



Low intensity ultrasound for Top Equine Performance

Janus Marquis

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Janus Marquis is the official equine physiotherapist for the US Olympic Show Jumping Team. Over the last three Olympics, Marquis has tended some of the best equine athletes in the world and is known for her cutting-edge technology. At the 2012 games in London, she added another tool to her treatment arsenal, a wearable low-intensity therapeutic ultrasound (LITUS) the UltrOZ Elite. Here are her observations on the modality and its low intensity evolution.

Therapeutic ultrasound has countless benefits; I've used it for years as a pre- and post-performance tool. It relaxes connective tissue, increasing the benefits of stretching which reduces the probability of injury. I use it on tight muscles in the back, gluteals, and hamstrings and on legs with a history of tendon and ligament injury. This can greatly reduce the chances of re-injury. Show Jumpers are asked to scale 6' courses, often on poor surfaces, for multiple days in a row. I use ultrasound therapy before stretching out the horse. This is often more important after exertion to facilitate the removal of lactic acid and increase the range of motion in joints, allowing for better recovery. Ultrasound therapy also reaches deep tissues to relieve inflammation. It increases circulation and flexibility by pushing nutrients through cellular structures. This allows for deep, penetrating healing. I also use them successfully on sore feet. Continuous, low-intensity waves react well with the density of the hoof wall, helping retain and focus energy to amplify the benefits.

Unlike many products on the market, therapeutic ultrasound is a modality with real, documented benefits and a long history of research. The biological effects were first recognized in 1927. So far, it has only belonged in the hands of highly trained professionals. It has to be appropriately applied and focused with the correct frequency and wavelength for the treatment area. If used incorrectly; it can cause burning and tissue death. Therapeutic ultrasound is so effective it's dangerous. Low-intensity ultrasound therapies allow for the benefits, but without the risks of injury. They deliver a low-intensity, continuous-wave at a fixed frequency. This allows for safe, easy treatments that can be administered by grooms or riders.

Low-intensity ultrasounds require a longer application period to get true physiological benefits, but this helps facilitate saturation and penetration. The makers of my system, The UltrOZ Elite have developed a completely wearable LITUS and supply neoprene wraps to apply their units to legs, hocks, backs and stifles. The evolutions of low-intensity and the continuous format have eliminated the harmful thermal impact on the surface area. I am very excited about having a treatment modality that I can safely leave in my clients' hands and know that the horse will benefit from excellent healing therapy.

Currently the UltrOZ Elite is the only completely wearable Low-Intensity Therapeutic Ultrasound (LITUS) available. The system was developed in collaboration with Cornell University and is manufactured in the United States by Zetroz.

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