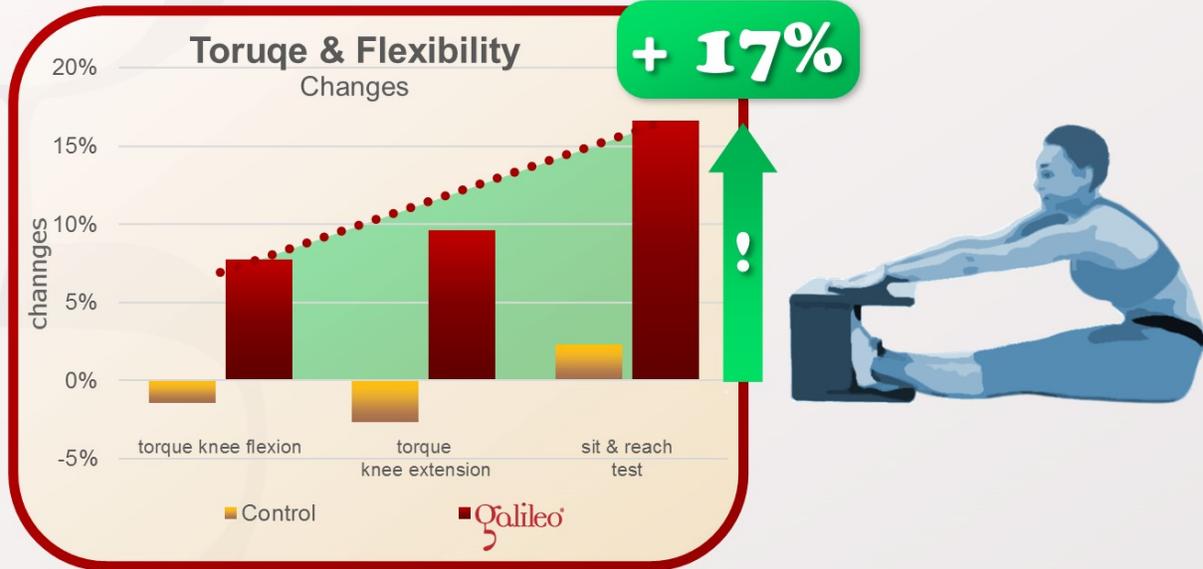


Can Galileo Training even at high frequencies improve flexibility ?

The answer is: YES

This study tested the short-term effect of Galilee Training on flexibility (26 Hz, 6 minutes, slightly bent knees, 170°). The control group used a cycling ergometer for 6 minutes at moderate 50W). As a result the flexibility measured by sit & reach test improved by 17%, torque in knee extension by 10% and torque in knee flexion by 8%. The control group did not show any significant changes.



Jacobs PL, Burns P: Acute enhancement of lower-extremity dynamic strength and flexibility with whole-body vibration; J Strength Cond Res., 23(1):51-7, 2009; PMID: 18824930; GID: 1713



J Strength Cond Res. 2009 Jan;23(1):51-7. doi: 10.1519/JSC.0b013e3181839f19.

Acute enhancement of lower-extremity dynamic strength and flexibility with whole-body vibration.

Jacobs PL¹, Burns P.

Abstract

The purpose of this investigation was to examine the acute effects of whole-body vibration (WBV) on muscular strength, flexibility, and heart rate (HR). Twenty adults (10 men, 10 women) untrained to WBV participated in the study. All subjects completed assessment of lower-extremity isokinetic torque, flexibility, and HR immediately before and after 6 minutes of WBV and 6 minutes of leg cycling ergometry (CYL), in randomized order.

During WBV, subjects stood upright on a vibration platform for a total of 6 minutes. Vibration frequency was gradually increased during the first minute to a frequency of 26 Hz, which was maintained for the remaining 5 minutes. During CYL, power output was gradually increased to 50 W during the first minute and maintained at that power output for the remaining 5 minutes. Lower-extremity flexibility was determined using the sit-and-reach box test. Peak and average isokinetic torque of knee extension and flexion were measured by means of a motor-driven dynamometer with velocity fixed at 120 degrees .s. Change scores for the outcome measures were compared between treatments using Student's paired t-tests.

Analysis revealed significantly greater HR acceleration with CYL (24.7 bpm) than after WBV (15.8 bpm). The increase of sit-and-reach scores after WBV (4.7 cm) was statistically greater ($p < 0.05$) than after CYL (0.8 cm). After WBV, increases in peak and average isokinetic torque of knee extension, 7.7% and 9.6%, were statistically greater than after CYL ($p < 0.05$). Average torque of knee flexion also increased more with WBV (+7.8%) than with CYL (-1.5%) ($p < 0.05$).

The findings of this study indicate that short-term WBV standing elicits acute enhancements of lower-extremity muscular torque and flexibility, suggesting the application of this technology as a preparatory activity before more intense exercise.

PMID: 18824930 DOI: [10.1519/JSC.0b013e3181839f19](https://doi.org/10.1519/JSC.0b013e3181839f19)