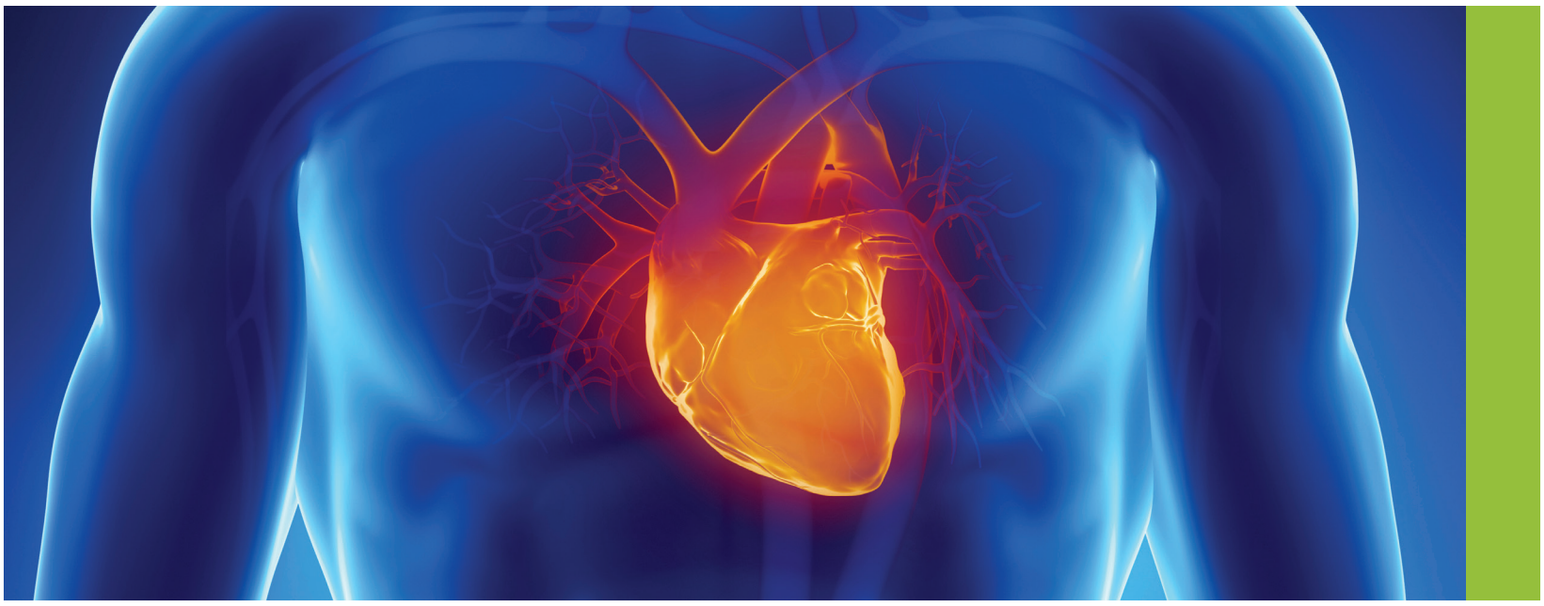
Life sounds brilliant.

specialist hearing services "hear for you!"

Hearing loss, cerebro and cardiovascular disorders.

Information for your patients.



Greater emphasis is being placed on hearing health in 2018.

As a physician, you may be 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.

The heart and hearing connection.

Poor cardiovascular health causes inadequate blood flow and blood vessel trauma to the inner ear. The inner ear is so sensitive to blood flow that disorders such as hearing loss, particularly at the lower frequencies, may be an early warning sign of cardiovascular disease.

The two-part Framingham Study hypothesised that low-frequency hearing loss was associated with cardiovascular disease. Cardiovascular status was determined for 1,168 patients of the audiology department. Associations between their audiogram patterns and cardiovascular variables were tested and controlled for age and gender. Logistic regression models were used to calculate cardiovascular risk factors from audiogram pattern. The models were applied to a separate group of 90 subjects recruited from cardiology and geriatric medicine clinics, who were also given audiograms.

Results indicated a significant association between low-frequency hearing loss and cardiovascular disease risk factors. When controlling for age, hypertension, diabetes, smoking, and hyperlipidemia, low-frequency hearing loss was significantly associated with the following cardio and cerebrovascular disorders:[1]

- Intracranial vascular pathology (stroke and transient ischemic attacks).
- Peripheral vascular disease.
- Coronary artery disease.
- Myocardial infarction.

"We conclude there is a significant relationship between cardiovascular status and audiometric pattern."[2]

Studies have shown that a healthy cardiovascular system has a positive effect on hearing.

A recent study out of Brigham and Women's Hospital published online in The American Journal of Medicine found that a higher level of physical activity is associated with the lower risk of hearing loss in women. At the same time, the study found that a higher body mass index (BMI) and larger waist circumference are each associated with higher risk of hearing loss.[3]

"(There is) significant evidence that impaired cardiovascular health negatively impacts hearing…improved cardiovascular health may contribute to healthier ears, particularly among older adults." [4]

Researchers concluded individuals with cardiovascular disorders may be more prone to hearing loss and therefore in need of hearing evaluations. They also found an association between low-frequency hearing loss and numerous cardiovascular and cerebrovascular events.

The negative influence of impaired cardiovascular health on both the peripheral and central auditory system, and the potential positive influence of improved cardiovascular health on these same systems, has been found through a sizable body of research conducted over more than six decades. The most significant positive relationship between improved cardiovascular health and improvements in those auditory systems has been found in older adults. If that relationship continues to be confirmed, then a potential new avenue for auditory rehabilitation on behalf of adults who possess impaired auditory function may be discovered.

Certain audiogram patterns have been found to correlate strongly with cerebrovascular and peripheral arterial disease. Because of this, audiograms represent a screening test for those at risk. Patients with low-frequency hearing loss should be regarded as at risk for cardio or cerebrovascular events, and appropriate referrals should be considered.

If a patient has been diagnosed with a cardio or cerebrovascular disorder, it is important to advise them to have their hearing tested regularly and to get any hearing loss treated with hearing aids early, in order to restore hearing levels and improve quality of life. Older patients should routinely be made aware of how important it is to keep their primary physicians informed of any hearing loss, especially at the lower frequencies, because it could be a harbinger of an as of yet undiagnosed cardio or cerebrovascular disorder.

[1] Better Hearing Institute. Heart Disease and Hearing Loss Linked press release. 2013 (http://www.prnewswire.com/news-releases/heart-disease-and-hearing-loss-linked-so-get-your-hearing-checked-for-world-heart-day-bhi-advises-224502101.html)
[2] David R. Friedland, MD, Ph.D. http://www.enttoday.org/details/article/496955/Low-Frequency_Hearing_Loss_May_Indicate_Cardiovascular_Disease.html
[3] The Laryngoscope. Department of Otolaryngology and Communication Sciences, Medical College of Wisconsin. Audiometric pattern as a predictor of cardiovascular status: development of a model for assessment of risk. 2009. Friedland DR, Cederberg C, Tarima S. (http://www.ncbi.nlm.nih.gov/pubmed/19235737)
[4] American Journal of Audiology. The Influence of Cardiovascular Health on Peripheral and Central Auditory Function in Adults: A Research Review. Raymond Hall, Stacey Kerschen. 2010 (http://aja.pubs.asha.org/article.aspx?articleid=1757459)

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