

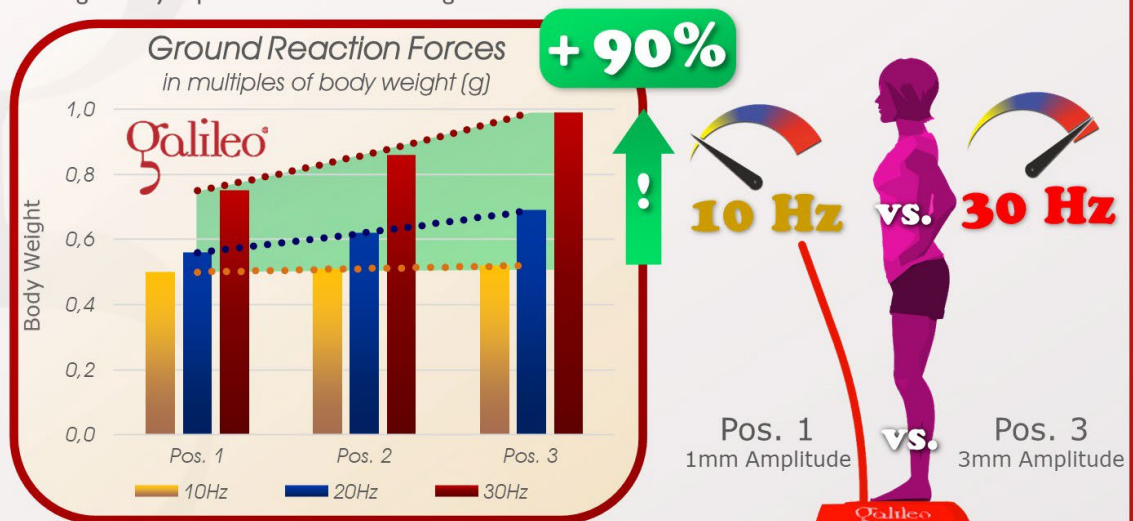
Galileo Research Fact Sheet #160: Does Galileo Training induce larger forces than in walking?



Does Galileo Training induce larger forces than in walking ?

The answer is: NO

This study measured the ground reaction forces during Galileo Training (forces induced into the body) (10 - 30Hz, Pos.1 - Pos.3, upright standing, locked knees). Ground reaction forces showed values below body weight (<1g) while typical peak forces during walking are in the range of 1.2 times body weight – this shows once more the high safety aspects of Galileo Training.



Yang F, Underdahl M, Yang H, Yang C: Effects of vibration intensity on lower limb joint moments during standing.; J Biomech, 88:18-24, 2019; PMID: 30904333; GID: 4884

Galileo Research Fact Sheet #160

Common: Joint Forces

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This study documented the ground reaction forces (the forces between the feet and the Galileo Platform) during Galileo Training at different frequencies (10-30Hz) and different amplitudes (foot position 1-3). While earlier studies (#GRFS7, #GRFS6) investigated joint forces in patients with artificial knee joints, hip joints and vertebra with built-in force sensors, this study measured ground reaction forces and estimated joint forces using mathematic models. Nevertheless, the results were in line with those of previous studies with ground reaction forces per leg not exceeding body weight even at high frequencies and high amplitudes. It also proves once more how safe Galileo Training is especially for joints because even during intense Galileo Training joint forces are in the order of natural walking – furthermore, these values can be decreased by another 45% when reducing amplitude (foot position) and/or frequency (to 0,55 times body weight per leg). This shows how scalable Galileo Training is.

Common - Joint Forces
#GRFS160 #GRFS