

MECHANICAL STIMULATION OF PROPRIOCEPTORS DECREASES BONE MASS LOSS IN POSTMENOPAUSAL OSTEOPOROTIC WOMEN

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The purpose of the present study was to determine whether an increase of muscular performance, induced by proprioceptive stimulation, had a positive effect on bone mass. Twelve osteoporotic women (age 65 ± 3 years, T score < -2.5 D) were studied. Seven of the twelve patients received isometric and sinusoidal mechanical microstimulations which were applied percutaneously to the peroneal and tibialis muscles (3 times/day for 3 days). All patients were subjected to fitness training for 9 months. Prior to treatment and after at day 4 or at 9 months the following parameters were evaluated: femoral bone mass density (BMD), muscular strength, stiffness and body sway parameters. Patients treated with isometric mechanical microstimulations showed a significant increase of muscular strength, stiffness, posturostabilometric parameters 4 days after and stable BMD at 9 months. These results suggest that improvement of the musculoskeletal "performance" and mobility is associated with a decrease of bone loss in osteoporotic women.

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