

# Consideration of Pain Relief

The degree of pain control utilized is related to the degree of invasiveness of the procedure. This invasiveness can vary from simple skin penetration for catheterization of blood vessels without anesthesia, to abdominal approaches, thoracotomies, laminectomies and orthopedic procedures.

While careful review of the procedures being performed is required to ensure optimal and timely pain relief, a few general principles can be laid out for researchers as they approach protocol submission.

Veterinary services personnel are always available to discuss the specifics of a protocol and pain control recommendations. They will also be available following the procedure to observe the animal and ascertain the efficacy of the pain control being provided.

At times there may be insufficient knowledge of the level of pain resulting from a procedure in the species chosen. However, a guiding principle is that when it is unclear as to whether a procedure causes pain, we defer to the provision of pain relief. As well we must consider that if the procedure requires pain relief in humans, we should assume that it causes pain in animals.

## Rules of Thumb

- Skin incisions – local anesthetic installation or systemic analgesia for a minimum of 12 hours. Example – Bupivacaine local anesthetic, or Non-steroidal anti-inflammatory drugs (NSAIDS) (eg. Ketoprofen, carprofen, meloxicam)
- Skin incisions plus simple muscle dissection/incision, minor abdominal surgery require systemic analgesia effective for 36-48 hours. If systemic analgesia is justified to be contraindicated, then, at minimum, local anesthetic installation should be provided at the muscle and skin levels. Example - Non-steroidal anti-inflammatory drugs (NSAIDS) (eg. Ketoprofen, carprofen, meloxicam)
- More invasive surgeries such as major abdominal surgeries, thoracotomies, will require a higher level of analgesia be used and for longer duration. Example - narcotic analgesics (eg. buprenorphine)
- Finally, orthopedic and laminectomy procedures require considerable levels and duration of pain relief. Example - Narcotic analgesics alone or in combination with NSAIDS – buprenorphine or buprenorphine/carprofen

## **Important Considerations**

It is important to note that the above are general recommendations. Each protocol has its specific procedures that may require specific anesthetic and analgesic regimens.

As well, each animal may respond individually different to a procedure and therefore we must be willing to adapt our approach to pain relief and be willing to extend it or modify it. It is important to observe each animal independently for consideration of pain and work with them as individuals in treating that pain.

Facility animal care staff are important members of the team providing humane care for your research animals. They would be pleased to provide assistance in evaluating the animals in your research. Other members of the team, Veterinary Services staff at The University of Manitoba, are available to observe animals in your protocol and provide you with advice on their health and welfare including pain control. They are also available for input on evaluating the need for and level of pain relief in a particular research protocol.