

Pain Management in Horses

Horses experience acute and chronic pain, so managing pain properly is important

Overview

Pain is defined as an unpleasant sensation or awareness of a noxious stimulus due to actual or perceived tissue damage. Pain is important for bodily defense as it triggers a reflexive action to retract from the painful stimulus and modifies behavior to avoid that particular painful situation again in the future.

Pain Perception

Pain is perceived by the central nervous system when pain receptors—specialized nerve endings located throughout the body—are stimulated by one or more noxious stimuli such as extreme heat or cold, tearing, crushing, penetration, or chemicals/toxins. Once stimulated, these specialized nerves transmit pain signals to the spinal cord and brain.

Types of Pain

Pain is often subdivided into various classes, mainly nociceptive or neuropathic (neurogenic) pain. Neuropathic pain is caused by damage to the peripheral nerves, brain, brainstem, or spinal cord whereas nociceptive pain is a chemical, thermal, or mechanical event capable of causing tissue damage. Nociceptive pain subclasses include:

- **Superficial somatic (cutaneous) pain** due to injury to the skin or superficial tissues. This type of pain is typically caused by minor cuts or first degree burns and results in a sharp, well-defined, and localized pain of short duration;
- **Deep somatic pain** originating from ligaments, tendons, bones, muscles, connective tissues, or blood vessels. Sprains and fractures are typical injuries resulting in deep somatic pain, which is characterized by a dull, aching, poorly localized pain of longer duration than superficial somatic pain, and;



Horses with musculoskeletal pain can show a reluctance to move, and hold one or more limbs in an abnormal/unusual position.

ELIOT J. SCHECHTER

- **Visceral pain** is pain caused by damage to internal organs (e.g. colic pain). Visceral pain typically results in a dull, cramping pain that can either be well-localized or difficult to localize. Damage to internal organs can result in “referred” pain in which the site of pain is completely unrelated to the affected organ(s).

Pain Management Importance

In veterinary medicine, particularly equine practice, the recognition, classification, management, and overall importance of pain and pain management have only recently been described. Now, multiple professional societies exist that provide educational materials to owners, veterinarians, and veterinary students regarding causes, recognition, and management of pain in horses. One such organization is the International Veterinary Academy of Pain Management (www.ivapm.org).

In addition, researchers have begun to focus on equine pain management strategies. Work performed to date has clearly demonstrated that equine surgical patients treated with pain medications (narcotic analgesics) as well as anti-inflammatory drugs lost less weight while hospitalized, behaved more normally (e.g., they did not lose their

greeting behaviors), and were discharged sooner from the hospital (which subsequently decreased hospital-related costs) than horses treated with anti-inflammatory drugs only.

Signs of Pain in Horses

The exact signs a horse displays when in pain will vary depending on the cause of the pain, the horse’s normal demeanor, the degree of pain, and the overall health status of the horse. The following guidelines can be used to assess pain.

Pain can be characterized based on body system involvement, duration, or severity. For example, horses with musculoskeletal pain can show a reluctance to move, hold one or more limbs in an abnormal/unusual position, exhibit an abnormal movement during locomotion (e.g., head nod, hip hike), have decreased eating and drinking, and spend an increased amount of time lying down. Alternatively, horses experiencing abdominal pain often kick, bite, or stare at their abdomen (i.e., flank watching), frequently change positions from lying down to standing up, sweat profusely, roll and thrash, groan, grind their teeth, or call to their herdmates.

Horses experiencing chronic pain due to long standing conditions such as laminitis, severe osteoarthritis, or an undiagnosed fracture, for example, can be recognized by weight loss, changes in eating and drinking patterns, alterations in time spent sleeping or recumbent, modified social behaviors, and a decreased responsiveness to external stimuli. These signs are much different than those described for horses experiencing acute pain, which include restlessness, an anxious appearance, dilated pupils and glassy eyes, flared nostrils, muscle tremors, profuse sweating, and increased respiratory and heart rates.

