



A GUIDE TO HEARING LOSS

What does it mean to have a hearing loss? What can an audiologist do for me?

What does it mean to have a hearing loss?

"Blindness separates us from things, but deafness separates us from people"

- Helen Keller



You may be thinking to yourself, 'well in some situations I hear just fine!' or 'people mumble these days,' but hearing loss can come in all shapes and sizes; it is not an all or nothing type of problem. When we do a hearing test, multiple different frequencies or pitches of sound are tested. The ones most often used are those that represent many of the speech sounds we hear on a daily basis. A person can have a hearing loss at any or all of these pitches, and thus everyone experiences hearing loss differently. The most common type of hearing loss is high frequency hearing loss. Meaning, the hearing is normal for low pitch sounds, but there is some degree of loss in the higher pitches.

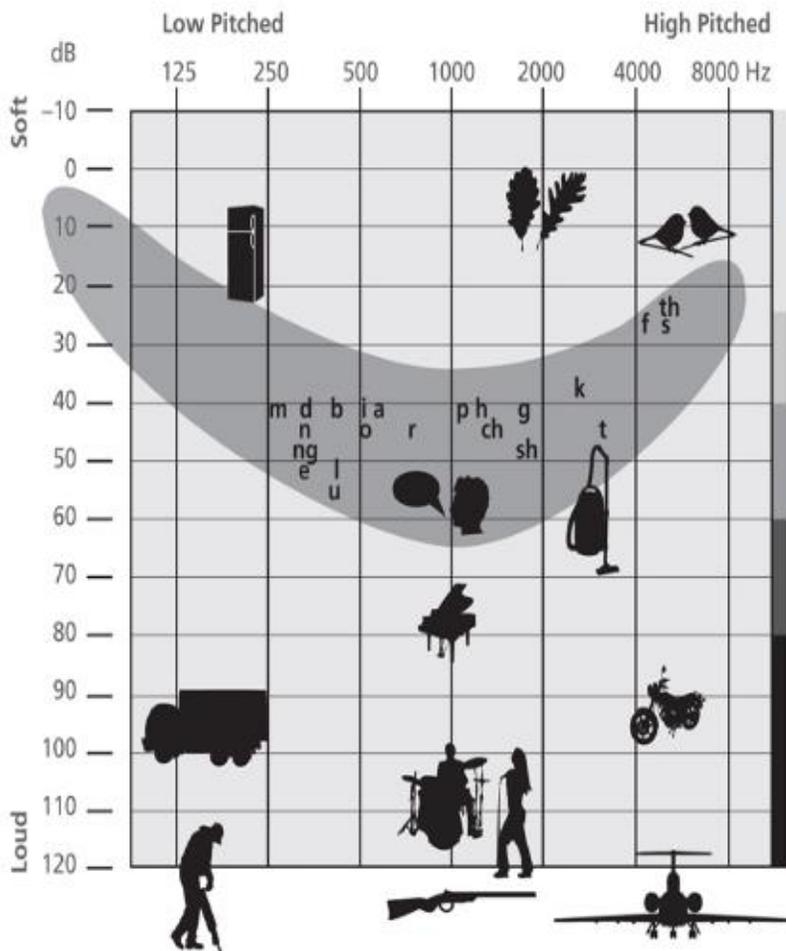
The kinds of sounds that have this higher pitched energy are the consonant sounds of speech like "p," "t," "s," and "sh." These sounds give speech meaning. If someone is unable to hear these sounds, the meaning of speech can get lost. For example, an individual may have difficulty distinguishing similar words like "chair" and "stair."

Missing out on any pitch range of sounds can distort sounds and speech may lack clarity. This can result in a myriad of everyday difficulties including trouble hearing in noise, difficulty figuring out where sounds are coming from, and overall frustration for yourself and those around you.

How does hearing loss effect me?

Hearing loss can greatly impact your ability to hear and understand speech. Here's how.

The meaning of speech come from consonant sounds. These sounds are low in volume and high in pitch. Individuals with hearing loss often have difficulty hearing these sounds. Add distance, background noise, or reverberation and you have a recipe for disaster. The diagram to the right shows the volume and pitch some common sounds on an "audiogram." For example, your refrigerator running is a very soft low pitch sound, while an airplane is very loud and high pitch. This is a common way to describe hearing loss.



NORMAL HEARING

MILD HEARING LOSS

MODERATE HEARING LOSS

SEVERE HEARING LOSS

PROFOUND HEARING LOSS



Hearing loss on top of listening in background noise can make things even more difficult.

When trying to speak in background noise, the brain has two difficult tasks: separating speech from noise and filling in missed speech cues in words and phrases to create meaning. This filling of the gaps can be done with sentence context, visual cues, body language, or the other speech sounds within a word. The signal that is sent, from the ears to the brain isn't just speech; it's a jumble of sounds for the brain to parse out. It is then that the brain uses things like memory and attention to filter out speech from noise and fill in the gaps of speech masked by the noise. When we think about this in terms of an individual with normal hearing, we know their attention is often split between the task at hand and the individual with whom they are trying to speak. In an individual with hearing loss, the brain needs to work even harder to understand.

