

# FOF Pain management

Our anesthetic protocol aims to provide **pre-emptive multimodal balanced analgesia**

**Pre-emptive**--we treat the pain before causing it-- Think local blocks--lidocaine, carbocaine, etc. at the dentist.

**Multimodal and balanced**--we use different drugs that target the pain pathway at different points--In addition to locals, we use Opioids and Non-Steroidal Anti-inflammatories (NSAIDs). This enables us to use lower (safer) doses of all the drugs, as they all work synergistically.

All our patients receive an opioid--Hydromorphone. This is a pure mu opioid in the same class as Morphine, Methadone and Fentanyl. Hydromorphone is given intramuscularly at prep, which means it is "on board" by the time the patient is awake from anesthesia. Lasts about 6 hours.

Locals: We use Bupivacaine to "numb" the site of the skin incision for spays, and for testicular blocks. Onset of action about 20 minutes, lasts 4-6 hours. When we discharge the patient, we palpate the incision (if the cat will let us) to evaluate patient comfort. There is almost always ZERO reaction to our palpation.

NSAIDs--We are currently using Meloxicam (or "Metacam") at 0.1 mg/kg subcutaneously. We are well aware of the concerns around NSAID use in cats. NSAIDs are very effective for controlling musculo-skeletal pain. Cats are uniquely sensitive to NSAIDs, not just to Meloxicam. Main adverse effects are on platelet, renal and GI functions. Outside the U.S, in Australia, Canada and Europe, Meloxicam is labelled and approved at higher doses and for chronic use in cats.

In the US, Meloxicam is approved for a SINGLE oral post-op dose. We give the dose subcutaneously because of the nature of our patients--we have ONE chance to ensure these cats get their NSAID. Most frightened cats will not eat in a trap, and they will not eat if they are in pain.

To mitigate the possible side effects of the NSAID, we wait until the cat is extubated and sternal, and physiologic parameters are normal. This implies that blood pressure is normal and therefore renal perfusion is adequate. We take care to ensure the patient is healthy based on skin turgor, body condition, checking Urine Specific Gravity if concerned (a high USG means concentrated urine, implying the kidneys are working), and we administer IV fluids or subcutaneous fluids as needed.

NSAIDs are metabolized slowly in cats, and can last up to 72 hours in cats, making it HIGHLY effective as a method of pain management.

Meloxicam and NSAIDs in general DO NOT have any sedative effects whatsoever. They are in the class of drugs that include Ibuprofen, Aspirin and Naproxen, none of which causes drowsiness.

Recently, Onsior (Robenocoxib) was approved for use in cats in the U.S. We are investigating whether or not this is an NSAID we can use in place of Metacam, given the relatively high cost of Onsior compared to Metacam, weighed against our mandate to keep services affordable and accessible.

Please know that we meet and in most cases, exceed all recommendations outlined in the 2016 Association of Shelter Veterinarians Guidelines for HQHVSN clinics. For further reading, see Dr. Chumkee Aziz's excellent overview of Pain Anesthesia and Pain Management For Spay/ Neuter (TNR Clinics) and AAHA 2015 Pain Management guidelines.

4/7/17 JG