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Equine Pain Management: History and New Advances

By Harry Werner, VMD, WEVA Board Member

"Pain and suffering are clinically important conditions that can adversely affect an animal's quality of life." This statement from the American College of Veterinary Anesthesiologists seems profoundly obvious to today's equine practitioners. However, advances in understanding the nature of pain in horses, and how to manage it, have finally received due attention only in recent years.

For many years, equine veterinarians' pain control pharmacy consisted largely of phenylbutazone and other non-steroidal anti-inflammatory drugs (NSAID) and some outdated narcotics. Along with topical applications of ice and soothing poultices, many horses had to live—and sometimes work—with the limited pain relief and, often, undesirable side effects these measures afforded. Research into the physiology of pain and development of newer drugs and administration techniques seemed stalled.

During the past decade, however, many practitioners increasingly emphasized their moral obligation to mitigate pain as much as possible and recognized that patients are more likely to progress to healing when their pain is controlled or eliminated. This recognition has resulted in renewed interest in basic and clinical research into the origins of pain in horses and the means by which we can effectively treat it. The result has been the introduction of new pain-relieving medications and techniques.

Consider pain in horses as three types:

- Type I pain is commonly associated with sudden tissue damage—for example, from a kick. This type of pain is usually sharp, localized, and of limited duration.
- Type II pain is more diffuse and longer lasting than Type I. By possibly protecting the leg injured from the kick until that tissue has healed, Type II pain has apparent survival value.
- The most long-term and damaging pain, Type III, can develop when Types I and II progress without relief. The patient experiencing Type III pain no longer needs specific tissue injury to experience discomfort. Normal nervous system mechanisms that balance the excitement and inhibition of nerve pathways for pain act spontaneously and without controls. At this stage, chronic pain can be seen as a state of disease rather than as a symptom of disease, and affected patients often deteriorate further.

Recent advances in equine pain management include:

- A COX-2 inhibitor NSAID called firocoxib. It is designed offer strong pain relief without the damaging gastrointestinal side effects of some other NSAIDs;
- A transdermal NSAID ointment—diclofenac sodium—for delivery to only the treated area; this method of administration can prevent the systemic levels of NSAID that cause side effects;
- A transdermal narcotic patch that provides significant analgesia without side effects;
- A new method of using ketamine, an older anesthetic, for pain relief by administering it as an intravenous drip for several days in burned horses;
- New techniques and materials for administering epidural (spinal) pain relief for weeks at a time with a very low rate of complication;
- Recent studies have increased our understanding of the mechanisms of action and applications of acupuncture for pain relief;
- Extracorporeal shock wave therapy is providing long-term pain relief in a number of equine orthopedic injuries; and
- New injection techniques to provide relief for joint pain.

Veterinary anesthesiologist Michael Tomasic, VMD, Dipl. ACVA, has stated that "the goal of effective pain management is the restoration of normal sensorium and the return of the patient to optimum function." It is gratifying and exciting to see this goal receive increased recognition in equine practice.