## Can 3 weeks of Galileo Training improve joint sensitivity and gait in CP patients

## The answer is: YES

This study reported the results of 3 weeks of Galileo Training in children with CP $\left(20-24 \mathrm{~Hz}\right.$, pos. $1-2,30^{\circ}$ bent knees, $3 \times 3 \mathrm{~min}$., $2 /$ week, 3 weeks). Both groups received additional standard physiotherapy ( 30 min ., 2/week, stretching, spasticity reduction, facilitation). With only additional 6 session in total the Galileo Group showed significantly higher results in gait parameters and joint position sense of up to $54 \%$ improvement.


Ko MS, Sim YJ, Kim DH, Jeon HS: Effects of Three Weeks of Whole-Body Vibration Training on Joint-Position Sense, Balance, and Gait in Children with Cerebral Palsy: A Randomized Controlled Study.; Physiother Can, 68(2):99-105, 20I6; PMID: 27909356; GID: 4332

This study once more shows how effective and safe Galileo Training can be used in Children with CP as shown by other studies (\#GRFS30, \#GRFS14\# GRFS13).

Interestingly, only 6 interventions of 3 times, for 3 minutes Galileo Training where used to achieve these results. In addition, each session included 30 minutes of standard physio therapy (gait, stretching, spasticity reduction).

Nevertheless: the additional 9 minutes of Galileo Training had more than 3 times the effect of the additional standard therapy with effects on gait and joint position sense (JPS) of up to $54 \%$. To achieve this the study used a very simple exercise: $20-24 \mathrm{~Hz}$, foot position $2,30^{\circ}$ bent knees.

The study shows one major advantage of Galileo Training: first neuro-muscular effects of the Galileo therapy can be seen within minutes - therefore if the right exercise for the aimed therapy effect is used the aimed effect will become visible within minutes (apart from increase of muscle and bone mass or endurance which takes a little longer).

This helps to optimize therapy because after each exercise there should be an immediate positive effect.

Physiother Can. 2016;68(2):99-105.
Effects of Three Weeks of Whole-Body Vibration Training on Joint-Position Sense, Balance, and Gait in Children with Cerebral Palsy: A Randomized Controlled Study.

Ko $\mathrm{MS}^{1}$, $\operatorname{Sim} \mathrm{YJ}^{2}$, Kim DH ${ }^{3}$, Jeon $\mathrm{HS}^{4}$.

## Abstract

## PURPOSE:

To observe the effects of whole-body vibration (WBV) training in conjunction with conventional physical therapy (PT) on joint-position sense (JPS), balance, and gait in children with cerebral palsy (CP).

## METHODS:

In this randomized controlled study, 24 children with CP were randomly selected either to continue their conventional PT or to receive WBV in conjunction with their conventional PT programme. Exposure to the intervention was intermittent ( 3 min WBV, 3 min rest) for 20 minutes, twice weekly for 3 weeks. JPS, balance, and gait were evaluated before and after treatment.

## RESULTS:

Ankle JPS was improved after 3 weeks of WBV training ( $p=0.014$ ). Participants in the WBV group showed greater improvements in speed ( $F_{1,21}=5.221, p=0.035$ ) and step width ( $F_{1,21}=4.487, p=0.039$ ) than participants in the conventional PT group.

## CONCLUSION:

Three weeks of WBV training was effective in improving ankle JPS and gait variables in children with CP.

PMID: 27909356 PMCID: PMC5125476 DOI: 10.3138/ptc.2014-77

