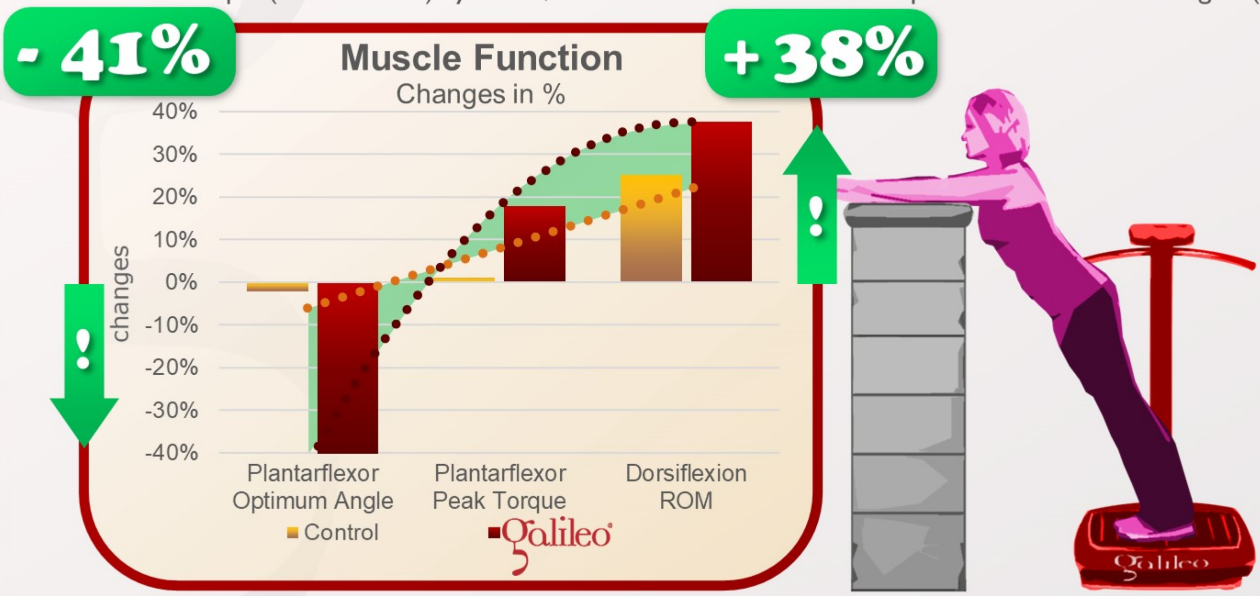
Can Galileo Training be more effective and more efficient than traditional stretching?

The answer is: YES

This study documented the immediate effects of Galileo Training one force development, torque and range of motion (ROM) (26Hz, 5x60s, stretching of ankle). The control group performed identical exercises without Galileo Mechanostimulation. The Galileo group showed increase stretching effects (+38%) and a significant increase in torque (Platarflexion) by +18%, and an increased force development at lower ankle angles (-7°).



Kemertzis MA, Lythgo ND, Morgan DL, Galea MP: Ankle Flexors Produce Peak Torque at Longer Muscle Lengths after Whole-Body Vibration; Med Sci Sports Exerc., :1977-1983, 2008; PMID: 18845976; GID: 1712

Galileo Research Fact Sheet #141 Common: Warm-Up, Force Development www.galileo-training.com

This study examined the short-term effects of Galileo Training compared to classical stretching exercises. Stretching of the ankle with and without Galileo mechanostimulation was performed.

The Galileo application was performed at high frequencies (26Hz) for 5 times a minute. The control group performed identical exercises without Galileo.

The Galileo group showed a slight improvement of the pure stretching effects in the diffraction (Dorsifelxion) with an increase of up to 38% but distinct and much greater effects on the muscle function such as torque when pressing (Plantarfelxion) by + 18% and a reduction of the angle of the maximum Force (from 17 ° to 10 °) and thus a much earlier power development.

Other Galileo studies already reported similar warm-up effects on Flexibility # GRFS137, # GRFS60, # GRFS38, # GRFS17, and muscle function # GRFS129, # GRFS125, # GRFS19.

Also, this study performed stretching exercises at 16Hz frequencies (26Hz), stretching exercises at medium frequnezn (16-18Hz) would probably have been more effective for muscle stretching (# GRFS59).

Once again, this study shows how effectively Galileo training can be used as warm-up training.

Med Sci Sports Exerc. 2008 Nov;40(11):1977-83. doi: 10.1249/MSS.0b013e31817eeeb8.

Ankle flexors produce peak torque at longer muscle lengths after whole-body vibration.

Kemertzis MA[1], Lythgo ND, Morgan DL, Galea MP.

Med Sci Sports Exerc. 2009 Feb;41(2):482.

INTRODUCTION:
Whole-body vibration (WBV) has become a popular training method in recent years. This study investigated the effect of WBV on the length-tension relationship of the ankle dorsi- and plantarflexors as measured by a Biodex dynamometer (Biodex Medical Systems Inc, Shirley, NY).

METHODS:
Twenty healthy young adult males participated in this study and were exposed to two treatments. The first treatment (nonvibration) involved passive stretching of the plantarflexors at end range of motion (ROM) for five 1-min bouts.

The second treatment involved the same passive stretch with superimposed WBV (frequency = 26 Hz) for five 1-min bouts on a rotary vibration plate (Galileo 900; Novotec, Pforzheim, Germany).

Voluntary ROM, peak torque, and corresponding joint angle of the plantar- and dorsiflexors were recorded pre- and posttreatment.

Within-treatment (before and after) and between-treatment (WBV and nonvibration) outcomes were assessed by repeated-measures MANOVA.

RESULTS:
No significant changes in the measures of ankle dorsiflexion were found within or between treatments. No significant changes in the measures of ankle plantarflexion were found after the nonvibration treatment.

After WBV, however, there was a significant 7.1 degree shift in the angle ($P = 0.001$) of peak plantarflexor torque production corresponding to a longer muscle length.

CONCLUSION:
This study shows that stretched human ankle plantarflexors respond to WBV by generating peak voluntary torque at longer muscle lengths. This has possible benefits for the rehabilitation of patients with neuromuscular disorders (e.g., stroke) who experience short ankle flexor resting lengths.

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