Connect Hearing
YOUR HEARING PROFESSIONALS

Hearing loss & diabetes.

Information for you and your patients.

Greater emphasis is being placed on hearing health in 2022. As a physician, you have already likely begun routinely asking patients whether they have had their hearing checked. Beyond referring patients for hearing tests and encouraging treatment of hearing loss, it is important to inform them of the risks they run if they ignore hearing loss - dangers that include certain life-threatening co-morbidities.

"Hearing loss is about twice as common in adults with Type 2 diabetes(which accounts for 95% of all diabetes cases in the U.S.) compared to those who do not have the disease"[1]

Hearing loss is more prevalent in people with diabetes. Physicians have another reason to recommend patients report their hearing loss. Researchers have discovered a higher rate of hearing loss in people with diabetes. Using tests that measure participants' ability to hear at the low, mid, and high frequencies in both ears, the results indicated a link between diabetes and hearing loss at all frequencies, with a somewhat stronger association in the high-frequency range. Mild or worse hearing of low- or mid-frequency sounds was about 21 percent in 399 adults with diabetes compared to about 9 percent in 4,741 adults without. Mild or greater hearing impairment at high frequencies was 54 percent in those with diabetes compared to 32 percent in those without.[4]

Another significant study examined hearing data from participants in the National Health and Nutrition Examination Survey between 1999 and 2004. Of the more than 5,000 individuals who took part, hearing loss appeared in 15% of those without diabetes and more than 30% in those diagnosed with diabetes.[5] The research team's report concluded that screening for hearing loss would allow for early medical intervention that could improve hearing for adults with diabetes.

"Diabetics (are) 2.15 times as likely as people without the disease to have hearing loss... broken down by age, people under 60 had 2.61 times the risk while people over 60 had 1.58 times higher risk."[2]

Evidence exists that diabetes may lead to sensorineural hearing loss. Post-mortem studies of diabetic patients have shown evidence diabetes may lead to sensorineural hearing loss by damaging the nerves and blood vessels of the inner ear due to the pathologic changes that are associated with the condition. These include:

- Sclerosis of the internal auditory artery
- Thickened capillaries of the stria vascularis
- Atrophy of the spiral ganglion
- Demyelination of the eight cranial nerve

It appears the damage is more common in patients with Type 2 diabetes.

"It is possible that diabetic patients can have normal or near normal hearing at the time of the initial identification of diabetes, only to suffer from a progressive form of sensorineural hearing loss."[3]

Physicians are encouraged to inform their patients about the evident link between hearing loss and diabetes

Let patients who have not yet been diagnosed with diabetes know that having their hearing tested is important beyond identifying the hearing loss itself - it could be an early indicator of the onset of diabetes or other cardiovascular conditions. Encourage patients to report any suspected or known hearing loss to their primary doctor for the sake of their overall health.

As for patients who have already been diagnosed with diabetes, remind them that hearing loss is a potential complication and encourage them to have their hearing tested annually. The earlier hearing loss is diagnosed, the more effective treatment options, like hearing aids are likely to be.

1. National Institutes of Health News. Hearing Loss is Common in People with Diabetes. 2008 (http://www. nih.gov/news/health/jun2008/niddk-16.htm)

2. FoxNews.com. Diabetes May be linked to hearing loss, study finds. 2012 (http://www.foxnews.com/health/2012/12/03/diabetes-may-be-linked-to-hearing -loss-study-finds/)

3. Hendricks, J. et al (2006). Progressive sensorineural hearing impairment in maternally inherited diabetes mellitus and deafness (MIDD). Otology Neurotology. 27, 6, 802-808.

4. National Institute on Deafness and Other Communication Disorders (NIDCD). Annals of Internal Medicine. 2008

5. Annals of Internal Medicine. NIH Public Access. Diabetes and Hearing Impairment in the United States: Audiometric Evidence from the National Health and Nutrition Examination Surveys, 1999 -2004. Kathleen E. Bainbridge, PhD, et al. 2008 .