



Hearing Loss Increases Risk For Falls

Falls can be devastating for older adults. It is well recognized that the following factors all contribute to the risk of falling: visual problems, dementia/cognitive impairment, balance or mobility issues and multiple medications. However, untreated hearing loss also impacts the fall risk for all adults, even in ages younger than 65.

Facts About Falls from the CDC¹

- About 1/3 of older adults (65 and older) fall each year but fewer than half tell their PCP
- Falls can lead to moderate to severe injuries including hip fractures, traumatic brain injury, loss of independence, fear of falling
- One fall doubles the chance of falling again
- Fall injuries for the US cost \$31 billion annually

Hearing Loss Facts from the NIDCD²

- 14% of people ages 20-69 are diagnosed with hearing loss
- Age is the main predictor of hearing loss in adults
- 25% of 65-74 year olds and 50% of those over 75 are diagnosed with disabling hearing loss

A number of studies provide evidence for the connection between aging, hearing loss and increased risk of falls.

Hearing impairment is associated with:^{3,4,5}

- Reduced mobility/activity levels and fear of falling
- Slow gait speed
- Higher fall rates and injuries, especially due to impaired ambulation

In 2012, researchers Dr. Lin from Johns Hopkins and Dr. Ferrucci from the National Institute on Aging, published results of their study investigating hearing loss and self-reported falls in participants aged 40-69.⁴ Their findings suggest that the risk of falling increases 3-fold for just a mild hearing loss (25 decibels/dB). Every 10dB of hearing loss increased the odds of falling 1.4-fold. Adjusting for demographic and cardiovascular factors (age, sex, race, education, smoking, diabetes, hypertension, stroke), vestibular balance function and excluding those with moderate to severe hearing loss did not significantly change the results.

The Laryngoscope published a literature review in November 2016 that also supports the connection between hearing loss and falls.⁵ Studies included in the meta-analysis used a predetermined definition of hearing loss and information regarding falls were measured by hospital records or self-reports through structured interviews and validated questionnaires. The investigators found that older adults with hearing loss had a 2.39-fold increased risk of falling. Limitations for the reviewed studies and most other studies include cross-sectional versus longitudinal design, small sample size, retrospective self-reporting by participants, and the presence of positive publication bias. Despite these limitations, a consistent result of all the research identifies a significantly increased risk of falling for those with even a mild hearing loss.

Theories about this association stem from the concept that hearing loss increases cognitive load, thereby robbing resources from other systems needed for environmental awareness.⁴ "Coexisting vision, hearing and balance difficulties may have an additive debilitating effect on mobility because of the loss of possible compensatory sensory resources."³ Also, due to their shared proximity, dysfunction of the cochlea and the vestibular systems may affect each other.⁴

A fall and with or without resulting injuries can reduce confidence and increase fear of falling again. Out of fear, patients may restrict their physical activities, which can lead to a decrease in muscle strength and balance, actually increasing their chance of falling again. Researchers agree on the need for more prospective studies to determine whether auditory and vestibular rehabilitation can modify the risk for falling. In the meantime, collaboration between health care providers and hearing specialists remains critically important for supporting patients' physical, social and auditory needs.

References:

1. Important Facts about Falls. Centers for Disease Control and Prevention. September 2016. URL Source: <https://www.cdc.gov/homeandrecreationsafety/Falls/adultfalls.html>
2. Quick Statistics About Hearing. National Institute on Deafness and Other Communication Disorders (NIDCD). December 2016. URL Source: <https://www.nidcd.nih.gov/health/statistics/quick-statistics-hearing>
3. Weinstein B. Physician Quality Reporting System (PQRS) and Falls. Hearing Health & Technology Matters. March 15, 2016. URL Source: <http://hearinghealthmatters.org/hearingeconomics/2016/pqrs-and-falls/>
4. Lin F, Ferrucci L. Hearing Loss and Falls Among Older Adults in the United States. Arch Intern med. 2012; 172(4):369-371. doi:10.1001/archinternmed.2011.728. URL Source: <http://jamanetwork.com/journals/jamainternalmedicine/fullarticle/1108740>
5. Jiam NT, Li C, Agrawal Y. Hearing Loss and Falls: A Systematic Review and Meta-analysis. Laryngoscope. 2016 Nov;126(11):2587-2596. doi:10.1002/lary.25927. URL Source for article abstract: <http://onlinelibrary.wiley.com/doi/10.1002/lary.25927/abstract>

Property of AuDConnex © 2016



HEAR MORE MEDICAL
Centers of America

Michael D. Moore, BC-HIS
Board Certified Hearing Instrument Sciences