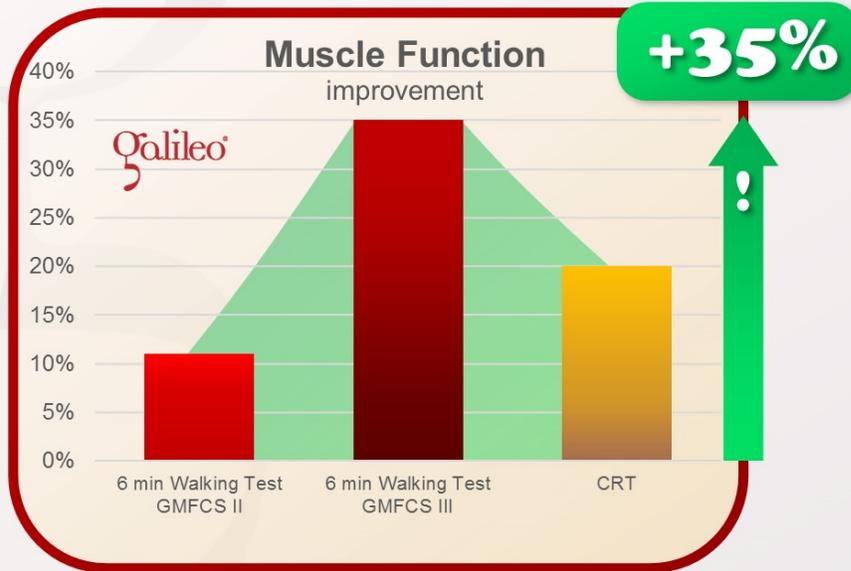


# Can intense Galileo Training improve the walking distance in CP-patients ?

## The answer is: YES

This study shows the effect of Galileo Training (20Hz, 3x3 Min., 4 sessions per week, over 20 weeks) in CP patients between 11 and 20 (GMFCS II/III). The patients improved their 6 minutes walking distance by 35% (GMFCS III) and 11% (GMFCS II), their chair rise time by 18%, their muscle cross-sectional area by up to 5,6% and bone density by 1,3% in the spine and by 2,2% in the legs.



Gusso S, Munns CF, Colle P, Derraik JG, Biggs JB, Cutfield WS, Hofman PL: Effects of whole-body vibration training on physical function, bone and muscle mass in adolescents and young adults with cerebral palsy.; Sci Rep, 3;6:22518, 2016; PMID: 26936535; GID: 4116



Sci Rep. 2016 Mar 3;6:22518. doi: 10.1038/srep22518.

## **Effects of whole-body vibration training on physical function, bone and muscle mass in adolescents and young adults with cerebral palsy.**

Gusso S1, Munns CF2, Colle P1, Derraik JG1, Biggs JB1, Cutfield WS1, Hofman PL1.

### Abstract

We performed a clinical trial on the effects of whole-body vibration training (WBVT) on muscle function and bone health of adolescents and young adults with cerebral palsy. Forty participants (11.3-20.8 years) with mild to moderate cerebral palsy (GMFCS II-III) underwent 20-week WBVT on a vibration plate for 9 minutes/day 4 times/week at 20 Hz (without controls).

Assessments included 6-minute walk test, whole-body DXA, lower leg pQCT scans, and muscle function (force plate). Twenty weeks of WBVT were associated with increased lean mass in the total body (+770 g;  $p = 0.0003$ ), trunk (+410 g;  $p = 0.004$ ), and lower limbs (+240 g;  $p = 0.012$ ). Bone mineral content increased in total body (+48 g;  $p = 0.0001$ ), lumbar spine (+2.7 g;  $p = 0.0003$ ), and lower limbs (+13 g;  $p < 0.0001$ ). Similarly, bone mineral density increased in total body (+0.008 g/cm<sup>2</sup>;  $p = 0.013$ ), lumbar spine (+0.014 g/cm<sup>2</sup>;  $p = 0.003$ ), and lower limbs (+0.023 g/cm<sup>2</sup>;  $p < 0.0001$ ).

**Participants reduced the time taken to perform the chair test, and improved the distance walked in the 6-minute walk test by 11% and 35% for those with GMFCS II and III, respectively. WBVT was associated with increases in muscle mass and bone mass and density, and improved mobility of adolescents and young adults with cerebral palsy.**

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