile skin preparation is carried out using a solution of 2% chlorhexidine gluconate and 70% isopropyl alcohol. This can be achieved using a commercial, sterile applicator, or using an alcohol based chlorhexidine solution. Evidence strongly suggests that 2% chlorhexidine and 70% isopropyl alcohol is superior in skin preparation and has demonstrated significantly better antimicrobial activity than other combinations
- Remove the applicator from the sterile wrapper and hold the sponge facing downwards.
- Allow the area to dry and it is now ready to be draped. The patient's final skin antisepsis preparation is complete.
- Any adverse reactions to skin antiseptic agents should be reported in the practice's adverse event reporting system.

References

- Fossum TW (2007). Preparation of the operative site. In Small Animal Surgery (3rd edn), Mosby Elsevier, St Louis: 34
- McDonald Vox San (2006) Standard operating procedures. Chloraprep, Invicta Animal Health
- McMillan S (2014). An evidence-based approach to infection control in the operating theatre, The Veterinary Nurse 5(4): 194-200.
- Wong JK, Chambers LC, Elsmo EJ, Jenkins TL, Howerth EW, Sánchez S, Sakamoto K. Cellulitis caused by the Burkholderia cepacia complex associated with contaminated chlorhexidine 2% scrub in five domestic cats. J Vet Diagn Invest. 2018 Sep;30(5):763-769

