

BEYOND BUTE

When it comes to managing long-lasting pain in horses, veterinarians and owners have many more tools at their disposal than they did even a decade ago. *By Christina Keim · ©iStock*

Just like human athletes, performance horses can be left feeling chronically sore due to the cumulative effects of aging, previous injuries, and the wear and tear associated with doing their jobs. Fortunately, when it comes to mitigating chronic discomfort in the equine athlete, a modern-day veterinarian has many more tools in her arsenal beyond “take two grams of bute and call me in the morning.” Today, keeping equine athletes feeling their best is generally the result of an approach that combines pharmaceutical, therapeutic, rehabilitative, and complementary modalities.

“There are a plethora of options, not necessarily only systemic medicine-based, but in the realm of rehabilitation,” says Dr. Lauren Trager, DVM, MS, Dipl-ACVSMR, an equine sports medicine and rehabilitation specialist at the Virginia-Maryland College of Veterinary Medicine in Blacksburg, Virginia. “Every horse owner, regardless of whether they have an FEI competition horse or a pleasure horse, needs to be open to a multi-modal approach for helping the horse stay sound and happy for as long as possible.”

“With our medical advancements, there are many more options you can do for pain relief in horses,” adds Dr. Emilee Lacey, VMD, MS, DACVIM-LA, a sport horse and internal medicine specialist with Palm Beach Equine

Clinic in Wellington, Florida. “We can incorporate traditional methods of analgesia with some non-traditional methods. Choosing what is most appropriate for the horse is going to come in partnership with your veterinarian.”

STEP ONE: KNOW THY OPPONENT

The foundation of any plan to manage chronic pain has to begin with correctly diagnosing its source. Sport horses can experience pain as a result of inflammation originating in the musculoskeletal system (bones, joints, soft tissue, muscle); neuropathic pain from pinched or compromised nerves; or visceral/abdominal pain, including gastric ulcers. Sometimes, a horse’s pain can present in unusual ways or be coming from more than one source—all of which can make arriving at a correct diagnosis challenging.

“Sometimes we get a very specific diagnosis, and sometimes we just have a general idea,” says Trager. “There can be many root causes, so getting to a diagnosis is the key. From there, I can identify the steps to try to get horses happy, healthy and sound. I’ll say to the client, ‘Here are the options. We can do all of these, some of these, or start with the most basic, and see how the horse responds and go from there.’ That’s usually how the conversation starts.”

Additionally, based on an animal’s workload, conformation and history, a skilled veterinarian can identify areas of the body that might be more prone to succumbing to stress and strain long-term. Incorporating supportive management strategies to a horse’s routine care before significant breakdown occurs can potentially minimize the need for more intensive treatments in the future.

“I always tell my clients that it’s great to be proactive, not reactive,” says Trager. “If I can identify future sources of potential inflammation, relative to the job of the horse, starting with that foundational diagnosis will help you plan a multi-modal approach from a pain management perspective.”

“Pain management in the horse is pretty specified to the individual: We cater to what the horse needs the most,” adds Lacey. “To me, it doesn’t matter if it’s a sport horse or a pleasure horse; we need to tailor our therapeutic plan based off of what the horse’s level of activity is and its pain level right now. A 30-year-old horse with chronic osteoarthritis might need that daily bute, because it’s going to improve their quality of life, versus a 6-year-old show jumper, who probably doesn’t need to be on daily bute. If it does, we might re-evaluate if its job is appropriate.”



PHARMACOLOGICAL OPTIONS

Resolving pain requires reducing inflammation and calming nerves. To assist the body in achieving these outcomes, veterinarians can turn to a range of pharmacological options, some of which work systemically (throughout the body), and others that target specific receptors and body systems.

Non-steroidal anti-inflammatory drugs are a common first line of defense when it comes to managing equine pain. The three most frequently used NSAIDs in horses are phenylbutazone (bute); flunixin meglumine (Banamine), and firocoxib (Equioxx).

Each of these systemic medications can play a critical role in both acute and long-term pain management by inhibiting the prostaglandins which cause inflammation in the body. Although these NSAIDs are commonplace, their use should be carefully considered due to the possibility of side effects which could compromise a horse's well-being.

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"NSAIDs can be helpful, if used judiciously and responsibly," says Trager. "Long-term, chronic use of NSAIDs can have detrimental effects to a horse's gastrointestinal system and their kidneys. It is very important we only use one at a time; we wouldn't want to 'stack' NSAIDs. If you are switching from one type to another, you need to have an appropriate 'wash out' phase to let the first one leave the system before starting the next."

Phenylbutazone and flunixin meglumine are often preferred during an acute phase of injury or illness; in fact, many owners or managers keep these medications on hand for one-time or occasional use. But when the need for these drugs becomes more persistent, it might be time to change the approach.

"I bring it back to human medicine," says Lacey. "Are you going to go to the doctor when you have a headache? Probably not. You are going to take ibuprofen and see if that helps. But let's say that headache persists, and you've taken ibuprofen once, twice, three times. That's when your vet should get involved."

Although any of these three NSAIDs can be used as part of a long-term pain management strategy, many veterinarians will encourage clients to pursue other modalities in concert with, or in lieu of, daily dosing.



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When daily NSAID use is required, many veterinarians reach for firocoxib over the other two, because it specifically targets those prostaglandins causing inflammation, while preserving those playing other important roles in the body—such as protecting the stomach mucosa.

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"Not all prostaglandins are bad, and Equioxx is 'prostaglandin-selective,' so it's thought of as the 'safe' NSAID," says Trager. "But in reality, all NSAIDs carry gastrointestinal and renal risk. I think of Equioxx as a milder anti-inflammatory. For some horses, it can be very useful; your 18-year-old tried-and-true lesson pony with a little osteoarthritis in multiple joints and a little back pain might benefit from a daily Equioxx to keep him going, but it's not going to mask a big issue."

