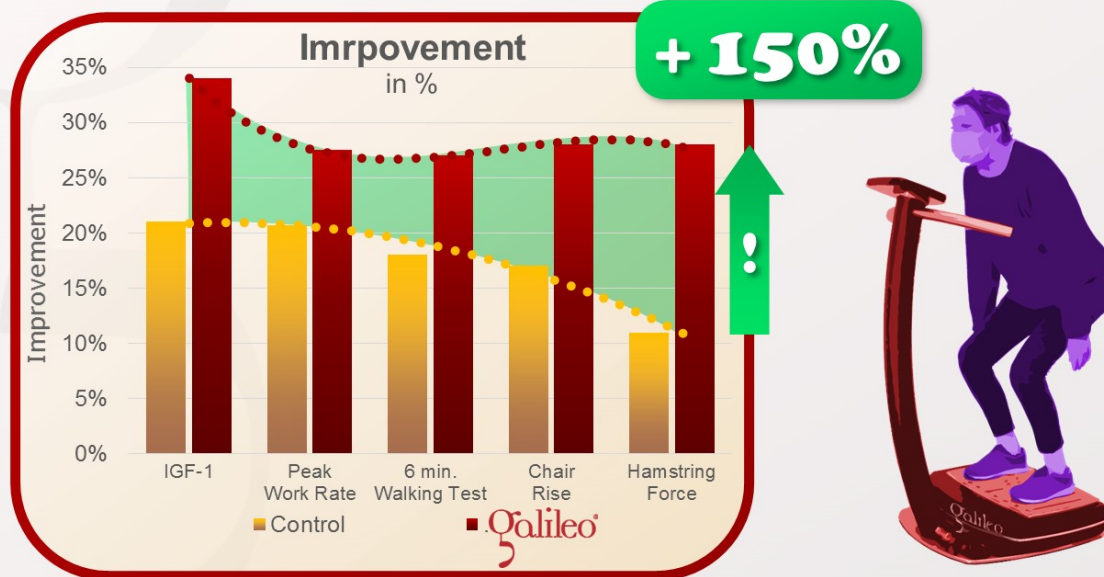


Can Galileo Training be used to increase muscle power even after lung transplant ?

The answer is: YES

This study tested the effects of Galileo Training in COPD patients after a lung transplant on muscle function and muscle power (24-26Hz, pos. 3, squats, 3x2 Min., 3/week, 4 weeks). Both groups received conventional strength and endurance training (30 Minutes per session) and additionally 3x2 minutes squat exercises with and without Galileo. The Galileo group showed significantly higher training effects of up to extra 150%.



Gloeckl R, Heinzlmann I, Seeberg S, Damisch T, Hitzl W, Kenn K: Effects of complementary whole-body vibration training in patients after lung transplantation: A randomized, controlled trial.; J Heart Lung Transplant, 34(11):1455-61, 2015; PMID: 26279196; GID: 3966

At first sight one might think: how can that be? The same training is supposed to be working for top athletes as well as after a lung transplantation? But the answer is as simple as in any training:

Certainly the same type of training can be used for the deconditioned and the top athletes (for example endurance or strength training) but not using the same amount of extra weights. Therefore, the training intensity needs to be adapted to the abilities of the individual. With Galileo this is not limited to the frequency only. For example, this study in COPD patients after recent lung transplant high frequencies (24-26Hz) were used but, no extra weight and a squatting position (45°) not as deep as for fit individuals (90°) was used. Interestingly the Galileo component was only 3 times for 2 minutes with a significant increase of the training effects. Both groups had conventional strength and endurance training for about 30 minutes per session and an additional 3 times for 2 minutes squatting with and without Galileo.

The Galileo Group showed training effects between 50% and 150% higher than the control group. Especially the peak work rate increased by about 30% in the Galileo supported training group.

This is of high relevance for the group because other studies showed that each 10% increase decrease the risk for complication or the need of another transplantation by 23% - so the Galileo supported Training decreased this risk by about 60% in just 4 weeks!



[J Heart Lung Transplant.](#) 2015 Nov;34(11):1455-61. doi: 10.1016/j.healun.2015.07.002. Epub 2015 Jul 22.

Effects of complementary whole-body vibration training in patients after lung transplantation: A randomized, controlled trial.

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Abstract

BACKGROUND:

In recent years, some studies have shown that whole-body vibration training (WBVT) may be a beneficial training mode in patients with chronic obstructive pulmonary disease (COPD). However, the effects of WBVT in patients after lung transplantation (LTx) have not yet been investigated.

METHODS:

Eighty-three LTx patients (56 ± 7 years of age, 51% male, 10 ± 12 weeks post-LTx, forced expiratory volume in 1 second [FEV1] 68 ± 20 percent predicted [% pred], baseline 6-minute walk distance [6MWD] 350 ± 120 meters) admitted to a 4-week inpatient multidisciplinary program of pulmonary rehabilitation (PR) performed supervised endurance and strength training on 5 days per week. In addition, patients were randomly assigned to 1 of 2 supervised intervention groups on 3 days/week: (1) 4×2 minutes of bilateral dynamic squat exercises on a side-alternating vibration platform at 24 to 26 Hz (WBVT); and (2) a control group (CON) with the same amount of exercise time on the floor.

RESULTS:

Seventy patients completed the study (WBVT: $n = 34$; CON: $n = 36$). Improvement in 6MWD was significantly ($p = 0.029$) higher in the WBVT group (83.5 meters [95% CI 65.4 to 101.7]) compared with the CON group (55.2 m [95% CI 37.5 to 72.8]). Also, peak work rate increased significantly ($p = 0.042$) more in the WBVT group (16.8 W [95% CI 13.5 to 20.5]) than in the CON group (12.6 W [95% CI 9.0 to 16.1]). No adverse events related to the intervention occurred during the study.

CONCLUSIONS:

A complementary WBVT on top of conventional endurance and strength training seems to be a feasible and safe exercise modality in patients after LTx. Furthermore, it may even enhance the benefits of a comprehensive PR on exercise capacity.

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