

Hearing loss and increased risk of falling.

Information for your patients.



Many of the causes of senior citizens falling and injuring themselves are preventable.

Physicians routinely advise their older patients to exercise, have their vision checked, and monitor whether any medications may cause dizziness. In addition to these commonly known contributors to falls is untreated hearing loss, which has been linked in multiple studies to a significant increase in risk of falls. This information needs to be shared widely with patients over the age of 65, along with encouragement to seek treatment for hearing loss as part of an overall strategy to preserve health and life.

"People with a 25-decibel hearing loss (classified as mild) were nearly three times more likely to have a history of falling than those with no hearing loss. Every additional 10 decibels of hearing loss meant an increased 1.4-fold risk of falling."¹

Falls from hearing loss lead to injuries and hospitalisation.

Falls are responsible for numerous injuries and deaths among Australians 65 and older. Older people commonly experience brain injuries, hip and other bone fractures after a fall. Beyond the human cost, these serious conditions generate billions of dollars in healthcare expenses due to extended hospital stays, surgical interventions, and related treatments.

"In Australia in 2009 - 2010, the estimated number of hospitalised injury cases due to falls in people aged 65 and older was 83,800."²

One of the most significant studies conducted to determine the connection between untreated hearing loss and falls utilised data from the 2001-2004 cycles of the National Health and Nutrition Examination Survey. This survey has regularly collected health data from thousands of Americans since 1971. More than 2,000 survey participants between the ages of 40 to 69 had their hearing tested and responded to the question: "Have you fallen during the past year?" Researchers also tested participants' vestibular function in order to determine if their balance was being affected by their hearing loss.

The lead researchers reported that people with mild hearing loss (25 decibels) were nearly three times as likely to have a history of falling. Every additional 10 dB of hearing loss increased the likelihood of falling by 1.4. Even after other factors (age, sex, race, cardiovascular disease and vestibular function) were considered, the findings held true.

Dr. Frank Lin, an otologist and epidemiologist who conducted this and several other studies on the broader implications of hearing loss, suggests the following possible reasons for the link to falls:

- People who can't hear well might not have good awareness of their overall environment, increasing the potential to trip and fall
- Cognitive load increases in those with hearing loss. The brain is overwhelmed with demands on its limited resources to maintain balance and gait, while straining to hear and process auditory input
- Cochlear disorders may include vestibular dysfunction, leading to poor balance

"...a possible causal pathway between hearing loss and falling are intriguing because hearing loss is highly prevalent but remains vastly undertreated in older adults."³



The association between hearing loss and increased chance of falling is considered clinically significant. Research is ongoing, but it is reasonable to suggest that physicians inform patients of the link between hearing loss and falls, to advise having hearing tested annually, and to encourage patients to wear hearing aids when recommended by their hearing care professional.

Hearing loss decreases awareness of surrounding environment and increases cognitive load. In turn, this raises the potential for falls.

¹ USNews.com. Hearing Loss Triples Risk of Falling: Study. 2012 (<http://health.usnews.com/health-news/news/articles/2012/02/27/hearing-loss-triples-risk-of-falling-study>)

² Australian Institute of Health and Welfare and Flinders University. Hospitalisations due to falls by older people, Australia 2009-10. Clare Bradley (<http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129542822>)

³ JAMA Internal Medicine. Hearing Loss and Falls Among Older Adults in the United States. Frank R. Lin, MD, PhD; Luigi Ferrucci, MD, PhD. 2012 (<http://archinte.jamanetwork.com/article.aspx?articleid=1108740>)

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