Causes of Pain

Sources of pain can range from mild irritations to severe injuries. Examples of each are provided here.

Mild minor cuts or scrapes, fly bites, osteochondrosis dissecans (OCD) lesions, minor medical procedures (e.g., endoscopic-guided biopsy, castration, arthroscopy), and minor musculoskeletal injuries such as a strain or bowed tendon.

Moderate corneal (eye) ulcers, cellulitis (skin infection), joint infections, abdominal surgery, and fracture.

Severe peritonitis (infection of the abdominal cavity), exertional rhabdomyolysis (tying-up), and laminitis/founder with rotation and sinking of the coffin bone.

Pain can vary over time; mild arthritis pain might develop into moderate or severe pain. Keep an eye on your horse to ensure you catch small indications of change in pain status with an ongoing disease.

Treatment

Once pain has been identified and classified in terms of severity, the appropriate therapeutic approach, which in many cases can involve more than one treatment

modality, can be selected and instituted. Pharmaceutical management of pain is likely the most widely known pain management strategy. Multiple drug classes that impact the transmission of pain at various points along the pain pathways can be selected and used either solely or in various combinations. These include non-steroidal anti-inflammatory drugs (e.g., phenylbutazone), steroids (e.g., dexamethasone), local anesthetics (e.g., lidocaine), opiates or narcotic drugs (e.g., morphine, butorphanol), alpha-2 agonists (e.g., xylazine), and dissociative anesthetics (e.g., ketamine).

Other options in addition to the above might include providing appropriate nursing/supportive care by creating a quiet, comfortable environment (e.g., deep bedding), applying heat or ice, hydrotherapy, and bandaging or splinting as needed, the use of physical therapy, extracorporeal shock wave therapy (ESWT), surgical management, surgically desensitizing an anatomic region via neurectomy (partial or total excision or resection of a nerve), and the use of complementary therapies such as acupuncture, chiropractic, and nutritional supplements. ◀

FAST FACTS

- **Strangles Pain** is defined as an unpleasant sensation or awareness of a noxious stimulus due to actual or perceived tissue damage.
- Pain is perceived when pain receptors are stimulated by one or more noxious stimuli. Once stimulated, these specialized nerves transmit pain signals to the spinal cord and brain.
- **Signs of pain** are variable in the horse and depend on the source and severity of the pain and the horse's usual demeanor. Being aware of classic pain signs and changes in your horse's behavior will assist in determining if or when your horse is experiencing pain.
- **Treatment** can involve the administration of pharmaceutical drugs, nursing and supportive care, physical therapy, surgery, and the use of complementary therapies.
- **Talk to your veterinarian** if you have any questions about pain management.

HVS Your Health Care Specialist

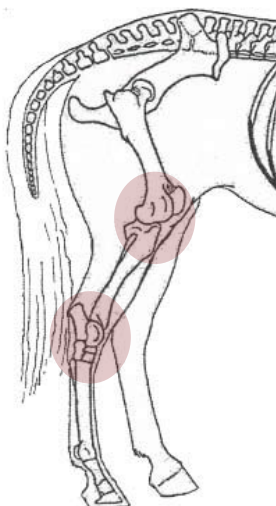
Target joint pain with —

Adequan 7-dose Pack
\$300.65 (\$42.95/vial)



Legend 5-dose Vial (20ml)
40mg \$349.95 (\$69.99/dose)

Single Dose Vial (4ml)
40mg \$82.95



Oral Equine Pain Relief
VäxamineEQ \$72.95

- Non-steroidal
- Non-prescription
- Non-irritating to the stomach
- Safe for pregnant mares



Equioxx Paste

Single Dose
Syringe \$9.19

- Less side effects than bute



Heartland — For All Your Equine Health Care Needs

www.heartlandvetsupply.com • 1-800-934-9398

To place order or for a Free Catalog
Prices subject to change without notice