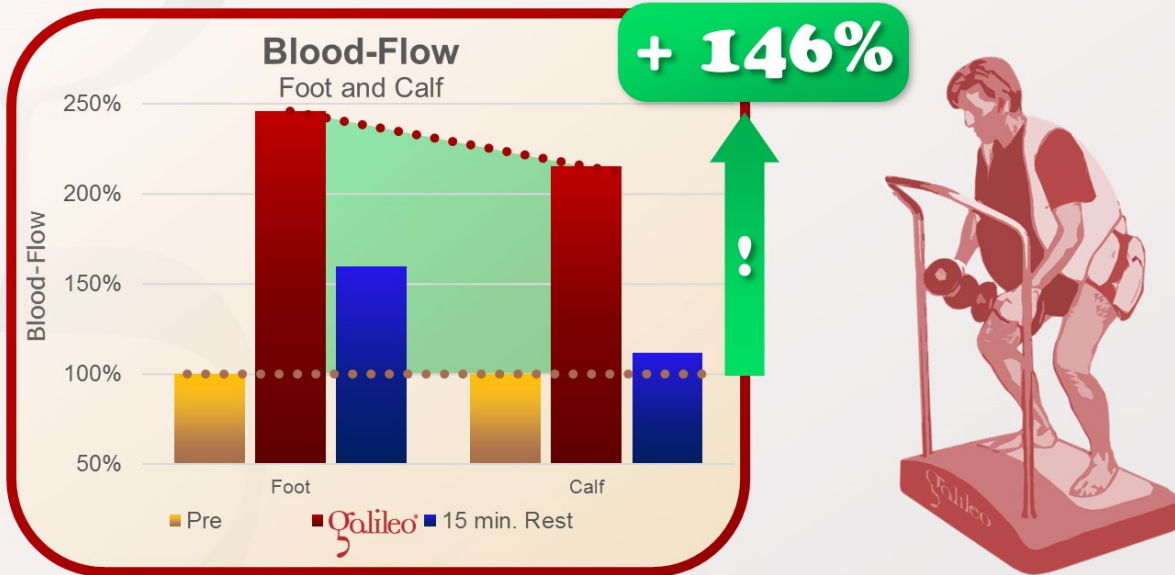


Can Galileo Training increase blood flow ?

The answer is: YES

This study reports the immediate effect of Galileo Training on blood flow (26Hz, Pos. 2, 3 minutes, slow squatting, additional weights +35% to +40% of body mass). Control group: Cycling ergometer, 3 min., 50W. In the Galileo Training group blood flow at the foot and calf increase between 120% and 150%. At the same time the cardiovascular reaction is significantly smaller than in cycling ergometer training.



Rittweger J, Beller G, Felsenberg D: Acute physiological effects of exhaustive whole-body vibration exercise in man; Clin Physiol., 20(2):134-42, 2000; PMID: 10735981; GID: 195



Clin Physiol. 2000 Mar;20(2):134-42.

Acute physiological effects of exhaustive whole-body vibration exercise in man.

Rittweger J1, Beller G, Felsenberg D.

Abstract

Vibration exercise (VE) is a new neuromuscular training method which is applied in athletes as well as in prevention and therapy of osteoporosis.

The present study explored the physiological mechanisms of fatigue by VE in 37 young healthy subjects. Exercise and cardiovascular data were compared to progressive bicycle ergometry until exhaustion.

VE was performed in two sessions, with a 26 Hz vibration on a ground plate, in combination with squatting plus additional load (40% of body weight). After VE, subjectively perceived exertion on Borg's scale was 18, and thus as high as after bicycle ergometry. Heart rate after VE increased to 128 min⁻¹, blood pressure to 132/52 mmHg, and lactate to 3.5 mM. Oxygen uptake in VE was 48.8% of VO₂max in bicycle ergometry.

After VE, voluntary force in knee extension was reduced by 9.2%, jump height by 9.1%, and the decrease of EMG median frequency during maximal voluntary contraction was attenuated. The reproducibility in the two VE sessions was quite good: for heart rate, oxygen uptake and reduction in jump height, correlation coefficients of values from session 1 and from session 2 were between 0.67 and 0.7.

Thus, VE can be well controlled in terms of these parameters. Surprisingly, an itching erythema was found in about half of the individuals, and an increase in cutaneous blood flow. It follows that exhaustive whole-body VE elicits a mild cardiovascular exertion, and that neural as well as muscular mechanisms of fatigue may play a role.

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