



## Can Galileo Therapy increase muscle function in COPD patients within just 3 weeks ?

### The answer is: YES

This study tested the effects of Galileo Therapy in COPD in-patients on muscle function and muscle power (24-26Hz, pos. 3, squatting exercises, 3x3 min., 5/week, 3 weeks). Both groups received conventional strength and endurance training (30 Minutes per session) and additionally 3x3 minutes squat exercises with and without Galileo. The Galileo group showed significantly higher therapy effects of up to extra 100%.



Gloeckl R, Heinzelmann I, Baeuerle S, Damm E, Diril M, Buhrow D, Jerrentrup A, Kenn K, et al.: Effects of whole body vibration in patients with chronic obstructive pulmonary disease - A randomized controlled trial.; *Respir Med*, 106(1):75-83, 2012; PMID: 22104540; GID: 2780

Galileo Research Fact Sheet #32

Therapy: COPD

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Even for typical COPD patients an additional Galileo Therapy of 3\*3 minutes per session could almost double the effects of strength and endurance training in just three weeks.

In this study COPD in-patients received a 30 minutes strength and endurance training and either additionally 3x3 minutes squatting exercises one group on the Galileo and the control group without vibration.

The use of Galileo Therapy almost doubled the effects on performance for every-day living like walking distance and chair rise time, which is an essential effect for this patient group.

The results of this study are in line with many other Galileo studies in the field of COPD (e.g. #GRFS124, #GRFS107, #GRFS41, #GRFS34).

They show how effective and efficient and the same time Galileo Therapy can be used to improve the physical abilities of COPD patients.



[Respir Med.](#) 2012 Jan;106(1):75-83. doi: 10.1016/j.rmed.2011.10.021. Epub 2011 Nov 21.

## **Effects of whole body vibration in patients with chronic obstructive pulmonary disease-- a randomized controlled trial.**

[Gloeckl R<sup>1</sup>](#), [Heinzelmann I](#), [Baeuerle S](#), [Damm E](#), [Schwedhelm AL](#), [Diril M](#), [Buhrow D](#), [Jerrentrup A](#), [Kenn K](#).

### **INTRODUCTION:**

To date endurance and strength training are established and evidence-based exercise methods in patients with chronic obstructive pulmonary disease (COPD).

There is an unmet need for further research in new and complementary exercise modalities. Additional whole body vibration training during pulmonary rehabilitation may be such a new approach that has not yet been investigated in patients with COPD.

### **METHODS:**

Eighty-two patients ( $65 \pm 9$  yrs, FEV(1) pred.  $38 \pm 11\%$ , female 51%) with COPD in GOLD stage III to IV assessed for a 3-week inpatient multidisciplinary rehabilitation program were on top randomly assigned to one of two intervention groups: (1)  $3 \times 3$  min of bilateral dynamic squat exercises on a side-alternating vibration platform at 24-26 Hz three times per week (WBV) and (2) a control group (CON) with the same amount of exercise time without WBV.

### **RESULTS:**

Thirty-six patients completed the study in each group. The improvement in 6-min walking distance was significantly higher in the WBV-group when compared to the CON-group (WBV:  $64 \pm 59$  m, CON:  $37 \pm 52$  m with a between-group difference of 27 m [95% CI, 1-53],  $p = 0.046$ ).

The time required for a sit-to-stand test also decreased more markedly in the WBV-group than in the CON-group (WBV:  $-4.0 \pm 4.8$  s, CON:  $-2.0 \pm 3.1$  s with a between-group difference of  $-1.9$  s [95% CI,  $-4.0$  to  $0.1$ ],  $p = 0.067$ ). Improvements in health-related quality of life were similar in both groups.

### **CONCLUSIONS:**

WBV training seems to be a promising new exercise modality for patients with COPD and may enhance the effects of a multidisciplinary rehabilitation program.

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