

Vibrations must be dangerous, that what probably many people think – and yes, this is true for many aspects like work safety for example when working with a power drill or a sledge hammer all day long.

BUT it is not true in general, because if the forces resulting from the vibrations are stimulating the body in a physiological pattern similar to every-day movements like walking, then vibration therapy can not only be save but also can help even toddlers – in this case toddlers with CP (Cerebral Palsy).

This study of the group around Prof. Schoenau from the University of Cologne ("back on your feet") shows that Galileo Therapy in Toddlers Age 1 to 2 is safe, well tolerated and easy to be applied.

This pilot study was planed as a pure safety study, therefore a very standardized protocol not allowing very individual adapted exercises.

This is probably one of the reason why functional improvement in this case were not higher than traditional therapy – other studies show much higher differences (e.g. #GRFS56). Therefore the PEDI question air is listed which sums up the opinion of the parents on therapy effects.

The study was designed as a cross-over study, meaning that group A stared with Galileo Therapy and became control in the second half, Group B started as control and received Galileo Therapy in the second half.

As can be seen the subjective improvements of the children (as reported by the parents) that started with Galileo Therapy a tremendous. Future studies will be more customized for the individual child and therefore probably show more effect just like the Galileo Therapy as used in the "Cologne Concept".



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# Early vibration assisted physiotherapy in toddlers with cerebral palsy - a randomized controlled pilot trial.

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## **OBJECTIVES**:

To investigate feasibility, safety and efficacy of home-based side-alternating whole body vibration (sWBV) to improve motor function in toddlers with cerebral palsy (CP).

# METHODS:

Randomized controlled trial including 24 toddlers with CP (mean age 19 months (SD±3.1); 13 boys).

# **INTERVENTION:**

14 weeks sWBV with ten 9-minute sessions weekly (non-individualized). Group A started with sWBV, followed by 14 weeks without; in group B this order was reversed. Feasibility ( $\geq$ 70% adherence) and adverse events were recorded; efficacy evaluated with the Gross Motor Function Measure (GMFM-66), Pediatric Evaluation of Disability Inventory (PEDI), at baseline (T0), 14 (T1) and 28 weeks (T2).

## **RESULTS**:

Developmental change between T0 and T1 was similar in both groups; change scores in group A and B: GMFM-66 2.4 (SD±2.1) and 3.3 (SD±2.9) (p=0.412); PEDI mobility 8.4 (SD±6.6) and 3.5 (SD±9.2) (p=0.148), respectively.

In two children muscle tone increased post-sWBV. 24 children received between 67 and 140 sWBV sessions, rate of completed sessions ranged from 48 to 100% and no dropouts were observed.

## CONCLUSION:

A 14-week home-based sWBV intervention was feasible and safe in toddlers with CP, but was not associated with improvement in gross motor function.

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