

Neuromuscular training cuts onset of chemoinduced peripheral neuropathy

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Neuromuscular training reduces the onset of chemotherapy-induced peripheral neuropathy (CIPN), according to a study published online July 1 in *JAMA Internal Medicine*.

Fiona Streckmann, Ph.D., from the University of Basel in Switzerland,



and colleagues examined whether sensorimotor training (SMT) and whole-body vibration (WBV) training reduce symptoms and decrease onset of CIPN among patients undergoing treatment with oxaliplatin or vinca alkaloids. A total of 158 patients were randomly assigned into three groups: SMT (55 patients), WBV (53 patients), and treatment as usual (TAU; 50 patients).

The researchers found that the incidence of CIPN was significantly lower in SMT and WBV groups compared with TAU (30.0 and 41.2 percent, respectively, versus 70.6 percent) in intention-to-treat analysis. The most benefit was seen for patients receiving vinca alkaloids and performing SMT. In a per-protocol analysis, the results were more pronounced (28.6 and 37.5 percent, respectively, versus 73.3 percent). For balance control bipedal with eyes open, bipedal with eyes closed, monopedal, vibration sensitivity, <u>sense of touch</u>, lower leg strength, pain reduction, burning sensation, chemotherapy dose reductions, and mortality, improvements were seen in favor of SMT versus TAU.

"We were able to show that SMT can decrease CIPN, as well as maintain and improve subjective and objective outcomes, such as vibration sensitivity, sense of touch, lower leg strength, pain, burning <u>sensation</u>, and <u>balance control</u>," the authors write. "WBV showed a reduced incidence of CIPN and improved balance in a bipedal stance."

Two authors disclosed ties to the pharmaceutical industry.

More information: Fiona Streckmann et al, Preventive Effect of Neuromuscular Training on Chemotherapy-Induced Neuropathy, *JAMA Internal Medicine* (2024). DOI: 10.1001/jamainternmed.2024.2354

Arjun Gupta et al, Exercise and Physical Medicine Interventions for Managing Chemotherapy-Induced Peripheral Neuropathy, *JAMA Internal Medicine* (2024). DOI: 10.1001/jamainternmed.2024.2367



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