

PubMed

U.S. National Library of Medicine
National Institutes of Health



Display Settings: Abstract

[Clin Physiol.](#) 2001 May;21(3):377-82.

Whole-body vibration exercise leads to alterations in muscle blood volume.

Kerschlan-Schindl K, Grampp S, Henk C, Resch H, Preisinger E, Fialka-Moser V, Imhof H.

Department of Physical Medicine and Rehabilitation, University of Vienna, Vienna, Austria.

Abstract

Occupationally used high-frequency vibration is supposed to have negative effects on blood flow and muscle strength. Conversely, low-frequency vibration used as a training tool appears to increase muscle strength, but nothing is known about its effects on peripheral circulation. The aim of this investigation was to quantify alterations in muscle blood volume after whole muscle vibration--after exercising on the training device Galileo 2000 (Novotec GmbH, Pforzheim, Germany). Twenty healthy adults performed a 9-min standing test. They stood with both feet on a platform, producing oscillating mechanical vibrations of 26 Hz. Alterations in muscle blood volume of the quadriceps and gastrocnemius muscles were assessed with power Doppler sonography and arterial blood flow of the popliteal artery with a Doppler ultrasound machine. Measurements were performed before and immediately after exercising. Power Doppler indices indicative of muscular blood circulation in the calf and thigh significantly increased after exercise. The mean blood flow velocity in the popliteal artery increased from 6.5 to 13.0 cm x s(-1) and its resistive index was significantly reduced. The results indicate that low-frequency vibration does not have the negative effects on peripheral circulation known from occupational high-frequency vibration.

PMID: 11380538 [PubMed - indexed for MEDLINE]

MeSH Terms

LinkOut - more resources

You are here: [NCBI](#) > [Literature](#) > [PubMed](#)

[Write to the Help Desk](#)