How else does hearing loss effect me?

FATIGUE

People with hearing loss often experience fatigue as a result of the increased effort needed to listen and understand. This is called listening effort, or the mental exertion needed to hear and understand an auditory message. People with hearing loss exert more energy when faced with sound compared to people with normal hearing. This can cause increased fatigue as one is trying to communicate throughout the day.

SAFETY CONCERNS

Not only can speech sounds go unheard when one has a hearing loss, but other sounds and alarms can as well. This can even include fire alarms and carbon monoxide detectors - which are often very high pitched. An individual with hearing loss may miss cars honking when crossing the street or need more time to figure out where the sound is coming from.



HEARING AID USE

 **16%**

Of American's aged 20 - 69 would benefit from hearing aids actually use them. This increases to 30% in those over age 70.

CURRENT POPULATION



38 Million

Americans have some degree of hearing loss with 91% of these individuals aged 50 or older. Those over 80 have the greatest degree of loss.



What are the long term effects of hearing loss

DEPRESSION/ANXIETY

Those aged 50 and older with untreated hearing loss were found to be more likely to report depression, anxiety, and feelings of paranoia. with feelings of depression lasting two or more weeks in a year. Loved ones of those with hearing loss reported noticing these emotions in the hearing impaired individual as well. Additionally, these individuals reported being less likely to engage in social events leading to feelings of loneliness and social isolation.

RISK OF FALLS



3 times

Individuals with hearing loss are 3 times more likely to experience a fall compared to those without hearing loss.

COGNITIVE DECLINE



5 - 7%

Of adults aged 60 and older present with dementia. It is anticipated that globally this number will double every 20 years until 2050.

SOCIAL ISOLATION

Poorer hearing has been linked to social isolation. Both hearing loss and social isolation are linked to feelings of depression. Frequency of depression and social isolation are associated with poorer cognition. These 4 factors move in a cycle. For example, a person with hearing loss may socially isolate due to their inability to communicate which can lead to depression.

DOES MY HEARING LOSS EFFECT MY LOVED ONES?

Short answer? YES. According to a 2009 study of 1,500 people with hearing loss, 44 percent reported that their hearing loss had negatively effected their relationships with friends, family, and romantic partners.

It can be frustrating to constantly ask loved ones to repeat themselves. It may even get to the point where situations with friends or family are avoided all together. Loved ones may be accused of "mumbling" or speaking too quickly or too softly. The frustration you may or may not feel in these situations is often felt by those around you and some of the effects can be the same. Partners may feel a sense of resentment or isolation.

Hearing loss or mishearing can provoke disagreements between conversation partners. Those around the individual with hearing loss may miss out on activities that they once enjoyed together. Quality communication can break down or cease all together due to the difficulty exhibited with communication. Whispers, casual humor, and quick comments may be missed by the individual with hearing loss resulting even further in less connection and communication.

COMMON COMPLAINTS

- Decrease in overall communication
- Can cause loved ones to resent individual with hearing loss
- Reduce the couple's ability to enjoy favorite pastimes
- Can cause arguments between loved ones
- Loneliness of one or both partners
- Can cause a couple to withdraw socially
- Decrease in intimate conversations and casual humor

COMMUNICATION STRATEGIES

- Ensure good lighting
- Keep background noise to a minimum
- Speak slowly and clearly
- Minimize distance between speaker and person with hearing loss
- Rephrase things in different words instead of repeating
- Be patient and don't give up on communicating
- Make sure to not cover your mouth when speaking
- Ask the listener what you can do to help them understand

HOW CAN A HEARING AID HELP ME?

The goal of a hearing aid is to give individuals with hearing loss access to the sounds they are missing. The hearing aid is programmed to each individual's hearing test for one or both ears. The hearing aid(s) analyze the sounds coming in and determine both their pitch and intensity or loudness. So in the above example of a high frequency hearing loss, the hearing aid would amplify only high pitch sounds, but know that low pitch sounds don't need to be made louder. Additionally, the hearing aid knows that loud sounds, like an ambulance passing by, for example, don't need to be made louder so those will be left alone. Simply put, only the things that need it will be made louder.

A common complaint of individuals with hearing loss is a difficulty hearing in noise. Just like a hearing aid analyzes incoming sounds for pitch and intensity, it also attempts to discriminate between speech - that we want to hear - and noise - that we don't. The hearing aid does this in a myriad of different ways depending on the manufacturer, the level of technology, and the level of the background noise.

By giving access to sounds that weren't heard before and by focusing on speech in the presence of background noise, hearing aids can help you effectively communicate in both quiet and noisy situations. When an individual needs a hearing aid in both ears, the hearing aids communicate with one another to further these noise and amplification benefits. While hearing aids may take some time to get used to, they can open up your world to sounds and conversations with the help of a licensed audiologist.

