



A Healing Touch

by Connie Lechleitner

It's something no horse owner wants to deal with, but is also part of working with our equine athletes: injuries.

Thankfully, there are therapies available to help ease our equine partners pain and heal more quickly and efficiently. Kate Workman, DVM, manages the rehabilitation center at Hassinger Equine Sports Medicine and Rehabilitation, and takes us through some of today's treatment options.



Pro-Stride Injection™
ACT-Protein Solution
(anti-inflammatory)

PRO-STRIDE

The newest technology available in regenerative medicine treatment, called Pro-Stride, is an Autologous Protein Solution, or APS. Owl Veterinary Manor began distributing Pro-Stride in early 2015, and the Hassinger team starting using it about a year ago.

APS is a centrifuged solution of the horse's own blood, administered in a super-concentrated, one-time injection. The treatment provides important healing factors immediately to the joint. Because the system is portable and product can be produced quickly, it allows veterinarians to provide it on the farm, in one visit.

"Pro-Stride is seeing success with arthritis and tendon injuries and is quickly becoming popular," Dr. Workman said. "The Hassinger team of veterinarians has used it in great success with severe deep digital flexor tendon tears, navicular bursa adhesions and tears, joint synovitis and cartilage damage as well as for other soft tissue injuries.

"We have been able to follow up cases with MRIs to track the unexpected healing in two horses with severe soft tissue injuries of the foot," she noted. "We were amazed to see the regeneration in a matter of months. Pro-Stride also has been remarkably useful in horses that are no longer responsive to routine steroid joint injections. It has been a great new tool for us to use in rehabilitating performance horses."

Like all regenerative medicine products, Pro-Stride uses the horse's own blood to concentrate the body's own healing factors. "Pro-Stride is an interesting combination therapy, as it provides the healing growth factors, increased amounts of anti-inflammatory

proteins and recruits more cells after injection to provide a more complete healing process to cartilage or soft tissues," Dr. Workman explained. "Simply put, it is similar to a combination of two well-known regenerative medicine products: platelet rich plasma and IRAP or interleukin-1 receptor antagonist protein."

Studies have shown that when blood platelets become activated, growth factors are released, which play a significant role in natural healing, repair and regeneration. The Pro-Stride injection reduces pain associated with arthritis by delivering naturally occurring anti-inflammatory proteins and healing factors. It has the capabilities of slowing, healing, and/or preventing cartilage degradation, improving mobility, and aids in the healing of damaged soft tissues.

Another benefit of Pro-Stride is that it is all natural and steroid-free. As a result it avoids unwanted side effects associated with traditional steroid joint injections. The treatment does not require a drug withholding time for competition and is safe for use in young horses.

The Pro-Stride procedure, including collection of blood and the treatment injection, takes less than one hour and can be done on the farm.

FOCUSED ELECTROHYDRAULIC SHOCKWAVE

"Shockwave is really a unique product in the industry, and it does get results," noted Dr. Workman.

"Electrohydraulic focused shockwave is a high-energy acoustic wave, transmitted into tissue," explained Trudy Gage, representative with Pulse Vet, which produces the Shockwave device. "It is a non-invasive, regenerative option, working with the horse's body to stimulate healing. There is often an analgesic effect, helping to manage pain, without needing the assistance of pharmaceuticals."

Cells are stimulated, and release multiple proteins, osteogenic (bone) and angiogenic (blood vessel) growth factors, and inflammatory cytokines. Shockwaves cause a cascade of biological response in musculoskeletal tissues; when the cells are stimulated, they release positive growth factors that result in bone growth, tissue healing, and new blood vessel formation to promote healing time.

Trudy noted that some horse owners like this therapy over other options because pharmaceuticals can sometimes create a new set of

problems. "There can be concerns with kidney and liver function, as well as the possibility of ulcers in some cases, requiring yet additional medications to be purchased and administered," she said. "Shockwave allows horse owners to avoid those risks."

Another advantage to Shockwave treatment is its effectiveness with just a few treatments. "Treatments are typically applied approximately 10-14 days apart," Trudy said. "One to three treatments is the average number of treatments required for common injuries such as a suspensory injury. Shockwave also works well for back, ligament or tendon injuries, kissing spine or SI, wounds or even splints, and has been shown to improve horses with navicular. Healing time is often shortened, and the quality of healing is improved as well."

Shockwave can penetrate tissue up to 110 millimeters in depth. "That's a really important point, because many other therapies out there cannot get that depth of penetration," Trudy noted. "Veterinarians have different probes that are used depending on the needed penetration depth. Shockwave is often used in conjunction with other treatment options such as PRP or stem cell," she explained. In addition, PulseVet Shockwave treatment is often covered as part of your horse's insurance plan.

"Most horses do not require any sedation, however the treatment can be a bit loud, depending on the location being treated and the individual horse," she noted. "It is relatively quick, taking just a few minutes depending on the location. Often you will notice when a horse is having his/her back treated with shockwave, they will exhibit signs of total relaxation and pain relief. It can be funny to watch at times, as the horse may lean into the probe the veterinarian is using. You may see them lower their head, and begin to lick and chew," Trudy noted.

Available only to licensed veterinarians, PulseVet Shockwave has 15 years of past and ongoing clinical research, which has proven its efficacy through hard science, Trudy said.

LOW-FREQUENCY ULTRASOUND

"The other treatment modality I think of when thinking of these types of regenerative or healing treatments is the low-frequency ultrasound," said Dr. Workman.

"Low-frequency ultrasound has been used for both human and equine athletes for some time. Although it's not new, it is not one that is commonly thought of. The low-frequency ultrasound waves help increase circulation and flexibility of the soft tissue structures. This increase in circulation helps bring in natural healing factors from the horse's circulation to injured tissue.

"There have been countless human and animal studies to determine which intensity level and time duration is ideal. The most recent studies are showing that lower intensity for longer periods are better than high intensity treatments for shorter periods. This method promotes a slower warming of tissue instead of a hotter, quick heating of the tissue."

Dr. Workman noted low-frequency ultrasound can be used to promote tendon injuries and increase cartilage production in arthritic joints. "Its initial use in humans was to promote fracture site healing, but quickly we learned its benefits extend far beyond that," she said.

"We have had great success with the low-frequency ultrasound in our rehab facility as a compliment to the horse's other medical treatments. This is designed more as a rehabilitation tool, since it doesn't provide immediate response and requires many sessions. We add it as a rehabilitation tool to any horse with a soft tissue injury or fracture site, which is probably 85 percent of the cases we see."

While we all hope that we will never need therapeutic treatments for our equine companions, it's good to know that science has produced several options to help our four-legged friends feel better faster and heal more quickly. A special thank you goes to Dr. Kate Workman of Hassinger Equine Sports Medicine and Rehabilitation and Trudy Gage for their assistance with this article. ■



Above: An equine ultrasound treatment is demonstrated.

Left: An electrohydraulic focused shockwave unit in use.