



Modern Modalities in Sports Medicine

Massage Gun and Vibration Therapy

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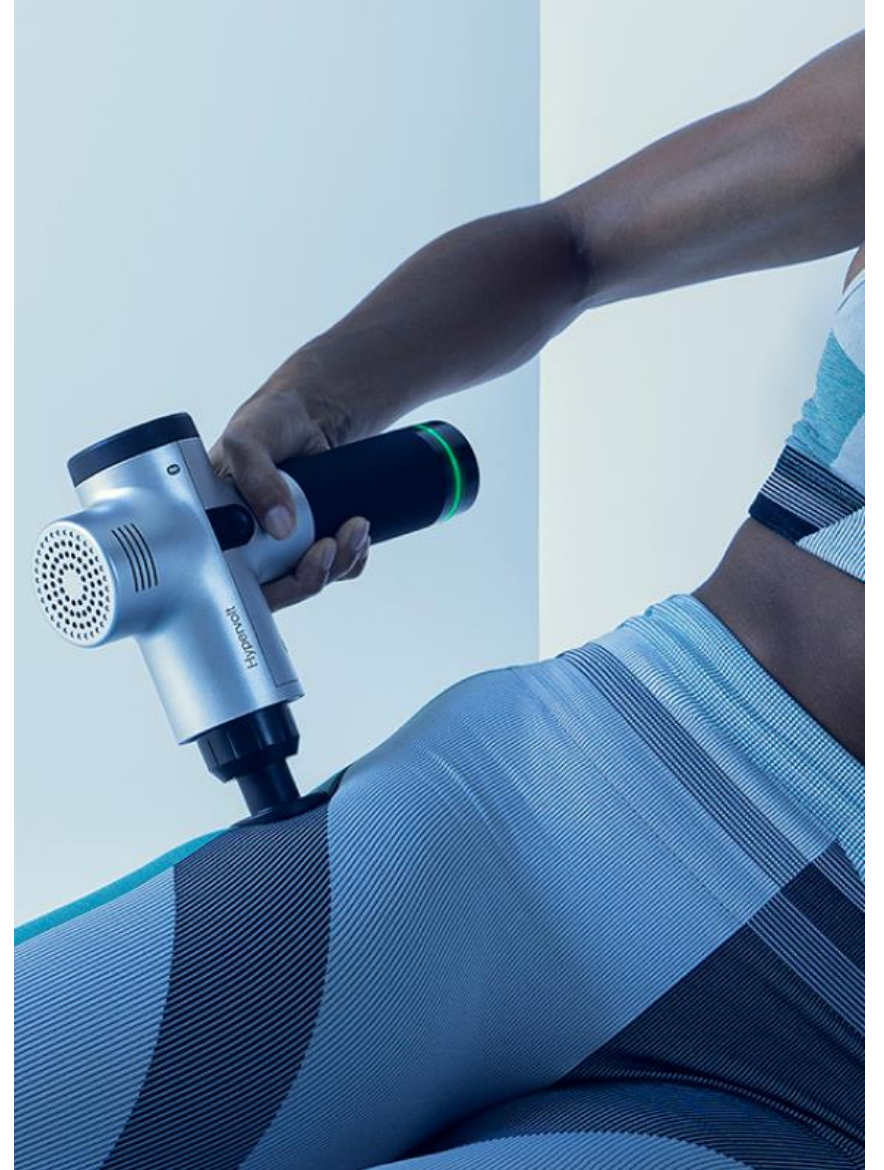
Vibration Therapy Products

- TheraGun- \$300 - \$600
- Hypervolt- \$200 – 400
- Non-Name Brand- \$120
- Vibration Rolling (VR)
 - Vyper 2.0 \$200



