



Research to **protect, treat and cure** animals.

## Preventing the development of laminitis

new technique reduces limb pain

Acute pain in horses can lead to intense physical and psychological suffering, and even require euthanasia. To find ways to better manage pain in horses, researchers have been studying a technique that involves inserting continuous peripheral nerve block (CPNB) catheters along nerves in the horse's front limb to relieve pain.

Dr. Bernd Driessen, associate professor of anesthesia at the University of Pennsylvania, says the CPNB method could potentially mean the difference between life and death if it helps prevent the development of laminitis, a painful and often deadly complication caused by an unbalanced distribution of weight.

Dr. Driessen was a member of the veterinary team that worked to save Barbaro after his tragic injury at the Preakness Stakes. Barbaro fractured several bones in his right hind leg and eventually developed laminitis so severe that he had to be euthanized.

As evidenced by Barbaro's case, current pain treatment in horses, particularly in the front limb, is far from perfect. Anti-inflammatory drugs have several side effects, among which gastric ulceration, inflammation of the large bowel and renal toxicity are most common. Pain-fighting dosages of opioids cause excitement in horses, which can be overcome only by deep sedation. The CPNB technique of administering continuous or repetitive small amounts of a local anesthetic solution in the horse's front limb could be a better option, particularly in the first few days after a horse is injured, when the pain is most severe.

Dr. Driessen says a technique of inserting and maintaining perineural catheters in the front limbs of horses has been successfully developed. With Morris Animal Foundation funding, the researchers have studied the CPNB method in more than two dozen horses. Half of the animals received medial and lateral palmar nerve CPNB catheters, and the other half received median and ulnar nerve catheters.

The infusion of local anesthetic solution through those catheters showed significant promise in alleviating pain.

Researchers are now focusing on developing different drug protocols tailored specifically to horses. The goal is to determine the best dosage for horses while also avoiding unwanted side effects. The researchers hope to present their findings to the veterinary community in the next few years, so the technique can soon be used in veterinary hospitals throughout the country.

"Chronic pain is very difficult and very expensive to manage," Dr. Driessen says. "And in a horse, long-term severe lameness is unacceptable."

This technique could keep horses on their feet and pain-free.

From [AnimalNews 8.1](#)