



Bile Duct Catheterization: Rat Handling Instructions

All procedures must be performed using aseptic technique. To ensure animal comfort and safety, procedures are conducted with the assistance of a second person to gently restrain the animal while the catheter manipulation and care is carried out.

Materials

1. Sterile 0.029" diameter metal plug or clamp
2. Sterile 70% alcohol wipe/gauze
3. Sterile 0.9% saline solution for injection

Procedure

1. Clean the incision site using a surgical skin disinfectant.
2. Thoroughly clean the exposed catheter and skin around the 21-gauge connector with a sterile 70% alcohol wipe/gauze.
3. Disconnect the catheter loop and leave the 21-gauge connector on the left end. Bile flow from the left side may be noticed at this time.
4. Plug the duodenal end (right side) of the catheter using a sterile catheter plug. A clamp can be used to seal off the catheter as well.
5. Extend the left side of the catheter as needed, using a piece of tubing attached to the free end of the 21-gauge connector.
6. After collecting bile, clean the end of the 21-gauge connector with a sterile 70% alcohol wipe/gauze and then reconnect to the right side of the catheter.

Additional Information

1. It is best to study the model within 7 days after the surgery, as changes in blood chemistry may be noted after this time period.
2. A daily check for signs of obstruction is recommended to verify bile flow in the loop. To maintain bile flow, we suggest flushing the duodenal end with 0.9% sterile saline (0.1 mL).
3. A 3-4 cm catheter loop is located in the scapular region. The loop is cut in the middle and the two ends are connected with a blunted 21-gauge connector.
4. The direction of the bile flow is from the animal's left to right.
5. For continuous bile collection, bile supplement will be needed. 2.3%-2.5% of taurocholate in 0.9% saline (or other supplement) can be given through the duodenal end (the right side) of the catheter, 1.2 ± 0.2 mL/hr.