

Does Treating Hearing Loss Preserve Brain Tissue?

Although the brain becomes smaller as we age, new research studies find brain tissue shrinkage to be significantly fast-tracked in older adults with hearing loss. In addition, more atrophy in the areas of the brain responsible for processing sound and speech was found in those with hearing loss. Hearing loss continues to be a widely ignored chronic condition with serious, cascading consequences.

Frank Lin, M.D., PhD, and his colleagues at Johns Hopkins and the National Institute on Aging, used data from the Baltimore Longitudinal Study of Aging to compare brain changes in a 10-year period between adults with normal hearing and adults with hearing loss. Their research clearly indicates:

- Those with impaired hearing, lost more than an additional cubic centimeter of brain tissue each year compared to those with normal hearing.
- The additional shrinkage occurred in regions responsible for processing sound and speech, including the superior, middle and inferior temporal gyri brain structures.
- These areas of the brain, are also involved in memory and sensory integration and are known to be involved in the early stages of cognitive impairment and Alzheimer's disease.

A separate study by Jonathan Peele, PhD., at Penn Medicine confirms that people with hearing loss have shrinkage in the auditory part of the brain, and less activation of those areas when listening to speech. Dr. Peele suggests that hearing aids be considered not only to improve hearing, but to **preserve brain function**. Fortunately, hearing aids can address over 90% of hearing losses, when correctly prescribed and programmed.

Recommended Actions for Physicians To Address Hearing Loss:

- Regularly screen for hearing loss at age 65 and older.
- Screen patients with conditions that increase the risk of hearing loss, e.g., diabetes and smoking.
- Refer patients with hearing loss or tinnitus for a formal audiological evaluation.

In conclusion, it is vitally important that patients have a true diagnostic hearing evaluation by an Audiologist or ENT. It's important to know that non-audiologist hearing aid dispensers cannot perform diagnostic testing or provide audiological care.

John Hopkins Medicine. (2014) Hearing Loss Linked to Accelerated Brain Tissue Loss. [press release]. Retrieved from http://www.hopkinsmedicine.org/news/media/releases/hearing_loss_linked_to_accelerated_brain_tissue_loss_.
Penn Medicine. (2011) Mild Hearing Loss Linked to Brain Atrophy in Older Adults, Penn Study Shows [press release]. Retrieved from http://www.uphs.upenn.edu/news/News_Releases/2011/08/mild-hearing/

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