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Equine Water Treadmill Therapy

The benefits are endless!

In recent years, the equestrian industry is increasingly turning to the benefits of aqua therapy using aqua trainers, for both rehabilitation purposes and the regular training regime for horses from all disciplines.

More specifically, the use of cold water aqua therapy is now becoming an integral part of the competition horse's development and training program. It is bringing real, measurable benefits including improvements to all-over suppleness, increased stride length, better muscle tone and more core strength. This not only maximises performance and training, but also reduces the risk of future injury. Putting the hype aside, we are going to put the spotlight on the benefits of this therapy, which has been backed by countless scientific works and studies.

As a leading authority on aqua therapy systems, FMBs have developed a long term working partnership with Dr Matthias Baumann who has over 25 years experience working with aqua treadmills, combined with being an Olympic Gold Medal Event Rider which gives him the perfect mix of knowledge and training to evaluate this therapy objectively.

Dr Baumann regularly visits the UK to support and train FMBs' aqua therapy customers and his advice and knowledge proves to be invaluable at every stage in the process. He is also scheduled to be in the UK later this year to share his key scientific findings with a wider audience, and facilitate further discussion regarding the many benefits of this therapy. Ahead of this visit he has agreed to share some of the findings that focus on performance improvements through regular use of a water treadmill.

Dr Baumann had a water treadmill installed in his vet practice for 17 years, allowing him to conduct and take part in studies about equine biomechanics aqua treadmill training and cold saltwater therapy as a means to reduce inflammation and aid recovery.

Matthias comments, 'correct training of every horse is necessary for their development, growth and competition success. A correct training program should develop the horse without subjecting it to the risks of injury.' Matthias continued, 'I found that the combination of hydrotherapy and controlled work is much more genius than we ever expected'.

When Matthias first installed his treadmill he worked on the theory that the use of cold water for both cooling and massaging gave great benefits to a horse's legs after injury and resulting operations. He started to note significant reduction in convalescence time and a much smoother process to bring the injured horse back to work.

These studies were then extended in 1999, and Matthias started to utilise controlled work in cold water as part of a training program which proved highly beneficial as it ensured the horse's muscles always remained in an aerobic state, and there was a greatly reduced chance of a horse injuring its muscles while in water.

This development of work led to a more in depth study and the key measurable findings are as follows:

- regular training in a water treadmill can develop a horse's stride length in walk length in walk
- after just 4 to 5 training sessions a young horse will noticeably improve its body balance and stability
- when a horse is worked in walk, it shows more muscle activity than in trot in the water
- muscle volume and strength can be developed 3 to 4 times faster with aqua training compared to hand walking
- the development of back muscle is greatly improved, especially the M. longissimus dorsi and Mm. multifidi, showing significant strength increase with a daily 20 minute aqua training plan
- adding aqua training sessions after canter work seemed to decrease the lactic acid in the horse's muscles.



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In addition, there were many more additional benefits that were observed. Specifically with the older horse there were improvements in overall body condition and muscle tone, and the reduced impact from aqua training allowed them to stay in competition for longer during their later years.

During the years, Matthias has also studied the effects of varying the water levels to gain the maximum range of motion within each joint group that is worked with the therapy. The unique ability to do this enables the programs to be tailored and set to the specific needs of the horse and adjusted as necessary. FMBs aqua treadmill customers benefit from having access to Dr Baumann's extensive knowledge, advice and training specifically with regard to the speed and water level that best suits each horse. Serena Hickson of FMBs Therapy Systems says, 'The equipment is excellent but only ever as good as the people operating it so it is so important the customers are provided with the best training and refresher courses offered.'

Mathias concludes, 'With well advised training using a water treadmill you can have so much success with your rehabilitation or training regime and most importantly have a happy, healthy horse for many years to come!'

Here in the UK, the momentum behind aqua therapy is growing phenomenally. Horse owners across multiple disciplines including private yards, racehorse trainers, professional competition yards and therapy and rehabilitation centres are now using water treadmills as part of their fitness and training plans.

From the many positive testimonials that FMBs receive, Tonya Willingham of Equine Rebalance in Hampshire, sums it up perfectly. She has worked with aqua therapy treadmills for 6 years now and attended many training courses with Dr Baumann. Tonya says, 'The healing and fitness properties of the humble H2O should never be underestimated. The use of hydrotherapy has long been used to help humans recover from physical and mental stress and strain. The equine water treadmill from FMBs is beneficial for all shapes and sizes of horses, not just the top class dressage horses. We see endurance, event, carriage driving and leisure horses, show jumpers, polo and pony club ponies, and have seen many positive results.

The treadmill can be used in the rehabilitation of tendon and ligament and muscle injuries as well as many common back-related injuries but more regularly being used for fitness, strengthening, toning and conditioning of the horses muscles as part of the horses general exercise programme. The FMBs treadmill here at Equine Rebalance Therapy Centre is the latest model benefitting from having an incline option. This allows the horse to work in the water on an incline that further improves stamina and fitness. All programmes are tailor made to the individual horse.

FMBs have a dedicated team not only providing Dr Baumann for training but also with UK technicians on hand to help with any support/queries and routine maintenance to keep the machine in tiptop condition. The filtration systems are efficient and effective and inclusive of UV filters to keep the water sanitised without the need of chemicals.

Scientific works and papers published on different studies about exercise of horses with the water treadmill:

"Effect of aquatraining exercise on selected bloodparameters and on heart variability of horses" Voss. B.: Mohr, E.; Krywanek.H.; Uni Berlin, 2000

"Effect on waterdepth on amount of flexion and extension of joints of the distal aspects of the limbs in healthy horses walking on an underwater treadmill" Mendez, J.;Firschman; Groschen et Alt. , University of Minnesota, USA

"EMG activity of the muscles of the neck and forelimb during different forms of locomotion" Tokuriki, M; Othsuki,R.; et alt. Department of Vet. Med. University of Yamaguchi, Japan

"The effect of water height on stride frequency, stride length and heart rate during water treadmill exercise" R. Scott, K. Nankervis*, C. Stringer, K. Westcott And D. Marlin, The Equine Therapy Centre, Hartpury College, Gloucester, UK. 2010

"Biomechanical responses of the back of riding horses to water treadmill" M.J.W. Mooij, W. Jans, G.J.L. den Heijer, M. de Pater, W. Back; Department of Equines Sciences, Utrecht University, NED 2013

"Water depth modifies back kinematics of horses during water treadmill exercise" K. J. Nankervis, P. Finney and L. Launder; Hartpury College, UK; Equine Veterinary Journal 2015;

"Conditioning horses on the water treadmill" Persophone Greco-Otto, University of Calgary and Washington State University, 2017, American Association of Equine Practitioners Convention



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