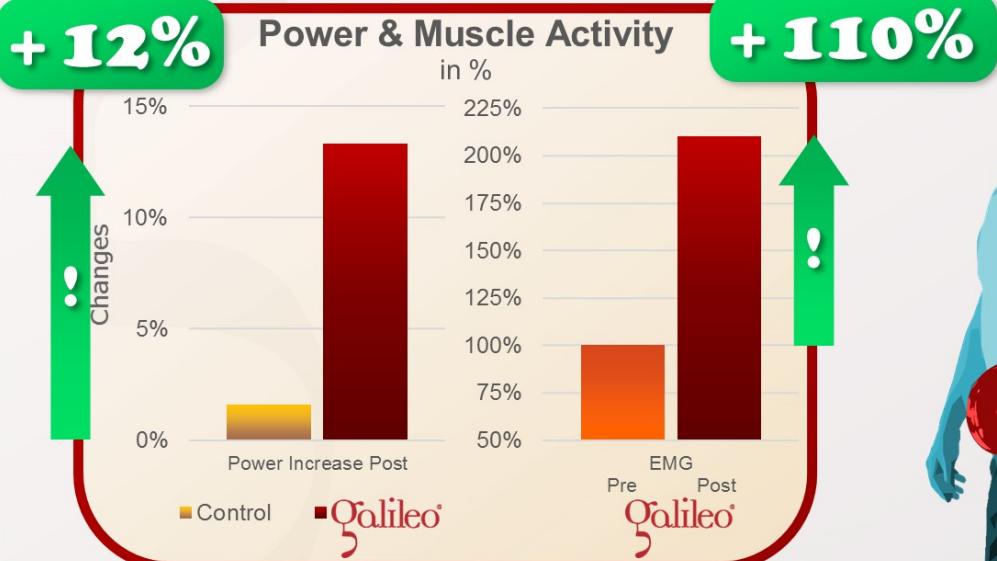


Can 5x1 minutes Galileo dumbbell Training increase muscle power in athletes?

The Answer is: YES

This study investigated the immediate effects of Galileo Mano Training (vibration dumbbell) on muscle power and muscle activation (EMG) in elite boxers (5x 1 min., 30Hz, 145° bent arms). One arm was trained the other was used as internal control. The side trained with Galileo could improve muscle power when lifting 5% of body mass by 13%. During Galileo Training muscle activation was increased by 110%.



Bosco C, Cardinale M, Tsarpela O: Influence of vibration on mechanical power and electromyogram activity in human arm flexor muscles; Eur J Appl Physiol Occup Physiol., 79(4):306-11, 1999; PMID: 10090628; GID: 371

Galileo Research Fact Sheet #50

Sports & Fitness: Galileo Dumbbell, Warmup

www.galileo-training.com

In 1998 Bosco published the first publication world-wide about Whole Body Vibration Training which was done using a Galileo device. One year later he also published the first study using a Galileo vibrating Dumbbell (Galileo Mano) – probably one of the most underestimated Galileo devices. The study was done with elite boxers of the Italian national team.

One arm was trained using a Galileo Dumbbell five times one minute at 30Hz and at a 135° elbow angle using the weight of the Galileo Mano only (2,6kg). The untrained arm was then used as an internal reference. The maximum power when lifting a mass of 5% of the body mass was used to compare the two arms.

Galileo Training could increase the power by an average of 13%. This was the first time a very typical Galileo warmup effect was documented.

The study also reported another very typical effect of Galileo Training: the massive increase in muscle activation (EMG) during Galileo Training by over 110%.



Eur J Appl Physiol Occup Physiol. 1999 Mar;79(4):306-11.

Influence of vibration on mechanical power and electromyogram activity in human arm flexor muscles.

Bosco C¹, Cardinale M, Tsarpela O.

Abstract

The aim of this study was to evaluate the influence of vibration on the mechanical properties of arm flexors.

A group of 12 international level boxers, all members of the Italian national team, voluntarily participated in the experiment: all were engaged in regular boxing training. At the beginning of the study they were tested whilst performing forearm flexion with an extra load equal to 5% of the subjects' body mass. Following this, one arm was given the experimental treatment (E; mechanical vibration) and the other was the control (no treatment). The E treatment consisted of five repetitions lasting 1-min each of mechanical vibration applied during arm flexion in isometric conditions with 1 min rest between them. Further tests were performed 5 min immediately after the treatment on both limbs. The results showed statistically significant enhancement of the average power in the arm treated with vibrations. The root mean square electromyogram (EMGrms) had not changed following the treatment but, when divided by mechanical power, (P) as an index of neural efficiency, it showed statistically significant increases.

It was concluded that mechanical vibrations enhanced muscle P and decreased the related EMG/P relationship in elite athletes. Moreover, the analysis of EMGrms recorded before the treatment and during the treatment itself showed an enormous increase in neural activity during vibration up to more than twice the baseline values.

This would indicate that this type of treatment is able to stimulate the neuromuscular system more than other treatments used to improve neuromuscular properties.

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