

# Aseptic Surgery Techniques



**Research**  
*Division of Laboratory  
Animal Resources*

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# Getting Your Workspace Ready

Make sure you have designated areas for prep, surgery and recovery per [IACUC Guidelines for Meeting Policy 102 Surgery Requirements](#)



All areas need to be wiped down with disinfectant and a sterile drape needs to be applied to the table surface when beginning to work at that station

# Getting Your Workspace Ready

Always have a heat source available to prevent hypothermia



# Getting Your Workspace Ready

Make sure you have all instruments and materials you will need prior to prepping the animal including pink surgery cards.



# PPE To Be Worn

Clean scrubs or a dedicated clean lab coat that is fully closed

A disposable yellow gown may be used over your scrubs

Mask and cap if not working in Laminar Flow Hood

Gloves: Non-sterile for prepping the animal and sterile for the surgical procedure.



# Anesthetizing the Patient

All animals need to be assessed for health concerns prior to anesthesia

Weigh the animal and verify the dosage of all medications is correct

Administer anesthesia and monitor the animal continuously



# Anesthetizing the Patient

Verify depth of anesthesia by performing a toe pinch or by touching the inside corner of the eye and observing if the animal jerks or blinks

***There should be no response from the animal when procedures are being performed***



***If an animal flinches during surgery stop working and wait until the plane of anesthesia is deep enough***

# Anesthetizing the Patient

After anesthetizing the animal, place a small amount of ophthalmic lubrication in the eyes to prevent corneal drying





# Anesthetizing the Patient

- ❑ Place the animal on a heat source
- ❑ Never leave the animal unattended



# Anesthetizing the Patient

- ❑ Make sure there are layers of material between the heat source and the animal if using an electric heating pad



- ❑ Monitor the animal's respirations, heart rate and color at all times



# Prepping the Patient

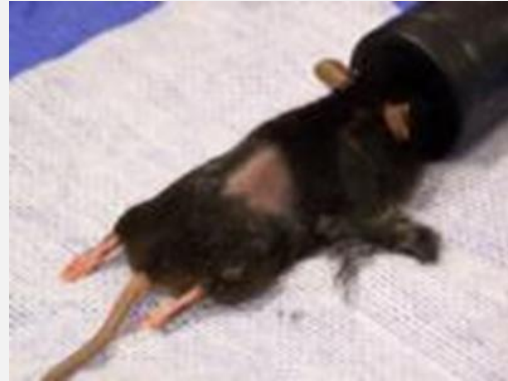
In an area that is separate from your surgical area, shave the hair as closely as possible being sure not to nick the skin

Use a #40 blade on mice and rats



# Prepping the Patient

Make a large enough margin around the incision area to prevent hair from getting into your incision site



Depilatory creams can be used for hair removal but make sure area is rinsed thoroughly to prevent skin irritation



# Prepping the Patient

Scrub the area with a soap-based disinfectant such as Chlorhexadine Scrub or Povidone Iodine Scrub followed with a scrub of 70% alcohol



Repeat this sequence three times making sure after the final time all of the soap has been removed

# Prepping the Patient

Always start in the middle of the incision area and circle your way outwards.

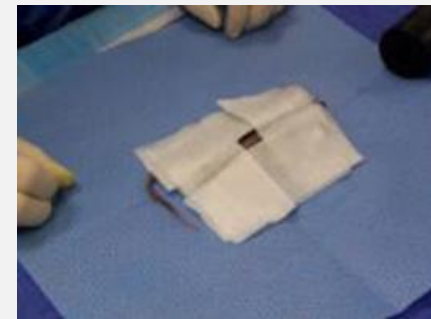
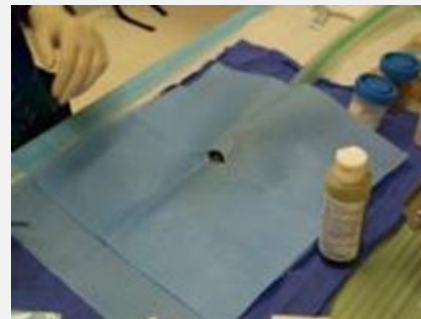
Make sure you do not get the animal too wet as this can cause hypothermia



# Prepping the Patient

Move the animal to the designated surgery area.  
Apply sterile gloves. If used, drape the animal with a sterile drape making sure the entire animal is covered.

Fenestrate the drape so only your surgical area is exposed



# Keep it Sterile

Always make sure your surgical area, drapes, gloves, instruments and suture materials are sterile



