

Age Related Hearing Loss

by Ted Glatke, Professor Emeritus, Speech, Language and Hearing Sciences, and Roger Caldwell, a recent recipient of hearing aids.

What is a hearing loss? According to a recent national survey downloaded 4 May 2016—www.ncbi.nlm.nih.gov/pmc/articles/PMC3564588/—the prevalence of hearing loss increases from 30% for persons who are 60-70 years of age to 80% of persons who are more than 80 years of age. The typical pattern of age-related hearing loss begins with the loss of sensitivity to high-frequency sounds, such as notes at the right end of piano keyboard. The high-frequency loss grows and the pattern of loss extends to middle and lower frequencies as we grow older.

Unfortunately, much of the useful information in human speech is present in the frequency region where hearing loss first appears. As a result of this pattern, the person with a hearing loss may be aware that someone is speaking but unable to understand what the speaker is saying. Said another way, the typical pattern of hearing loss associated with aging makes it difficult to hear the consonant sounds in English, while the vowel sounds carry very little information. “If you can read this sentence” becomes “Xf yxx cxn rxxd thxs sxntxncx” by eliminating the vowels. So we can eliminate vowel sounds and still understand English. If a neutral vowel replaces the conventional vowels (all vowels are “ah”) we can still understand English. For example, “Wa can maka all af tha vawall sands tha sama and stall andarstand Anglash”; (translation: we can make all of the vowel sounds the same and still understand English).

A person with age-related hearing loss usually discovers the problem when he or she realizes that it is impossible to understand a companion who is speaking in one room of a home while the person with the loss is in another. Often, the younger spouse will complain that the volume on the television is too loud. The person with hearing loss is often unable to enjoy a conversation at a party or busy restaurant because the “noise” due to other spoken conversations in the room competes precisely with the message that he or she is trying to hear.

The difficulties experienced by older listeners leads to social isolation and may hasten the onset of cognitive decline (<http://www.medscape.com/viewarticle/762515> diwbkiaded 4 May 2016). There is growing evidence that the parts of the brain normally associated with listening take on new assignments when age-related hearing loss prevents those regions from responding to sounds.

If you can hear but cannot understand what a companion is saying, it is important to ask your primary care physician to refer you to an audiologist for a complete hearing evaluation. Your physician can then determine if your hearing loss is age-related or if there is an underlying medical problem that should be addressed.

The most common treatment for age-related hearing loss involves the use of hearing aids and the recent findings regarding cognitive decline suggest it is best to adopt hearing aids as soon as possible after hearing loss has been identified.

How do you find the right hearing aid? Purchasing a hearing aid is not a simple task. There are many brands and within each brand there are several models, and within each model there are

“add on” features. Even some “rating” websites are suspect because the company being rated pays to have their products listed. However, there are some helpful sources for educating yourself to some of the options. Two good sources are Consumer Reports and the Mayo Clinic.

◆ **Consumer Reports** (free on their website) describes important features, technical terms and how to make evaluations, but they do not recommend specific products. Contact www.consumerreports.org/cro/hearing-aids/buying-guide.htm

◆ **The Mayo Clinic and WebMD** also provide informative discussions, without naming specific brands. Good information sources are also the Better Business Bureau ratings for specific companies and your friends that have hearing aids. Contact www.mayoclinic.org/diseases-conditions/hearing-loss/in-depth/hearing-aids/ART-2004411

While it takes some time, it is useful to know a little about the companies, how they advertise, and how you are treated if you stop in for advice. It is also good to visit more than one vendor to broaden your knowledge. Almost all companies will give you a free “audiogram”, which is a map of how well you can hear different frequencies in each ear. It is essential to have this information to determine the degree of your hearing loss and what types of hearing aids may be appropriate for you. Prices vary widely but the low-cost products may lack essential features.

The more expensive products may have features you don’t need. You can get informed on these issues by visiting more than one vendor and by reading some of the materials listed above. Prices for a pair can range from about \$400 to more than \$6,000. The lifetime of hearing aids depends on the specific product as well as changing technologies – an older hearing aid may function but not have the efficiencies or effectiveness of a new one. Estimates for longevity are from 3-5 years for the less expensive to 5-7 or more years for the more expensive.

Finally, you might visit the **Adult Loss of Hearing Association (ALOHA)** located on Ft Lowell Road near Alvernon in Tucson). This is a non-profit group of volunteers who help people understand hearing options. They do not recommend specific products but they can provide examples of some techniques and have a weekly “users group” where people can come and ask questions, with the group providing answers. They also have some examples of various hearing aid products, such as the “loop” for hearing better in group meetings. Contact www.alohaaz.org/

For further information, you may also contact the **University of Arizona – Living Well with Hearing Loss**, at: www.lwhl.arizona.edu/