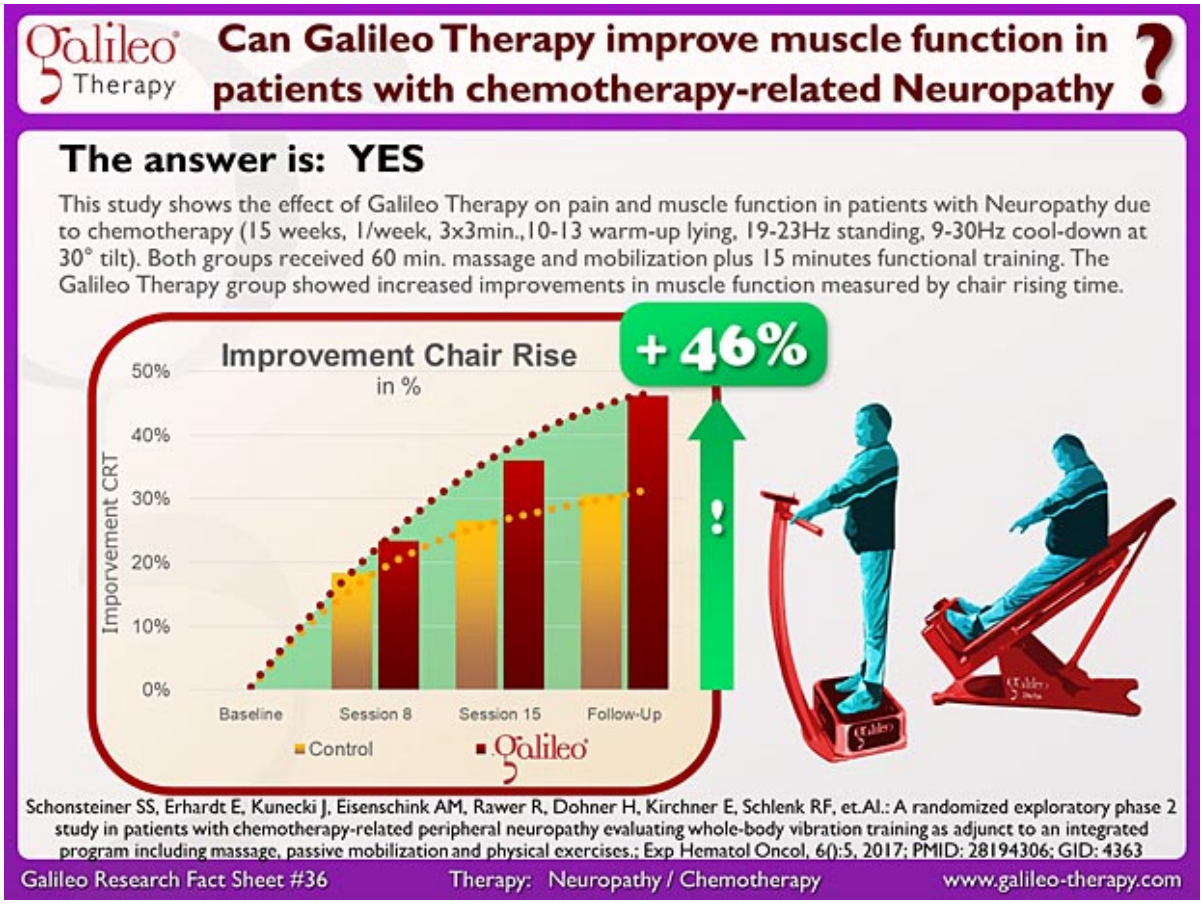

This study used Galileo Therapy in patients receiving chemotherapy for cancer therapy. Often chemotherapy patients develop a so-called neuropathy, ie chronic pain.

The goal of Galileo therapy was primarily to reduce the pain here, however, this publication reports the positive (side) effects on muscle function.

At first glance, the effects may not be particularly great, but if you take a closer look at the exercise protocol, it is remarkable: the patients received 60 minutes of massage and mobilization and 15 minutes of functional training once a week for 15 weeks in both groups.

The Galileo group only a total of 9 minutes Galileo training of which only 3 minutes was used to build up the muscle performance and even at moderate 19-23 Hz (so not very exhaustive).

And yet the Galileo Group shows a much greater improvement in the chair-rising test (which involves muscle conduction - producing high performance in a short time to get up). The study is thus one of the many examples of how effective Galileo therapy can be.

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A randomized exploratory phase 2 study in patients with chemotherapy-related peripheral neuropathy evaluating whole-body vibration training as adjunct to an integrated program including massage, passive mobilization and physical exercises.

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BACKGROUND:
Chemotherapy-induced polyneuropathy (CIPN) is a common toxicity after chemotherapy, immunomodulatory drugs or proteasome inhibitors, which is difficult to treat and may also have impact on quality of life.

The objective of the study was to evaluate whole-body vibration (WBV) on the background of an integrated program (IP) including massage, passive mobilization and physical exercises on CIPN.

PATIENTS AND METHODS:
In an exploratory phase-2 study patients with CIPN (NCI CTC grade 2/3) were randomized for WBV plus IP (experimental) to IP alone (standard). 15 training sessions within 15 weeks were intended.

As primary endpoint we used chair-rising test (CRT) to assess physical fitness and coordination. In addition, locomotor and neurological tests and self-assessment tools were performed.

RESULTS:
A total 131 patients with CIPN were randomized (standard, n = 65; experimental, n = 66). The median age was 60 (range 24-71) years; 44 patients had haematological neoplasms and 87 solid tumors. At baseline, all patients presented with an abnormal CRT. Fifteen (standard) and 22 (experimental) patients left the program due to progression/relapse or concomitant disease.

There was no significant difference in the proportion of patients with normal CRT (<10 s) at follow up between experimental (68%) and standard (56%) ($p = 0.20$). All patients experienced less symptoms and pain ($p < 0.001$) and had improved CRT ($p < 0.001$) over time. WBV was significantly associated with a higher reduction of time needed for CRT ($p = 0.02$) and significantly improved warm-detection-threshold comparing baseline to follow-up assessment ($p = 0.02$).

CONCLUSION:
Whole-body vibration on the background of an IP may improve physical fitness and coordination in patients suffering from CIPN. *Trial registration* Retrospectively registered at http://www.iscrtn.com (ISRCTN 51361937) and http://www.clinicaltrials.gov (NCT02846844).

KEYWORDS:
Chemotherapy associated side effects; Chemotherapy related peripheral neuropathy; Integrated training program; Whole body vibration training

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