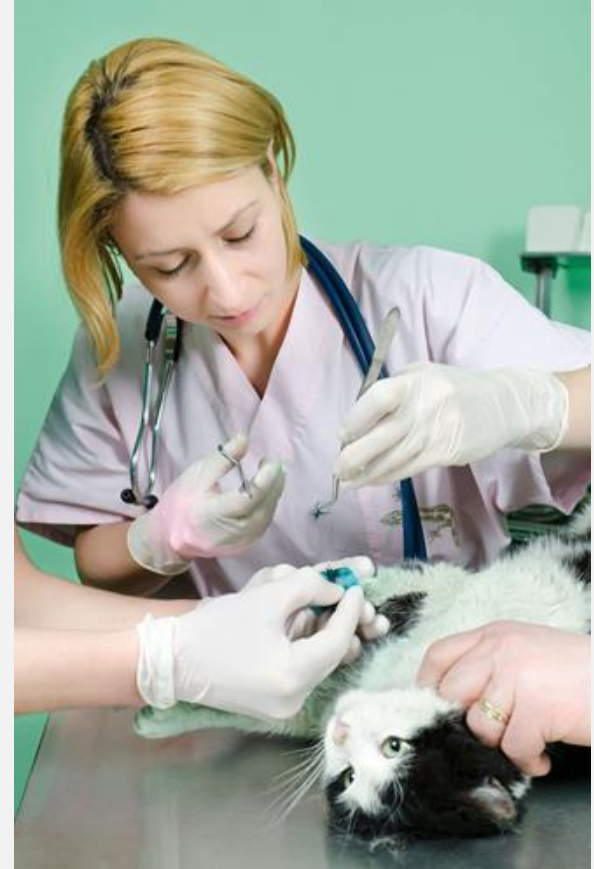


# Keep it Sterile

Always be aware of where your hands are

Do not touch anything that is not sterile

**Immediately change your gloves if you touch a non-sterile surface**



# Keep it Sterile



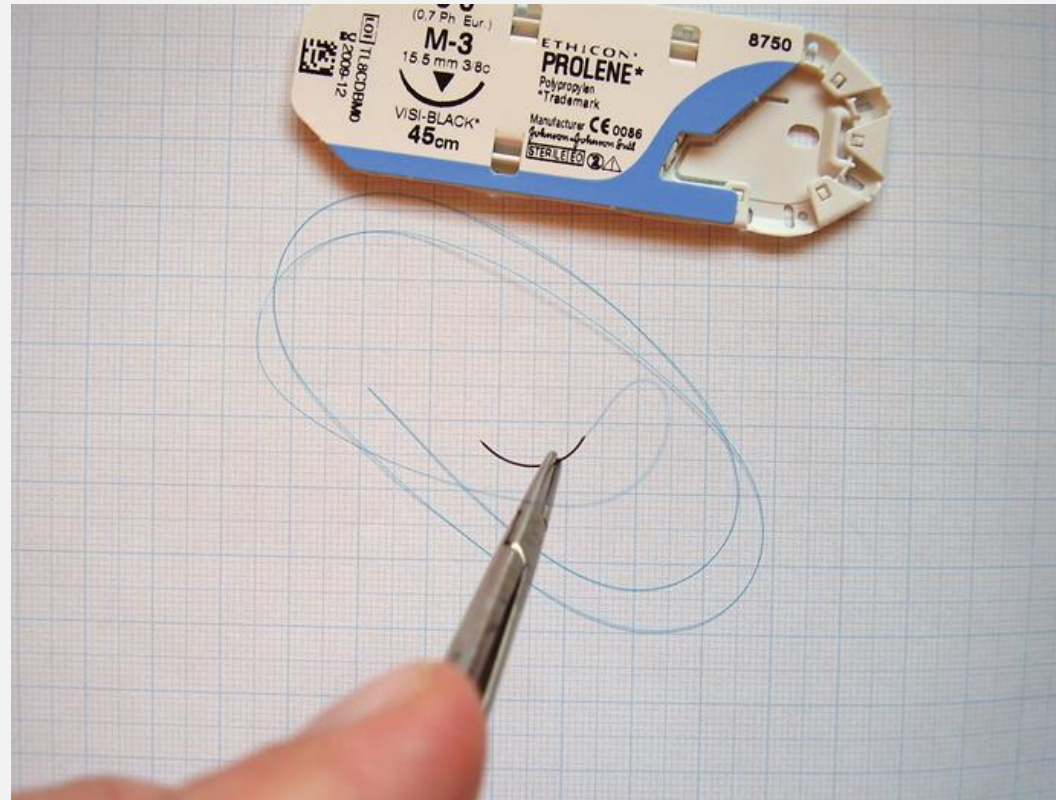
Use a new autoclaved pack for each animal or resterilize instruments with a hot bead sterilizer in between patients if performing multiple surgeries in one session.



If using a hot bead sterilizer, make sure to cool instrument tips between animals by dipping the ends of the instruments in sterile saline.

# Keep it Sterile

Do not drag your suture across the table as that causes it to lose its sterility. Always hold the end of the suture to prevent this



# Suture Selection

For body wall and internal wound closures, use an absorbable suture material

- Vicryl or Dexon absorbs in 60-90 days
- PDS or Maxon absorbs in 6 months, use when extended wound support is desired

For skin closures use a nonabsorbable monofilament suture

Prolene, Nylon, Stainless Steel Wound Clips or Staples

Always use the smallest gauge material, typically 3-0 or 4-0

***Do not use silk or chromic gut for wound closure because of the chance of wicking and inflammation***

Sutures, staples or clips should be removed 7-14 days post surgery



# Post –Operative Care

Administer analgesics as stated in your protocol, either pre, intra or post op

Maintain animal on a heat source until fully awake and in sternal recumbency and moving well



Take care in making sure animal is not becoming overheated



Maintain heating pad on low and always make sure there is material between the animal and heating pad



Turn animal from side to side occasionally to prevent burns

# Post –Operative Monitoring

- Monitor animal as dictated in your protocol
- Monitor for indices of pain, appetite, hydration status, membrane color, fecal and urine output
- Monitor incision site for swelling, redness, discharge or signs of dehiscence
- Record observations on pink surgery card per [IACUC Policy 116](#)

Feel free to contact vet services with any concerns you may have with your animal's wellbeing post surgery

# TO SCHEDULE HANDS ON TRAINING

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# QUESTIONS & SUPPORT

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