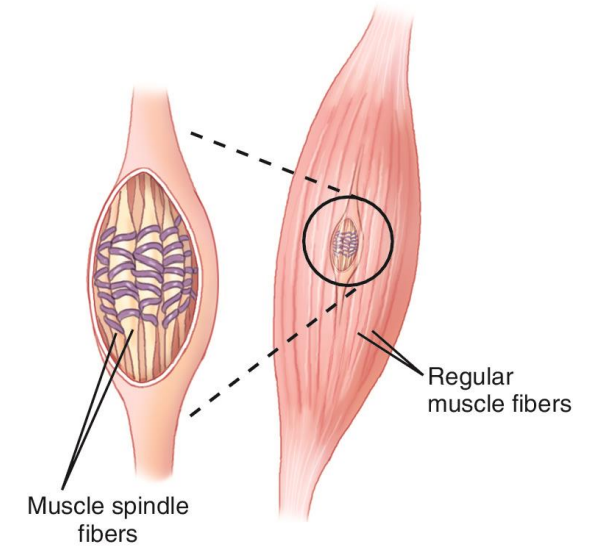
Pre-Workout VT Guidelines

- Treatments on hamstrings, quadriceps, calf muscles, and biceps
- 1 minute x 5 sets
- 2 minute continuous
- 30 seconds x 3 sets
 - All significantly increased ROM of knee flexion and extension, isokinetic peak torque, muscle strength, and dynamic balance (Lim et al.)
- 30s x 3 sets on calf VR while actively performing ankle dorsiflexion and plantarflexion (Dynamic VR)
- Currently no consensus on optimal vibration therapy technique

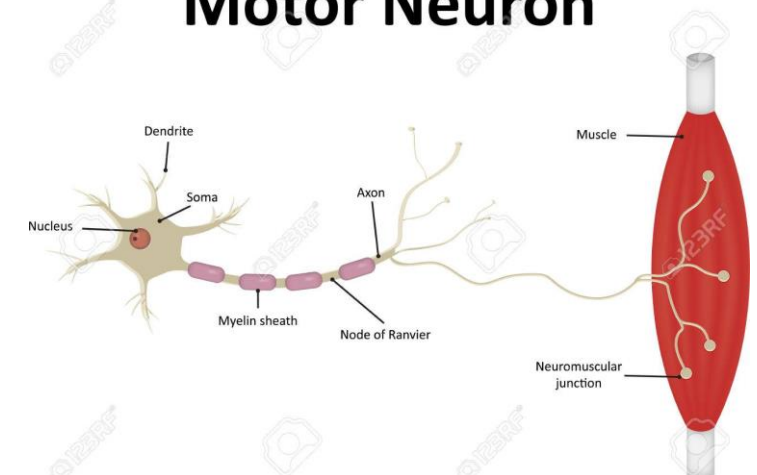


WHY WOULD VIBRATION THERAPY WORK?

- Enhancement of reflex activity by stimulation of the muscle spindle (stretch receptors)
- Increases blood flow (DVR), skin temp, flexibility
- Motor unit activity synchronization resulting in more force production from muscle group
- More active muscle fibers results in great distribution of exercise load, causing less muscle damage
- Mechanical remobilization of fascia back to its normal aligned state
- Soft-tissue compliance increased to enable longer muscle length
- Pain/Gait Control Theory
- **LESS DAMAGE TO MUSCLE DURING ACTIVITY**



Motor Neuron



Vibration Therapy in Research

Performance

- Compared vs Static Stretching
- Ankle ROM- Increased Dorsiflexion
- Increased peak torque plantar flexion
- Improved agility (Fig. 8 Hop Test)

Muscle Soreness (DOMS)

- Compared vs Massage & Control
- 5 min. on Biceps pre-workout
- Less perceived muscle soreness for VT & Massage Group
- Improved ROM 48-72 hours post-workout for both VT & MT
- Improved 1 Rep Max pre-workout & 48 hours post-workout in VT only

References

- Lyu, B. J., Lee, C. L., Chang, W. D., & Chang, N. J. (2020). Effects of Vibration Rolling with and without Dynamic Muscle Contraction on Ankle Range of Motion, Proprioception, Muscle Strength and Agility in Young Adults: A Crossover Study. *International journal of environmental research and public health*, 17(1), 354. <https://doi.org/10.3390/ijerph17010354>
- Imtiyaz, S., Veqar, Z., & Shareef, M. Y. (2014). To Compare the Effect of Vibration Therapy and Massage in Prevention of Delayed Onset Muscle Soreness (DOMS). *Journal of clinical and diagnostic research : JCDR*, 8(1), 133–136. <https://doi.org/10.7860/JCDR/2014/7294.3971>



Questions