**Case Examples**

The following are sample cases that illustrate potential ways of managing acute pain in horses. Not all drugs or techniques described are approved for use in horses in all countries, and some may not have substantial scientific evidence for their safety or efficacy in this species. While additional techniques (e.g., acupuncture, massage, physical therapy) may also be viable, these examples focus primarily on pharmacological intervention. All horses with similar disease processes may not have similar levels of pain; therefore, continued regular assessment of the animal is imperative. Treatments should be added to or removed from the analgesic plan based on consideration of risk and benefit of each treatment in conjunction with updated patient assessments.

The plans for each case example represents one *possible* multi-modal approach for analgesia in each selected example patient.

**A 3-year-old Thoroughbred filly presents with a comminuted left hind first phalanx fracture. She is non-weight bearing on the affected limb, appears agitated, is sweating profusely, and is tachycardic and tachypneic. She will be transported approximately 40 minutes to a surgical facility for further evaluation and possible fracture repair.**

For transport, consider:

-Non-pharmacologic support: splinting/external stabilization of the limb

-Non-steroidal anti-inflammatory: e.g., phenylbutazone intravenously

-Alpha-2-adrenergic agonist: e.g., low dose (to avoid ataxia) romifidine intravenously or intramuscularly for mild sedation and additional analgesia for transport

For in clinic evaluation consider:

-Additional alpha-2 adrenoreceptor agonist and / or opioid for standing radiographs

-Preoperative epidural with morphine

-Intravenous fluids and laboratory evaluation

Anesthetically:

- Additional alpha-2 adrenoreceptor agonist and or opioid intravenously as needed for sedation and analgesia prior to anesthetic induction

-NMDA receptor antagonist plus benzodiazepine: e.g., ketamine and midazolam intravenously for anesthetic induction

- Local anesthetic technique: low 4-point nerve block with long acting local anesthetic – if available consider liposomal bupivacaine – alternatively consider a perineural catheter for drug administration

-Consider adjunct analgesic infusions of ketamine (NMDA receptor antagonist), and/or alpha-2-adrenoreceptor agonist

- For recovery, consider whether additional analgesia is necessary and if animal would benefit from assistance

Post-operatively consider:

-Non-pharmacologic: support of opposite hind limb in addition to external stabilization of the repaired limb

-Administration of phenylbutazone twice daily

-Repeat Epidural or an epidural catheter to facilitate ongoing administration of analgesic medications

-Adjunct analgesic infusions: to be considered if aforementioned are not viable or not adequate

**A 6-year-old Miniature Horse mare underwent emergency Cesarean section six hours prior for dystocia after several attempts at manual extraction of the foal (which did not survive). She is now showing signs of moderate abdominal discomfort and reluctance to urinate. Examination of the gastrointestinal tract is normal, and clinical signs are determined to be related to continued uterine contractions and severe vaginal bruising.**

-Non-steroidal anti-inflammatory: e.g., flunixin meglumine intravenously if not already administered

-Caudal epidural or placement of an epidural catheter

-Pudendal nerve block for pain related to vaginal/labial trauma

-Appropriately dosed (for size) intravenous lidocaine infusion

**A 22-year-old American Paint Horse gelding is evaluated for highly invasive squamous cell carcinoma of the right eye that has been previously treated with little success. This horse presents as a palliative care case; the owners would like to keep him comfortable at home during his last few weeks as a family pet prior to humane euthanasia. Enucleation is not an option for them. However, the eye and periocular region are so painful the horse is no longer eating well.**

-Systemic non-steroidal anti-inflammatory: firocoxib orally after an intravenous dose

-Topical non-steroidal anti-inflammatory: diclofenac cream on skin of periorbital region

-Consider retrobulbar or peribulbar block using a local anesthetic. Adnexal tissues may also be blocked. Currently liposomal bupivacaine is not recommended due to anecdotal reports of complications.

-If appetite improves try gabapentin or /and acetaminophen orally in addition to firocoxib