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HIGH ENERGY FOCUSED SHOCK WAVE THERAPY

Extra-corporeal shock wave therapy (ESWT) is an established, effective therapeutic modality to treat many soft tissue and orthopedic conditions in the horse. This therapy has gained popularity and recognition in the world of performance horse medicine. ESWT was first developed in the human medical field as lithotripsy and was used for the disintegration of kidney stones. It was soon recognized that the therapy had multiple applications in human orthopedics as well. As expected, these advances have now found their way into veterinary medicine. This therapy is showing exciting advances and results in the treatment of certain bone and soft tissue injuries. Some of the indications include: stress fractures, navicular syndrome, hock degenerative joint disease (spavin), pastern degenerative joint disease (ringbone), injuries to the suspensory (proximal suspensory desmitis, branch desmitis, suspensory avulsion fractures), calcifications in tendons and ligaments, inferior check ligament desmitis (inflammation), chronic back pain, wound healing and more. Research studies have shown extremely favorable results, including better quality healing, improved recovery rates and pain relief.

How does it work? A shock wave is defined as an acoustic wave that has a high peak pressure over a short duration of time. These high intensity waves travel through fluid and soft tissue and put mechanical pressure and tension forces on the tissues. These forces are able to help stimulate osteoinduction or formation of new bone, along with removing calcification. The shock waves seem to be most concentrated in regions of changes of tissue density such as bone/tendon or bone/ligament interfaces. In addition to the mechanical effects of these pressure and shear forces, there are also cellular effects such as stimulating cellular division. Almost equally as important as the healing capabilities is the ESWT's ability to consistently reduce pain through a nociceptive effect.

The procedure. One of the reasons this therapy is becoming so attractive is because of its minimally invasive and safe nature. Treatment can be performed on the horse with only standard standing sedation (and occasionally regional nerve blocks). The number of treatment sessions (varying between one and three) and the energy level of the shock waves will depend on the type, location, and severity of the injury. The procedure takes approximately 20-30 minutes to perform.

The Storz Focus It. The high energy focused shock wave machine we currently have at Broad Run Veterinary Service is a low noise, portable, focused unit (Focus It) by Storz. This machine uses electrohydraulic shock waves generated by the spark-gap technology. An electrode (spark plug) is submerged in a water-filled housing. An electrohydraulic generator initiates the shock wave by an electrical spark which vaporizes the water molecules between the tips of the spark plug to create an explosion. This explosion is what creates the shock wave that can be focused onto the desired location.

We are very excited to have this top-of-the-line machine and be able to offer high energy ESWT to both our clients and referring veterinarians in this region. It has been proven that this technology has had a significant impact on how we successfully manage multiple equine orthopedic and lameness disorders. Multiple studies and research projects have been completed and many more are currently ongoing on ESWT.