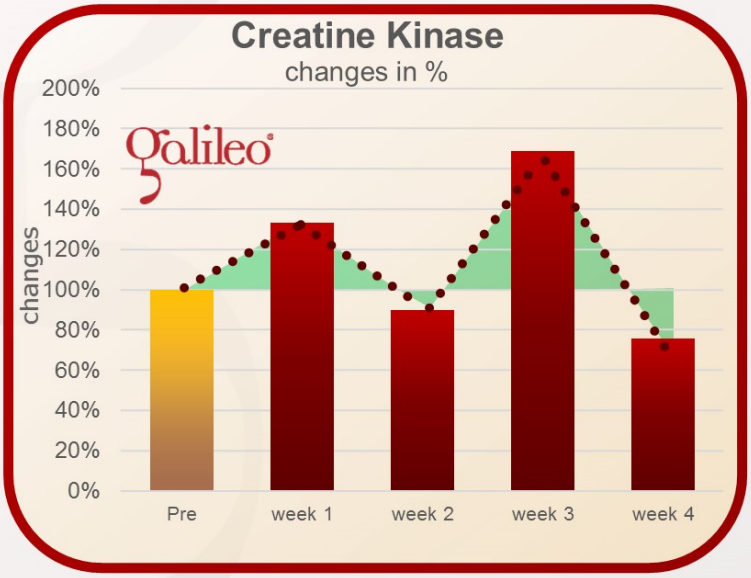
Does Galileo Training increase Creatine Kinase levels in Duchenne patients ?

The answer is: NO

This pilot study tested the effects of Galileo Training on Creatine Kinase (CK) levels in children with Duchenne Muscle Dystrophy (DMD, Age 4-14). (Flexed legs, 13-20Hz, pos. 2, 2*2 min., 3/week, 4 weeks). Galileo Training did not show any significant increases in CK levels during the 4 weeks of Galileo Training. This study shows a relevant safety aspect of Galileo Training for DMD patients.



Myers KA, Ramage B, Khan A, Mah JK: Vibration therapy tolerated in children with duchenne muscular dystrophy: a pilot study.; Pediatr Neurol, 51(1):126-9, 2014; PMID: 24830767; GID: 3555

Galileo Research Fact Sheet #73 Kinder: DMD (Duchenne Muskeldystrophie) www.galileo-training.com

Galileo Training does not increase Creatine Kinase (CK) levels – they stay within the usual range of the patient. CK is believed to be an indicator for the amount of damage on the muscle fiber level induced e.g. by intensive training.

In principle any exercise or usage of the muscle causes more or less of these defects which are usually repaired by the body which is believed to be one of the positive effects of exercise.

However the repair capacity in DMD seems to be limited – therefore for a long time exercise was believed to be counterproductive in DMD patients.

This study however showed that this essential parameter is not increased by Galileo Training and there it is safe even in DMD patients.

In addition #GRFS5showed that Galileo Training (13Hz, 3 minutes) after an intensive workout can decrease CK by 40% - this therefore offers an interesting training option for DMD patients:

Use Galileo Training Intensive exercises at frequency > 25 Hz and as a cool-down at 13Hz to minimize CK levels.

Pediatr Neurol. 2014 Jul;51(1):126-9. doi: 10.1016/j.pediatrneurol.2014.03.005. Epub 2014 Apr 4.

Vibration therapy tolerated in children with Duchenne muscular dystrophy: a pilot study.

Myers KA[1], Ramage B[2], Khan A[3], Mah JK[4].

Abstract

BACKGROUND:

Duchenne muscular dystrophy is an X-linked recessive muscular dystrophy. Clinical management primarily involves rehabilitation strategies aimed at preserving functional mobility as long as possible. Side-alternating vibration therapy is a rehabilitation intervention that has shown promise in a number of different neuromuscular disorders, and has the potential to preserve strength, functional mobility, and bone mass. There has been little research regarding the tolerance to side-alternating vibration therapy in muscle diseases such as Duchenne muscular dystrophy.

METHODS:

Four patients were recruited for a pilot study assessing the safety and tolerance of side-alternating vibration therapy in individuals with Duchenne muscular dystrophy. All patients participated in a 4-week training period involving side-alternating vibration therapy sessions three times per week. Serum creatine kinase was measured, and adverse effects reviewed at each session with functional mobility assessed before and after the training period.

RESULTS:

All patients tolerated the training protocol well, and there were no major changes in functional mobility. One patient had a transient increase in creatine kinase during the study; however, levels of this enzyme were stable overall when comparing the pretraining and posttraining values. Some patients reported subjective improvement during the training period.

CONCLUSIONS:

Side-alternating vibration therapy is well tolerated in children with Duchenne muscular dystrophy and may have potential to improve or maintain functional mobility and strength in these patients.

KEYWORDS:

Duchenne muscular dystrophy; rehabilitation; safety; side-alternating vibration therapy; whole-body vibration therapy

PMID:24830767