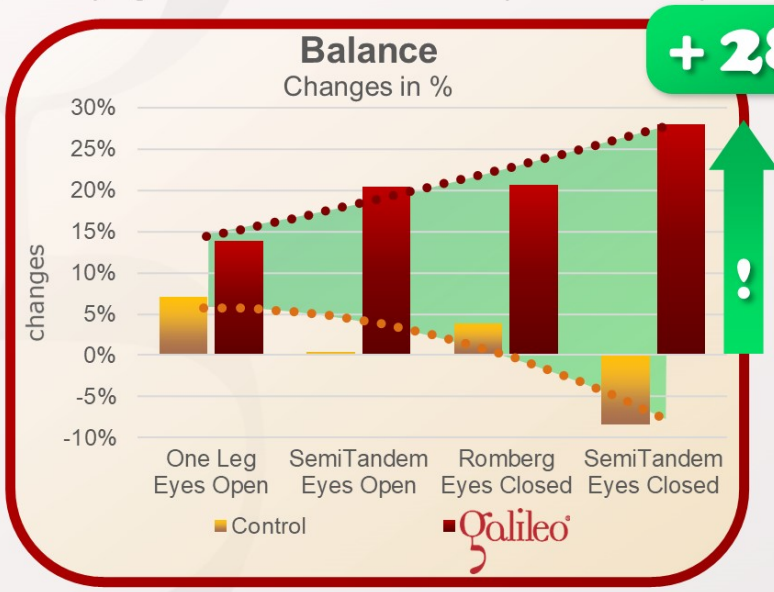
Can 3 weeks of Galileo Therapy improve balance in COPD patients ?

The answer is: YES

This study documented the effects of Galileo Therapy on Balance and muscle function in COPD patients. Both groups received endurance training (15 min.) + strength training (50 Min) 5/week, as well as additional 4*2 min. squatting exercises with or without Galileo (24-26Hz, pos. 2.5, 3/week, 3 weeks). The Galileo group showed significantly higher effects on Balance with improvements of up to 28% (e.g. semi-tandem stance, eyes closed).



Gloeckl R, Jarosch I, Bengsch U, Andrianopoulos V, Christle JW, Hitzl W, Kenn K, et Al.: What's the secret behind the benefits of whole-body vibration training in patients with COPD? A randomized, controlled trial.; Respir Med, 126:17-24, 2017; PMID: 28427544; GID: 4386

Galileo Research Fact Sheet #144 Therapy: COPD, Balance www.galileo-therapy.com

This study documented the effects of Galileo therapy on balance and muscle function of COPD patients during a 3-week inpatient intensive care course.

Both groups received intensive endurance (15 minutes) and strength training (30 minutes, on various machines) 5 times a week. In addition, both groups performed 4 * 2 minute slow squats 3 times a week (30 ° -90 ° flexion) with or without Galileo mechanostimulation.

The Galileo group showed significantly greater balance effects with improvements ranging from 14% (one-legged, open eyes) to 28%

(semi-tandem, closed eyes). In addition, as in # GRFS124, # GRFS107, # GRFS34, # GRFS32), there was a marked improvement in muscle function (eg walking distance).

Considering that only about 24 minutes of approximately 250 minutes of therapy per week with Galileo therapy were used, this shows once more how efficiently Galileo therapy can be used in physically very deconditioned patients with massive lung function limitations.

2017 May;126:17-24. doi: 10.1016/j.rmed.2017.03.014. Epub 2017 Mar 14.

What's the secret behind the benefits of whole-body vibration training in patients with COPD? A randomized, controlled trial.

Gloeckl R[1], Jarosch I[2], Bengsch U[3], Claus M[3], Schneeberger T[4], Andrianopoulos V[2], Christle JW[5], Hitzl W[6], Kenn K[4].

BACKGROUND:
Several studies have shown that whole-body vibration training (WBVT) improves exercise capacity in patients with severe COPD. The aim of this study was to investigate the determinants of improved exercise capacity following WBVT.

METHODS:
Seventy-four COPD patients (FEV_1: 34 ± 9%predicted) were recruited during a 3-week inpatient pulmonary rehabilitation (PR) program.

Conventional endurance and strength exercises were supplemented with self-paced dynamic squat training sessions (4bouts*2min, 3times/wk).

Patients were randomly allocated to either a WBVT-group performing squat training on a side-alternating vibration platform (Galileo) at a high intensity (24-26 Hz) or a control group performing squat training without WBVT.

RESULTS:
Patients in the WBVT group significantly improved postural balance in several domains compared to the control-group (i.e. tandem stance: WBVT +20% (95%CI 14 to 26) vs. control -10% (95%CI 6 to 15), $p < 0.001$; one-leg stance: WBVT +11% (95%CI 4 to 19) vs. control -8% (95%CI -19 to 3), $p = 0.009$).

Six-minute walk distance and muscle power but not muscle strength were also significantly improved compared to control group.

CONCLUSIONS:
Implementation of WBVT improves postural balance performance and muscle power output.

The neuromuscular adaptation related to improved balance performance may be an important mechanism of the improvement in exercise capacity after WBVT especially in COPD patients with impaired balance performance and low exercise capacity.

PMID: 28427544 DOI: 10.1016/j.rmed.2017.03.014