Not all NSAIDs are administered orally. Diclofenac sodium, sold under the brand name Surpass, is an anti-inflammatory cream applied topically and absorbed through the skin. It is most practical for use on a targeted, focal area, such as over a joint or small swelling.

Bisphosphonates are another class of systemic drug, used in both humans and horses, to treat bone inflammation and loss; the most common commercial brands used in horses are Osphos and Tildren. These medications, used only by a veterinarian, inhibit osteoclastic (bone-resorbing) activity.

"These drugs go anywhere you have osteoclastic proliferative response, which typically occurs with subchondral bone edema and osteoarthritis," says Trager. "Bisphosphonates quiet that down and help to restore balance between the osteoblastic and osteoclastic cells. These don't go into a joint—they are given intravenously or intramuscularly—so they can be given simultaneously with other modalities."

It is important to note that bisphosphonates should never be used in young, growing horses, as their mechanism of effect will negatively impact these animals' growth plates, and can lead to brittle or sclerotic bones.

One additional pharmaceutical option is gabapentin. Although technically an anti-convulsant medication and not a painkiller, it can be effective in managing chronic nerve pain.

"Just like humans, horses can get pinched nerve roots in their neck or back, and when that happens, we may reach for gabapentin," says Lacey. "But it is not one of those drugs you give once and see relief; the horse may have to be on it for a while and build it up in their system, before you see the effects of the medication."

THE RISE OF REGENERATIVE MEDICINE

Osteoarthritis is one of the most common challenges sport horses face, and traditional joint injections—frequently a corticosteroid combined with some type of joint lubricant—have long been part of many pain management plans. But today, sport horse veterinarians try to reserve such a treatment for only the most serious cases and instead utilize newer autologous orthobiologic options for joints with mild to moderate inflammation. Not only can these treatments work to minimize a horse's discomfort, they can also help slow disease progression.

"Steroids have a great place in certain cases, but they are purely just symptom modifying," explains Trager. "It's like putting a Band-Aid on something—evenually, that Band-Aid will come off, and it will stop working. The orthobiologics are wonderful because they are not only symptom modifying, they are disease modifying as well."

"Orthobiologics are products made from blood from that horse," she continues. "So I take the blood from the horse, I process whatever my target anti-inflammatory mediator is, and I put it right back into that horse."

When it comes to choosing an autologous orthobiologic treatment, veterinarians have many options at their disposal, including alpha-2 macroglobulin, platelet-rich plasma (PRP), interleukin-1 receptor antagonist protein (IRAP), and others. The best choice depends on the specific diagnosis and part of the body needing treatment. Autologous orthobiologics can be injected directly into a joint, into soft tissue lesions, or even into a tendon sheath.

"All of them are fantastic because they take the disease process and modify it to some degree, to have long-lasting, cumulative effects," says Trager. "They are not steroid-based and are the healthier joint alternative."

OTHER THERAPY OPTIONS

Beyond pharmaceutical or orthobiologic treatments, veterinarians now also have a range of non- or minimally invasive adjunctive therapies that can play an important role in further mitigating pain and inflammation. Some of these therapies, such as chiropractic, acupuncture, or shockwave, are generally only administered by a veterinarian or directly under her supervision. Others, such as acupuncture, certain classes of laser, pulse electromagnetic field therapy, or massage, can be provided by trained non-veterinary providers.

"Non-traditional pain management techniques, like acupuncture, can be combined with traditional methods of analgesia with really great outcomes for horses," says Lacey. "The difference with some of these non-traditional methods is you don't expect to see relief right away. For example, we may start a horse on bute, follow up with an acupuncture treatment, and continue from there."

Shockwave therapy is one exception to this rule. When administered by a skilled veterinarian, shockwave can achieve rapid results in relieving pain and discomfort, particularly in a horse's axial skeleton (for this reason, the U.S. Equestrian Federation restricts its use prior to competition). Shockwave is FDA-approved for use in humans for tennis elbow, plantar fasciitis, and any chronic injury where a tendon or ligament inserts into bone. It is effective for similar conditions in horses, and for pain relief in the neck and back.

"I love shockwave. I use it almost every day," says Trager. "It's very well tolerated by the horse, and clients appreciate it because they see immediate results. When the soundwave hits a surface, it can't pass through, called an 'area of impedance,' the wave form changes, and it causes all of these positive physiologic effects. It's a very potent anti-inflammatory modality."

Adjunctive modalities such as massage, PEMF, or laser allow owners and trainers to be directly involved in their horse's pain management. These tools can, at a minimum, help to mentally and physically relax a horse, but they can also help mitigate areas of referred pain. "Referred pain" is pain experienced in a part of the body separate from its actual source; for example, a horse with a sore hock may experience referred pain in the gluteal muscles or sacroiliac joint.

"Using adjunctive therapies like [PEMF] over those areas to help with secondary muscle tension, by treating the whole horse, can be very beneficial," says Trager. "You treat the hock, but you also treat the other parts of the body that can experience compensatory pain."



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Above: "Horses are not meant to live in box stalls," says Dr. Emilee Lacey. "They are meant to walk many miles a day, so supporting their bodies as best we can is so important for their quality of life long-term."

Finally, management changes can also play an important role in keeping horses healthy and happy. For example, even horses with osteoarthritis benefit from daily exercise, tailored to their level of comfort.

"One of the best ways to prevent our horses from developing musculoskeletal injuries and osteoarthritis is to offer the horse daily exercise, to his best ability," says Lacey. "That is going to look different for every horse—it might be a 20-minute walk for one horse, and for another, a more intense 45-minute workout routine."

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