

PROJECT FACT SHEET

Age and Low-Back Pain: Understanding the Differences

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Understanding how adults use their core muscles when performing physical tasks is important for developing therapies to address low-back pain and other problems. However, current strategies are based on understandings of how younger adults move, and until recently, little was known about how this knowledge corresponds to the conditions of older Canadians. To address this gap in research, Dr. Cheryl Hubley-Kozey conducted a study to assess how core muscles are activated in older individuals.

Many Canadians suffer from low-back pain, which lowers quality of life and impairs mobility. To address low-back pain, physiotherapists use strategies based on understandings of trunk musculature and movement. However, this understanding has been developed using evidence collected largely from younger adults. When seeking treatment, practitioners use the information collected about younger people to manage the pain of older people, which may not be effective.

Cheryl Hubley-Kozey, a Professor at Dalhousie University's School of Physiotherapy and Interim Director in the School of Biomedical Engineering, conducted a study to look at the trunk musculature in older adults. Her goal was to determine whether the lifting tests and core stability tests developed with younger adults in mind can be performed effectively by older adults. Dr. Hubley-Kozey put a group of healthy adults ages 65-80 through a series of lifting tasks and trunk-stability exercises while recording their trunk movement and muscle activation using electromyography (EMG), a technology that records the normal properties of muscles at rest and while contracting.

"We found that older adults without low-back pain were able to complete the protocol developed for younger adults, with minor modifications," says Dr. Hubley-Kozey.

The data that has now been collected can be studied to determine if the trunk-muscle activation of older adults parallels that of younger adults. "Our next step is to determine what is different about older adults that suffer from low-back pain and to ask ourselves what the best interventions are for this age group," notes Dr. Hubley-Kozey.

This research may help lead to the development of more effective therapeutic interventions for older adults, ultimately improving their quality of life. In addition, understanding which therapies are appropriate will reduce the amount of time that older adults spend seeking treatment, improving the efficiency and economy of our health-care system.

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