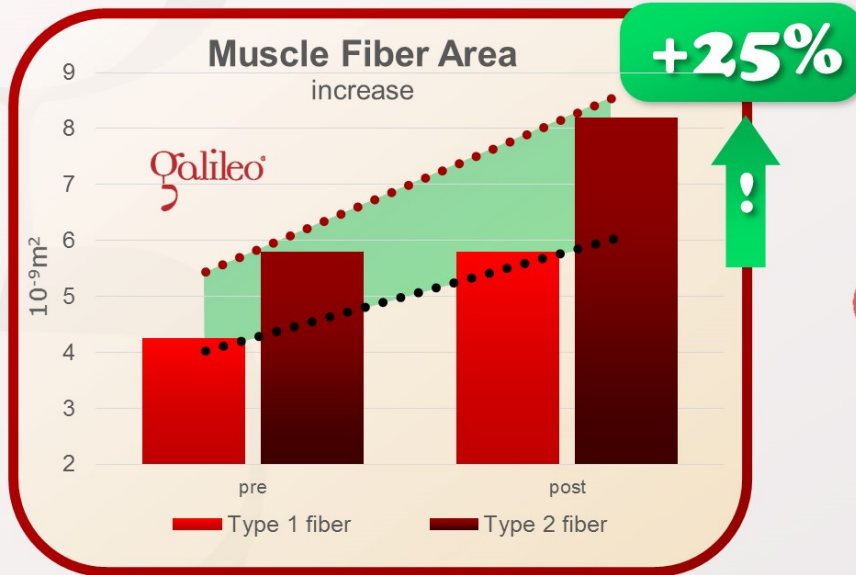


Can endurance athletes also gain with Galileo Training ?

The answer is: YES

This study shows the effect of 16 Galileo Sessions (8 weeks, 30Hz, start 70% 1RM, plus Occlusion) for cyclists and Triathletes compared to identical resistance training. The Galileo Group increased muscle mass at the thigh by 3%, type 1 fiber cross-section by 25%, type 2 fiber cross-section by 23%, capillarization by 8% with no significant effect in the resistance training control group.



Mueller SM, Boutellier U, Toigo M, et. Al.: High-load resistance exercise with superimposed vibration and vascular occlusion increases critical power, capillaries and lean mass in endurance-trained men.; Eur J Appl Physiol, 114(1):123-33, 2014; PMID: 24154560; GID: 3353



Eur J Appl Physiol. 2014 Jan;114(1):123-33. doi: 10.1007/s00421-013-2752-2. Epub 2013 Oct 24.

High-load resistance exercise with superimposed vibration and vascular occlusion increases critical power, capillaries and lean mass in endurance-trained men.

Mueller SM¹, Aguayo D, Lunardi F, Ruoss S, Boutellier U, Frese S, Petersen JA, Jung HH, Toigo M.

Abstract

PURPOSE:

It is a widely accepted premise in the scientific community and by athletes alike, that adding resistance exercise to a regular regimen of endurance training increases endurance performance in endurance-trained men. However, critical power (CP), capillarization, and myofiber size remain unaffected by this addition. Therefore, we tested whether the superimposition of resistance exercise with whole-body vibration and vascular occlusion (vibroX) would improve these variables in endurance-trained males relative to resistance exercise alone.

METHODS:

Twenty-one young, endurance-trained males were randomly assigned either to a vibroX (n = 11) or resistance (n = 10) training group. Both groups trained in a progressive mode twice a week for 8 weeks. Pre and post training, histochemical muscle characteristics, thigh muscle size, endurance and strength parameters were determined.

RESULTS:

VibroX increased CP (P = 0.001), overall capillary-to-fiber ratio (P = 0.001) and thigh lean mass (P < 0.001), while these parameters were unaffected by resistance training. The gain in CP by vibroX was positively correlated with the gain in capillarization (R(2) = 0.605, P = 0.008), and the gain in thigh lean mass was paralleled by increases in MyHC-1 and MyHC-2 fiber cross-sectional areas and strength. Maximum voluntary torque and the finite work capacity above CP (W') increased significantly only following resistance training.

CONCLUSIONS:

We achieved a proof of concept by demonstrating that modification of resistance exercise by superimposing side-alternating whole-body vibration and sustained vascular occlusion induced further improvements in CP, capillarization and hypertrophy, all of which were not observed with resistance training alone.