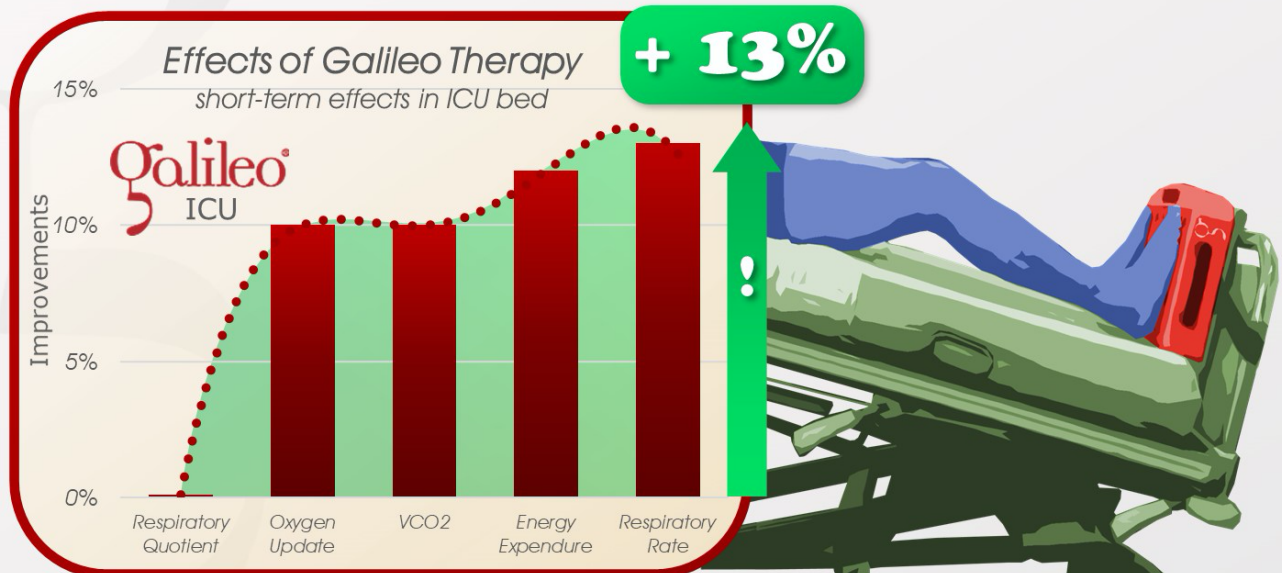


Can Galileo Therapy be used safely for patients in Intensive Care Units (ICU) ?

The answer is: YES

This study investigated effects and safety of Galileo application for mechanically ventilated patients in intensive care unit (UCI) with an expected stay of 7 days. A Galileo Med 15 was mounted directly to the ICU bed (exercises in lying, 3x3 Min., 24Hz, 20° knee flexion). The results showed significant positive muscular and cardiovascular effects and an improved muscle metabolism without negative side-effects.



Wollersheim T, Haas K, Wolf S, Mai K, Spies C, Spranger J, Weber-Carstens S et al.: Whole-body vibration to prevent intensive care unit-acquired weakness: safety, feasibility, and metabolic response; Critical Care, DOI 10.1186, 21/9:1-10, 2017; PMID: 28065165; GID: 4316

This study investigated short-term effects of Galileo application in mechanically ventilated intensive care patients with an estimated stay at ICU of 7 days. Primary goal was to prove safety and effectiveness. A special Galileo Med 15 (ICU) device was used which could be easily attached to the end of the intensive care bed and Galileo application was possible while lying in bed. Short-term effects of Galileo application as well as changes 90 minutes after the end of exercise were monitored for over 30 parameters. Galileo was applied once lying in bed, for 3x3 minutes at 24Hz and a knee angle of about 20°, which resulted in a very moderate training intensity. Nevertheless, the results showed significant positive muscle activation, cardio-vascular effects and increased metabolic turnover without showing negative side effects.

This is an important finding for several reasons. Even though muscle stimulation was very moderate there was a significant effect on muscle activation and metabolic turnover. This is very relevant especially for patients, bedridden patients who need to stay for a week or longer like in ICU (typically 7 days). Lack of physical activity has immediate effects on loss of muscle mass, muscle function cardio-vascular as well as lung function. This loss of function simply because of disuse is referred to as the secondary disease and basically is effective in any disease which results in a decreased physical activity – in case of ICU but also in elderly patients in addition where in a highly deconditioned state (with lack of sufficient physical activities for years and decades before). In these cases, the significant drop of physical activity by staying in Bed for 7 days causes huge problems not only for future rehab. Loss of muscle function and mass not only has a consequence for locomotion but also for more fundamental functions like the immune system where a complete section relies on substances produced by muscle and some of them even only under active training conditions – in extreme cases, loss of muscle mass itself can be life threatening for bedridden patients. Therefore, methods to prevent loss of muscle function and stimulate the cardio-vascular system and lung function are of significant importance for these patients.



Int J Environ Res Public Health
2020 May 22;17(10):3650.

Potential Application of Whole Body Vibration Exercise For Improving The Clinical Conditions of COVID-19 Infected Individuals: A Narrative Review From the World Association of Vibration Exercise Experts (WAVex) Panel

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Abstract

COVID-19 is a highly infectious respiratory disease which leads to several clinical conditions related to the dysfunction of the respiratory system along with other physical and psychological complaints. Severely affected patients are referred to intensive care units (ICUs), limiting their possibilities for physical exercise.

Whole body vibration (WBV) exercise is a non-invasive, physical therapy, that has been suggested as part of the procedures involved with pulmonary rehabilitation, even in ICU settings.

Therefore, in the current review, the World Association of Vibration Exercise Experts (WAVEX) reviewed the potential of WBV exercise as a useful and safe intervention for the management of infected individuals with COVID-19 by mitigating the inactivity-related declines in physical condition and reducing the time in ICU.

Recommendations regarding the reduction of fatigue and the risk of dyspnea, the improvement of the inflammatory and redox status favoring cellular homeostasis and the overall improvement in the quality of life are provided.

Finally, practical applications for the use of this paradigm leading to a better prognosis in bed bound and ICU-bound subjects is proposed.