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The role of exercises in osteoporotic fracture prevention and current care gaps, where are we now? Recent updates

Introduction: The primary non-pharmacological management recommended for patients with osteoporosis (OP) is exercise, but whether it should be high force, resistive, or other means can be obscure.

Objective: To describe the role of exercises in osteoporotic fracture prevention, identify effects and potential risks of high-force exercises, detect the optimal exercises to combat OP, and explore the challenges that might arise.

Methods: A MEDLINE, and a Cochrane databases search was conducted on the role of exercises in preventing osteoporotic fractures from 1989 onwards, leading to 40 results, including op-ed pieces, qualitative studies, randomized clinical trials (RCTs) (n = 5), and RCT follow up studies (n = 1). Articles deemed relevant to the objective hands were analyzed and summarized. Data on effects of vitamin D and calcium supplementation was later gathered from different sources as well.

Results: High-intensity, resistive strength training provided the maximum benefit in Bone Mineral Density (BMD) levels, muscle mass and reduction in fracture, while posture and balance exercises only improved mobility. High force exercises did not increase fractures, and were associated with increases in BMD. Interventions including exercises, vitamin D and calcium intake had limited effect when used as single interventions, while the latter may potentially cause increases of cardiovascular events.

Conclusion: A long term regular exercise program designed to improve postural stability, mobility, and mechanical efficiency, alongside vitamin D and dietary calcium intake is most effective in preventing OP and reducing osteoporotic fractures

Speaker Biography

Senderovich is a Physician at Baycrest Health Science System with practice focused on Palliative Care, Pain Medicine and Geriatrics. She is a Lecturer at the Department of Family and Community Medicine, and Division of Palliative Care at the University of Toronto who are actively involved in teaching medical students and residents. She has a broad international experience and a solid research background. Her research was accepted nationally and internationally. She is an Author of multiple manuscripts focused on geriatrics, patient's centered care, ethical and legal aspect of doctor patient relationship, palliative and end-of-life care.

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