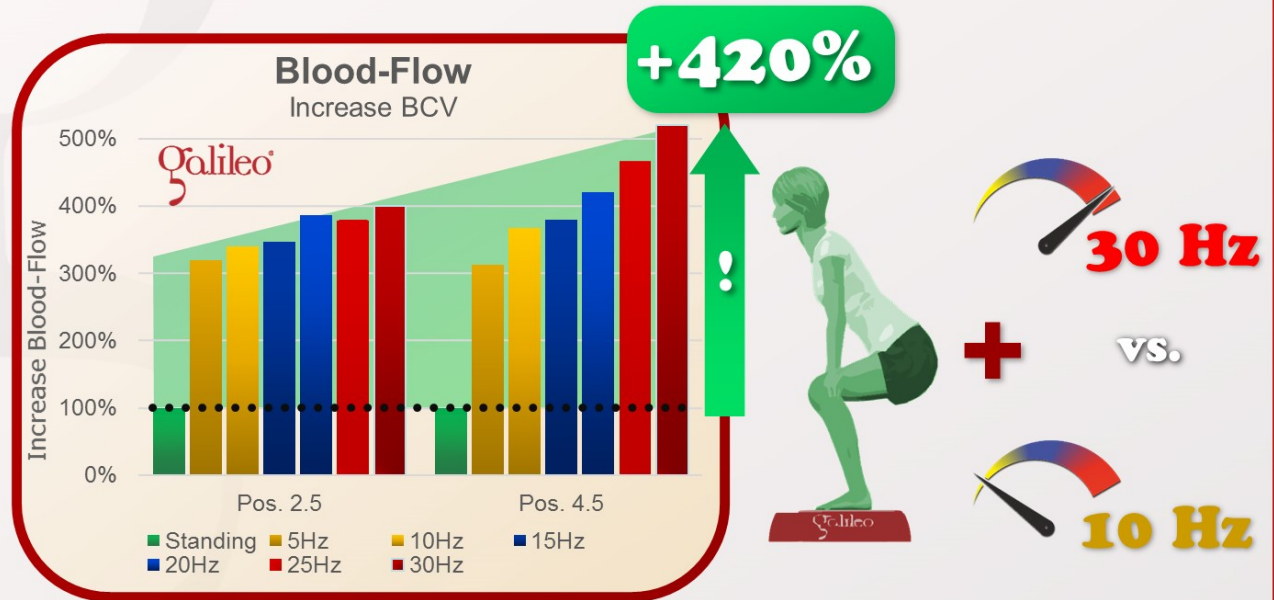


# Does blood-flow during Galileo Training increase with frequency and amplitude ?

## The answer is: YES

This study reports the influence of frequency and amplitude during Galileo Training on the blood-flow (1 min., 5-30Hz, position 2.5 and 4.5, static squatting). The results show that with increasing frequency and increasing amplitude blood-flow velocity during Galileo Training can be increased by 220% to 420%.



Lythgo N, Eser P, de Groot P, Galea M: Whole-body vibration dosage alters leg blood flow; Clin Physiol Funct Imaging., 29(1):53-9, 2009; PMID: 19125731, GID: 1703



[Clin Physiol Funct Imaging](#). 2009 Jan;29(1):53-9. doi: 10.1111/j.1475-097X.2008.00834.x.

## **Whole-body vibration dosage alters leg blood flow.**

Lythgo N<sup>1</sup>, Eser P, de Groot P, Galea M.

### Abstract

The effect of whole-body vibration dosage on leg blood flow was investigated. Nine healthy young adult males completed a set of 14 random vibration and non-vibration exercise bouts whilst squatting on a Galileo 900 plate. Six vibration frequencies ranging from 5 to 30 Hz (5 Hz increments) were used in combination with a 2.5 mm and 4.5 mm amplitude to produce twelve 1-min vibration bouts. Subjects also completed two 1-min bouts where no vibration was applied.

Systolic and diastolic diameters of the common femoral artery and blood cell velocity were measured by an echo Doppler ultrasound in a standing or rest condition prior to the bouts and during and after each bout. Repeated measures MANOVAs were used in the statistical analysis. Compared with the standing condition, the exercise bouts produced a four-fold increase in mean blood cell velocity ( $P < 0.001$ ) and a two-fold increase in peak blood cell velocity ( $P < 0.001$ ). Compared to the non-vibration bouts, frequencies of 10-30 Hz increased mean blood cell velocity by approximately 33% ( $P < 0.01$ ) whereas 20-30 Hz increased peak blood cell velocity by approximately 27% ( $P < 0.01$ ).

Amplitude was additive to frequency but only achieved significance at 30 Hz ( $P < 0.05$ ). Compared with the standing condition, squatting alone produced significant increases in mean and peak blood cell velocity ( $P < 0.001$ ).

The results show leg blood flow increased during the squat or non-vibration bouts and systematically increased with frequency in the vibration bouts.

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