



**Up to a third of dementia cases may be linked to hearing loss**



**Roberta Burkhardt**

Pittsburgh Post-Gazette

[rburkhart@post-gazette.com](mailto:rburkhart@post-gazette.com)

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Researchers and audiologists are trying to determine if protecting your hearing can help to protect your brain.

A [recent study](#) published in JAMA Otolaryngology – Head & Neck Surgery suggests that hearing loss may play a much larger role in dementia risk than previously understood.

Analyzing data from a long-term project dating to 1985, the Atherosclerosis Risk in Communities Neurocognitive Study, researchers sought to understand how many dementia cases could potentially be attributed to hearing loss at the population level, explained Jason Smith, one of the Otolaryngology study's co-authors.

Funded through at least 2028, the [Atherosclerosis Risk study](#) has been examining risk factors and tracking outcomes for cardiovascular disease and cognitive decline in four communities in Maryland, Mississippi, North Carolina and Minnesota.

Basing their findings on clinical hearing test results for nearly 3,000 participants, the researchers found that up to 32% of dementia cases might be associated with hearing loss — including even mild levels of auditory impairment, said Smith, a postdoctoral fellow at the University of North Carolina School of Medicine.

In other words, taking care of your hearing — especially at the first indication that it's diminishing — could protect the brain from dementia or delay its onset.

That comes as no surprise to Ashley Teti, an audiologist at Beltone Hearing Care Center in McKees Rocks, and Linda Longman of Robinson, whose parents wear hearing aids prescribed by Teti.

Longman, 62, said her 90-year-old father, Harry Giehl, also of Robinson, has worn the aids for several years.

“My dad worked heavy construction, so he knew he had hearing loss. So he was more than happy to get” fitted for and wear hearing aids, Longman said.

Convincing her mother, Barbara Giehl, 89, wasn't as easy.

“My mom, it took her a while. She kept putting it off at the very beginning,” Longman said. Family members tried to convince her that her hearing was diminishing, but it wasn't until “she started to notice that, more and more, the TV had to be turned up louder, that she couldn't hear. Then she knew it was time to go.”

After getting fitted for hearing aids, her mother was amazed by what she could suddenly hear again, her daughter said.

She remembers her mother exclaiming, “Oh my god, I can hear the clock ticking.”

Those normal, everyday sounds had disappeared from her mother's life. “And she didn't realize she couldn't hear those things. So, it was a definite improvement,” Longman said. “She's really hearing those background noises again.”

### **The mechanism behind the link**

As Smith explains, although researchers haven't proven that hearing loss causes dementia, one leading theory is the “cognitive load” hypothesis — meaning hearing loss increases the mental effort needed to process sounds, which can lead to fatigue, social withdrawal and less engagement in mentally stimulating activities.

Multiple studies, including [one on aging](#) published in 2019 in the American Journal of Geriatric Psychiatry, support the idea that social isolation and lack of mental stimulation are potential contributors to dementia risk, especially among older adults.

Many of Teti's patients are surprised to learn it's not their ears doing the heavy lifting, but their brains.

"It's our brain that's hearing — not our ears, which a lot of people don't understand," she said.

As conversations become garbled as hearing loss progresses, the brain starts to filter out the nonsense words, deeming them unessential. It's similar to how it filters out background noises, like the hum of a fan or the whine of overhead lighting, so our brains can focus on more important input like a conversation or a television program, Teti said.

Teti uses a relatable metaphor with her patients: When you go to the gym every day, you're using your muscles and they stay strong. But if your arm is a sling and you can't use it, then it gets progressively weaker. Once it heals, you're able to rebuild that arm strength.

However, hearing and the parts of the brain responsible for deciphering and making sense of sound are very different, she said. Once they weaken, there's no way to rebuild what was lost. Hearing aids have the potential to slow or stop further diminishment.

Teti said she routinely sees patients who delay hearing checks by years — sometimes a decade — only to learn they've likely experienced cognitive strain in the meantime.

So, when people say things "like 'Oh, I can't really hear but it's not that bad. I don't need hearing aids yet,'" they don't realize that it's more than just missed sounds and conversations that are at stake, she said. They could be unintentionally edging themselves closer to developing cognitive decline or dementia.

About 15% of the U.S. adult population — more than 37 million people — have hearing loss, [according to](#) the National Institute on Deafness and Other Communication Disorders. This number is expected to increase as the population ages.

The [ACHIEVE trial](#) — a separate major clinical study — did not find that hearing aid use prevented cognitive decline in the general older adult population. But in a subgroup of people with higher dementia risk, hearing care did help slow memory loss.

For Longman and her parents, the benefits of hearing care are already evident — not just in volume, but in connection, she said.

"It was very difficult before," she said. "So it's very nice now that [my mother] can actually hear and communicate better with people."

She encourages other families to act early.

"Don't put it off. Have it done. And it's so worth it."

Hearing loss is the third most common chronic physical condition in the U.S., twice as prevalent as diabetes or cancer, [per the Centers for Disease Control and Prevention](#).

“I feel like everyone should have a baseline hearing test done,” said Teti.

Most purveyors of hearing aids in the region offer free hearing tests, including Beltone, Miracle Ear, Sam’s Club, Costco, Walgreens and HearingLife.

### **Will Medicare pay for hearing aids?**

The short answer is no, Medicare parts A and B do not cover the cost of hearing aids, according to the [Medicare website](#).

Medicare Part C — also called Medicare Advantage, a type of insurance plan offered by private companies — may cover some costs associated with them.

Hearing aid costs range in price from about \$100 to more than \$7,000, with an average price of about \$2,100 per pair, [according](#) to the National Council on Aging.

And most insurance plans do not cover them, deeming hearing aids as cosmetic or elective, [per an article](#) from the Asciantist Audiology & Vestibular Center.

As a result, cost remains a major barrier for many when deciding whether to get hearing aids, said both Teti and Smith.

An estimated 28.8 million adults across the country could benefit from using hearing aids, [according to](#) the NIH’s National Institute on Deafness and Other Communication Disorders.

“My parents were fortunate that they could afford it. There's a lot of people that can't,” Longman said. “I would think [hearing aids are necessary] just like glasses to see.”

Smith said if research continues, the hope is that the data could convince policymakers that hearing aids are essential medical devices that should be covered by Medicare.

A definitive causal connection “places some responsibility on policymakers ... to advocate for policies that cover this huge prevention gap,” Smith said.

[A bill introduced in Congress](#) in January by Rep. Debbie Dingell, D-Mich., seeks to remove the hearing aid exclusion from Medicare. It has since been referred to the Energy and Commerce and Ways and Means committees, where it remains.

**Roberta Burkhardt** is a Post-Gazette health and wellness reporter. A Penn State graduate, she previously covered breaking news, lifestyles and arts & entertainment in Pittsburgh, Williamsport, and Morristown, N.J.