

CARE AND USE OF JUGULAR VEIN CATHETER

- The purpose of jugular vein catheterization is infusion of compounds.
- Our catheters are made of silicone. The catheter is 2 French with a rounded tip. The exteriorized portion of the catheter is 3 French.
- The catheter should be flushed with sterile saline and refilled with sterile catheter lock solution within 24 hours of order arrival to your facility. This should be repeated every 3-4 days.
- Aseptic technique must be used when performing this procedure.

Material required:

- Clamp: We recommend a non-serrated micro-serrefine clamp to avoid damage to the catheter.
- Sterile catheter lock solution: We recommend heparin/glycerol (500 IU heparin/ml)
- Sterile 0.9% saline
- (3) 1 ml syringes with (3) 23 gauge blunt needles
 - **Withdrawal Syringe:** Syringe with needle, filled with 0.5 ml sterile saline
 - **Flushing Syringe:** Syringe with needle, filled with 1 ml sterile saline
 - **Lock Solution Syringe:** Syringe with needle, filled with appropriate amount of lock solution

Procedure for maintenance of jugular vein catheter:

1. Immobilize the mouse. We recommend use of isoflurane anesthesia or a commercially available restrainer.
2. A wound clip is used on the intrascapular region to secure the catheter in place. Remove the wound clip to access the exteriorized portion of the catheter. Clean the catheter and pin with 70% ethanol.
3. Clamp the catheter and gently remove the stainless steel pin.
 - Note: Using a hemostat to grasp the pin is helpful, while the thumb and index finger of the opposite hand are used to hold the catheter.
4. Clean the plug with 70% ethanol and place on a sterile surface.
5. Attach the **Withdrawal Syringe** to the catheter. Remove the clamp and slowly withdraw the catheter lock solution until blood enters the catheter.* Clamp the catheter.
6. Detach the **Withdrawal Syringe**. If using the same syringe on additional mice, expel blood from the Withdrawal Syringe.
7. Attach the **Flushing Syringe** to the catheter, remove clamp, and introduce 0.05 ml of sterile saline into the catheter. Clamp the catheter.
8. Detach the **Flushing Syringe**.
9. Attach the **Lock Solution Syringe** to the catheter, remove clamp and introduce 0.01 ml (dead volume of catheter) into the catheter.
 - Use caution when filling the catheter with lock solution to avoid the lock solution being introduced into the bloodstream.
 - Clamp the catheter.
10. Detach the **Lock Solution Syringe**.

11. Insert the pin into the catheter. Remove the clamp.
12. Apply a wound clip around the catheter bead to re-secure the catheter to the skin of the intrascapular region.

*If the lock solution cannot be removed, reposition/manipulate the mouse and retry. If the lock solution still cannot be withdrawn, replace the **Withdrawal Syringe** with the **Flushing Syringe** and introduce sterile saline in the catheter.

For additional help with catheter maintenance please contact our Technical Information Service at micetech@jax.org