



## **Step-by-Step Surgical Prep of the Small Animal Patient**

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### **Step 1: Clipping:**

Clip operative site (wide borders) and remove all hair (vacuum).

Wipe skin with clean moist 4x4 gauze sponge to remove all hair and debris.

Hair is removed in order to reduce contamination of the surgical site by bacteria on the patient's skin and in the patient's hair follicles. Shaving is a less acceptable method of removing hair because shaving damages the skin to a greater degree than clipping. Any method of hair removal damages the patient's skin. Inflammation increases the risk of bacterial colonization. In order to reduce this risk, hair is removed immediately prior to surgery.

For orthopedic procedures on long bones, the entire limb must be clipped to dorsal midline. Wounds within the surgical site must be coated with a water-soluble jelly so that they do not collect hair and debris during the process of clipping.

### **Step 2: Initial Scrub**

Soak scrub brush with tap water and 2% Chlorhexidine Gluconate (Nolvasan<sup>®</sup>).

Using foam sides of brush apply mixture to entire clipped area.

Collect and remove any loose hairs and debris.

### **Step 3: Scrub Incision Site**

With a new brush, scrub at the incision site for 2 full minutes.

Do not stray from the incision site.

### **Step 4: Periphery Scrub**

Soak a new scrub brush with tap water and Chlorhexidine Gluconate scrub.

### **Step 5: Rinse**

Wipe skin with clean moist 4x4 gauze sponge to remove all hair and debris.

### **Step 6: Final Antiseptic Spray**

The entire scrubbed area is then sprayed with a final preparation solution of 0.5% Chlorhexidine Diacetate in 70% isopropyl alcohol. This spray solution is made by diluting 1 part Nolvasan<sup>®</sup> (2% Chlorhexidine Diacetate) in 3 parts 70% isopropyl alcohol.

## **Selection of Appropriate Antiseptic**

Definition:

- Antiseptic -- Agent applied to living tissue
- Disinfectant -- Agent applied to inanimate surface

Exemple of Antiseptics:

- Chlorhexidine Gluconate - broadest spectrum, better residual activity than iodophors. Occasional skin sensitivity (mucous membranes)
- Iodophors: Excellent spectrum, contains iodine , less residual activity than Chlorhexidine. Partially inactivated by organic debris. Occasional skin sensitivity
- Isopropyl Alcohol 70% (or Ethyl Alcohol 90%) - Protein coagulant, degreases skin, ineffective against spores

## **Draping Technique for the Small Animal Patient**

### **Four Corner Draping:**

The function of draping is to separate the sterile surgical site from contaminated areas of the patient.

### **Unfolding the Drape**

The drape is unfolded and an edge folded under towards the patient  
Wrap the corners of the drape around hands

### **Placement of Drapes:**

The drape should be floated above the patient and placed in the appropriate position (i.e. do not drag the sterile drape along the patient's contaminated body).  
When applying the drapes make sure the sterile drape is in between the surgeon's sterile gown and the unsterile (undraped) surgical table.

The drape should only be adjusted minimally once it has been laid onto the patient. If the drape needs to be adjusted it should only be moved in a direction AWAY from the sterile surgical site and NEVER towards the sterile site.

### **Securing the Drapes:**

Drapes are secured to each other and to the patient's skin with Backhaus towel clamps. The towel clamps are tucked underneath the drapes, making sure that they are not lying on the patient's skin.

### **Preparing for Surgical Scrub**

DO: Properly trim nails, clean under nails.

DON'T: have long nails, and don't wear jewelry or watches.

### **Surgical Scrub**

#### **Selection of Appropriate Antiseptics and Brushes**

Disposable Brushes vs. Nondisposable Brushes

Scrub Technique:

After donning cap, mask, and shoe covers the surgeon proceeds with his/her surgical scrub.

Step 1: Trimming and Cleaning Nails

Step 2: Initial Wash and Scrubbing Fingers

Step 3: Scrubbing Hands and Forearms

Step 4: Rinse

Repeat Step 3 and Step 4

Proceed with Gowning and Gloving

#### **Hand Towel**

A sterile towel is included within the sterile gown pack. The towel is lifted away from the table and folded in half lengthwise. One side of the towel dries one hand and forearm. Always dry in the direction of hand to elbow so that the towel to the surgeon's hand does not spread contamination of the upper arm.

The second hand and forearm are then dried by the other side of the towel in the direction of hand to elbow. The towel is then discarded away from the surgeon, making sure that the towel doesn't contact the sterile gown.

#### **Donning a Gown**

All gowns are folded and packaged for sterilization with the inside exposed so that the surgeon may handle the gown without contaminating the outside of the gown. Grasp the exposed inside of the gown and lift the gown away from the table.

Unfold the gown by placing hands into the white armholes. Continue placing hands and arms through the sleeves. If you are planning on closed gloving, do not thrust hands through the cuffs. An assistant fastens the necktie and the inside waist tie. Proceed with closed gloving before the fastening of the final outside tie. Once the surgeon is gloved, the surgeon grasps the sterile left tie and the white tab is handed to an assistant. The assistant pulls the back tie around the surgeon using the white tab. The surgeon grasps the right tie from the white tab (not touching the now contaminated white tab) and right and left are tied together.

**Closed Gloving** is performed after the surgeon has donned his/her gown, but BEFORE the surgeon pulls his/her hands through the cuffs of the gown.

Step 1: An assistant opens the sterile pack of gloves and drops them into the sterile field.

Step 2: Left hand (within the gown) lifts the right glove by its cuff.

Step 3: Right glove is laid on the palm of the right hand (cuff to cuff with the gown sleeve) with fingers of the glove pointing toward the elbow and the thumb of the glove positioned on top of the surgeon's covered right thumb.

Step 4: The inside of the cuff of the glove is grasped by the right hand (still within the gown) and the left hand folds the cuff of the glove over the back of the right hand.

Step 5: The left hand then pulls the cuff of the right glove and sleeve of the right gown towards the elbow as the right hand slides into the glove. Wait to adjust the glove until both gloves are on and sterility is ensured (left fingers may slip out of the gown while trying to adjust the right glove prematurely).

Step 6: With the gloved right hand lift left glove by its cuff and place on palm of left hand (aligned with the cuff of the gown), with glove fingers pointing toward the elbow and the left thumb of the glove over the covered left thumb of surgeon.

Step 7: Left fingers (still within the gown) grasp the inside of the glove and the right hand pulls left glove cuff over the back of the hand.

Step 8: Pull the glove cuff and gown sleeve toward elbow as left hand slides into the glove

Step 9: Now that both gloves are on, pull glove cuffs over gown sleeves and adjust gloves for comfort.

### **Open Gloving**

Step 1: An assistant opens the sterile pack of gloves and drops them into the sterile field.

Step 2: Lift right glove by grasping the inside of the cuff with left hand.

Step 3: Slide right hand into glove without touching the gown or the outside of the glove. Do not adjust glove or cuff until both gloves are on.

Step 4: Lift the left glove by sliding fingers of gloved hand in between the upturned cuff and outside surface of glove.

Step 5: With gloved fingers still under the cuff, slide the glove onto left hand and over the cuff of the gown.

Step 6: Now that both gloves are on, adjust the right glove by sliding fingers of left hand under the cuff that is still upturned and slide it over the cuff of the gown.