



Mouse Analgesia

PREPARATION:

- All solutions for parenteral use should be prepared aseptically using sterile 0.9% saline in a sterile **glass** vial/or sterile red top tube
- The solution must be labeled with the active drug, diluent, final concentration (mg/mL), expiration date (30 days), and initials
 - Solutions are good for 30 days. If the expiration date noted on the original agents is less than 30 days that date should be used as the expiration. If a precipitate forms regardless of the time the solution should be discarded.

PROCEDURE:

- Analgesia should be provided pre-emptively whenever possible.
 - Water bottle dosing should be initiated 24 hours in advance of procedure
 - Direct oral dosing/injectable analgesia given at time of anesthesia induction or during recovery
- NSAIDS
 - Meloxicam
 - Direct oral feeding
 - Dose of 5mg/kg when a 30 g mouse is given 0.1ml (1.5mg/ml) PO, SID
 - Bacon Flavored Tablets 0.05mg/tablet (ULAR buys from Bio-Serve)
 - Give one tablet/mouse/day
 - Provides 2 mg/kg dosing for an average size 25 g mouse
 - Direct injectable, oral gavage
 - Add 0.1ml of meloxicam (5mg/ml) to 1.9ml of sterile saline = 0.25mg/ml solution
 - Dose of 2 mg/kg when a 30 g mouse is given 0.25ml SQ, PO (gavage) SID
 - Ibuprofen
 - In Hydropac
 - Options to create a 0.2 mg/mL solution
 - 76 mg (3.8ml of Children's Motrin) + 384 ml of water (13 oz)
 - 48 mg (2.4 mL of Children's Motrin) + 237 mL of water (8 oz) =
 - Hydropacs should be changed twice weekly
 - Dose of 40 mg/kg assuming a 25g mouse drinks 5 ml/day
 - In drinking water
 - 80 mg of ibuprofen (4 mL Children's Motrin) + 400mL water = 0.2 mg/mL solution, changed twice weekly
 - Dose of 40mg/kg assuming a 25g mouse drinks 5 mL/day.
 - Direct
 - 25 mg ibuprofen (0.25mL Children's Motrin) + 2.5mL RO water or sterile saline = 1.8mg/mL solution
 - Dose of 7.5mg/kg when a 25g mouse is given 0.1mL PO, BID

Supplies:

1. 0.9% sterile saline
2. Miscellaneous supplies as needed (22-25 ga needles, 1-10 mL Syringes)
3. Red top blood collection tube or sterile glass vial
4. Alcohol swabs
5. Mouse water bottle filled with 250mL RO water
6. Mouse hydropac filled with either 237 ml (8 oz) or 384 ml (13 oz) of RO water
7. Metacam Injectable (meloxicam 5mg/ml)
8. Metacam Oral Formulation (meloxicam 1.5mg/ml)
9. Meloxicam Tablets 0.05mg/tablet from Bio-Serve
10. Children's Motrin (100mg ibuprofen/5mL) or Ibuprofen oral suspension (100mg/5mL)
11. Rimadyl (50mg/mL Carprofen) for injection
12. Carprofen Clear H2O gel from Cincinnati labs
13. Buprenex (0.3mg/mL buprenorphine)



- Carprofen
 - Oral Gel formulation (ULAR purchases through Clear H2O/Cincinnati Labs)
 - 1 – 2oz gel cup for up to 5 mice provided 24-48 hours in advance of surgery
 - Provides for 5 mg/kg/day of active drug
 - Direct injectable
 - Stock drug is viscous when cold (stock needs to be refrigerated), draw up using a 22g needle or larger
 - 0.1mL of Rimadyl (50mg/mL Carprofen) to 8mL of sterile saline = 0.6 mg/mL solution
 - Dose of 5mg/kg when a 25g mouse is given 0.2 mL SQ, SID
- ☐ Opioids
 - Buprenorphine
 - 0.1mL Buprenex to 5.9mL saline = 0.005mg/mL solution
 - Dose of 0.1mg/kg when a 25g mouse is given 0.5mL SQ, BID to TID

REFERENCES:

- ☐ IACUC Policy on the Use of Pharmaceutical and Non-Pharmaceutical Compounds
<http://orrr.osu.edu/files/2013/07/045-01-Use-of-Pharmaceutical-and-Non-Pharmaceutical-Compounds.pdf>
- ☐ Formulary for Laboratory Animals- third edition, Hawk et al, 2005
- ☐ Guidelines for the Assessment and Management of Pain in Rodents and Rabbits. ACLAM position statement.
- ☐ Hayes et al 2000, An Evaluation of Analgesia Regimens for Abdominal Surgery in Mice, Contemporary Topics, 2000
- ☐ Tubbs et al, Effects of Buprenorphine, Meloxicam, and Flunixin Meglumine as Postoperative Analgesia in Mice, JAALAS, Vol. 50(2) March 2011
- ☐ Vet Guideline 13-004 Controlled Substances