

Cecal Ligation and Perforation

General Surgery Lab SOP

7-24-2013

Supplies Required

- Betadine
- Alcohol
- Gauze Squares
- 22g needle
- Sterile Field
- Cotton Tip Applicator – Sterile
- Isoflurane nosecone
- Circulating water blanket or heating pad
- Syringe with needle
- 0.9% Sodium Chloride, for injection
- Buprenorphine
- Pentobarbital (optional)
- Instrument Pack - Sterile
 - Scissors
 - Curved Forceps
 - Needle Driver (or Hemostats)
- 4-0 Vicryl Suture – Sterile
- 4-0 PDS Suture - Sterile
- Gloves – Sterile
- Face mask
- Hair net

Mouse Prep

1. Weigh mouse
2. Anesthetize with either isoflurane or 50mg/ml Intra-peritoneal (IP) Pentobarbital (7mg/ml)
3. Shave abdomen
4. Using loose loops of tape, restrain on metal board
5. Scrub abdomen with betadine and alcohol
6. Place on sterile field

Procedure (Perform wearing sterile gloves, face mask, and hair net)

1. Make small midline incision in two layers (skin and muscle)
2. Use cotton tip applicator to withdraw cecum from abdomen
3. Squeeze cecum so that fecal material is at the tip
4. Use small piece of vicryl suture to tie a knot around the cecum
 - a. Severe model = 75% ligation = between third and fourth arterial branches
 - b. Moderate model = 50% ligation = between second and third arterial branches
 - c. Minor model = 25% = between first and second arterial branches
5. Puncture above your suture with 22g needle
 - a. Severe and Moderate models = through and through puncture
 - b. Minor model = one puncture in tip of cecum
6. Squeeze out some small amount of intestinal material
7. Return cecum to abdominal cavity
8. Suture incision in two layers –muscle using 4-0 Vicryl and skin using 4-0 PDS
9. Give mouse 1mL 0.9% Sodium Chloride subcutaneously (SQ)
10. Place mouse on gauze square in cage with clean bedding on circulating water blanket or heat pad to recover
11. Once mouse is awake, give 0.10 mg/kg SQ Buprenorphine (0.03mg/ml) every 12 hours for 72 hours.