

Lifting Strategies for the Golden Years

Elderly people are prone to injury during lifting because of the effects of decreased flexibility and strength with aging. As a result, vertebral compression is common among the elderly, and may result from a fall or during lifting. The relation between lifting strategy and strength and postural stability in the elderly is unknown. This study, published in *Spine*, attempts to help elders choose safe lifting techniques.

Knee and hip muscle strength appeared to be a controlling factor in whether subjects chose a back or a leg dominant strategy. Stronger subjects, those with stronger knee and hip muscles, used a leg dominant strategy. Subjects with proportionally weaker hip muscles compared with knee muscles preferred a leg dominant style of lifting, or squat-lift. The hip muscles rotated around the pelvis, providing a stable base for the muscles to lift the trunk.

In a leg-dominated strategy, the pelvis is in a rotated position at the time of liftoff. The subjects with hip muscle weakness could take advantage of the pelvic position and extend the trunk before using their knee muscles to lift their body weight. Weaker subjects appeared to prefer a back dominant strategy. The choice of a back dominant lifting style is intuitive when the knee muscles are especially weak.

Beyond emphasizing strength and endurance exercise in elderly patients, weak elders should be taught to use a leg dominant lifting strategy, or if they are not physically able, to use a combined back/leg strategy. Your doctor of chiropractic can provide you with more information on proper lifting techniques and tips on managing and coping with weakened bones and muscles. To learn more about senior health issues, visit <http://www.chiroweb.com/tyh/senior.html>.

Reference:

Puniello MS, McGibbon CA, Krebs DE. Lifting strategy and stability in strength-impaired elders. *Spine* 2001;26(7), pp. 731-737.



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