Medical Xpress

Older people less likely to fall if they pay attention to their feet

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(PhysOrg.com) -- Just as grey hair and wrinkles are widely accepted as a natural part of ageing, so is an increased risk of falling, which can happen for many reasons and with devastating consequences, including increased likelihood of injury, hospitalisation and even death.

A new research study by human movement scientists at the University of Birmingham is seeking to reduce the risk to older people of falling, by investigating the relationship between gaze direction and walking behaviour. Coinciding with Falls Awareness Week, this research is hoping to uncover how an individual's risk of falling is related to what they are looking at, and where, as they walk. The research is funded by Age UK, organisers of Falls Awareness Week, which this year is taking place between 20-24 June 2011, and is highlighting the link between poor vision and falling through the theme, 'Watch your step'.

The researchers will test the theory that risk of falling is heightened when an individual prioritises looking ahead, focusing on upcoming obstacles, instead of looking down at their feet. This can leave individuals vulnerable to obstacles in the immediate area, increasing the chance of a fall.

Lead researcher, Benjy Curzon-Jones from the School of Sport and Exercise Sciences at the University of Birmingham explained:

"Older adults at a high risk of falling tend to look towards future obstacles much sooner than those at a low risk, so they look up ahead

rather than down at what they are doing. This means that visual attention to current stepping constraints is removed, which then causes a greater variability of foot placement and increases the chance of a fall."

Last year, treatment for older people after falls cost the NHS £1.7 billion, and this figure is set to rise as life expectancy increases, therefore research into the prevention of falling will be crucial to reduce healthcare costs, as well as to improve the quality of life of older people at high risk of falling.

Benjy Curzon-Jones added:

"With increasing life expectancy, research into the effects of ageing is now more important than ever. To improve quality of life and reduce the financial burden to the NHS, we need to investigate the different factors that cause an increased risk of falling as we age.

"This study is seeking to understand how an individual's outlook on walking might influence their subconscious physical movements, which could be a threat to their stability. With this greater understanding, we hope to improve the walking experience for older adults, and ultimately reduce their risk of falling."

Professor James Goodwin, Head of Research at Age UK, which is funding the project, said:

"Poor vision was a factor in 270,000 falls in people aged 60 and over in the last two years. A fall can have devastating consequences, leading to broken bones and ongoing health problems - which is why Age UK is using this year's Falls Awareness Week to raise awareness of the link between vision and falls.

"Age UK is delighted to be funding Mr Curzon-Jones's research which

we hope will gain a greater understanding of falls in relation to vision."

The researchers are looking to recruit participants over the age of 65 to take part in a four hour experiment to walk a seven metre walkway, 36 times, where they will be required to step as accurately as possible into a target on the floor and then over a number of raised obstacles. A panel of locomotion experts will also be observing the experiment.

Eye and body movement will be measured during the experiment, saliva samples will be collected and questionnaires will be issued to understand how difficult the individuals found the walks. The results will explore the connection between gaze direction and walking behaviour, with a difference in timing of gaze transfer expected between low- and high-risk adults, and will inform preventative measures to reduce the risk of falling.

Provided by University of Birmingham

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