



Aging & Chronic Diseases

Stretching: for young and old?

Is medium term stretching effective in the elderly?

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One of the most common age-related changes to the musculoskeletal system is a reduction in range of motion (ROM) and muscle flexibility. This can often contribute to reduced joint mobility and functionality in elders.

The concept of stretching is somewhat controversial within the physiotherapy community with conflicting evidence being available regarding its efficacy over the medium and long term, with most research being conducted in younger populations.

Furthermore, there exists controversy regarding optimal dosage parameters for stretching, specifically in the elderly population. It has been previously shown that younger and elder muscle tissue reacts similarly immediately after muscle stretching, however, its medium-term effect on ROM has not been empirically investigated.

A recent study attempted to answer this question by conducting a 10-week trial to ascertain any difference in muscle response between young and old subjects following a stretching program.

Participants in the trial completed 10 weeks of hamstring stretching 3 times weekly for 3 sets of 60 seconds. Baseline measurements of passive ROM was taken for the 12 individuals elderly group (mean age 65) and the 14 individuals in the younger group (mean age 24), these values were re-assessed at the end of the 10-week trial.

The ROM measurements were taken using an instrumented passive straight leg raise device, which the participant controlled and stretched maximally to their own pain tolerance.

The results of the study show that both the young and older groups had remarkably similar improvements in passive ROM at the end of the study, indicating that stretching can have a positive effect on ROM in both young and elder individuals. Although it is noted that the younger group had a slightly higher, but not statistically significant, improvement in ROM.

Further analysis of the ROM data showed that this improvement was likely related to the younger groups ability to tolerate more stretch pain, measured subjectively, during the testing. Clinically, this study supports the use of medium term stretching in elderly populations to improve ROM and provides evidence based dosage parameters. As such, the use of medium term stretching should be considered by therapists where appropriate, to improve ROM in the elderly.

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