People First

People First is our promise:
to empower people
to communicate freely,
interact naturally and
participate actively

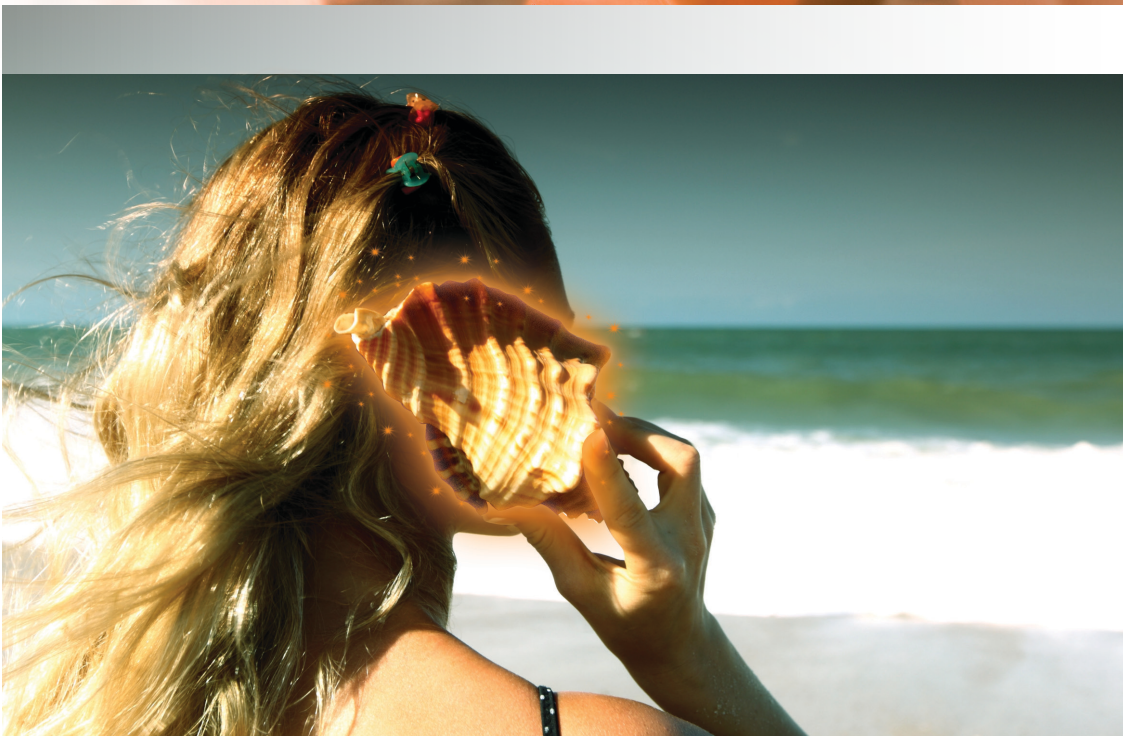
TO SCHEDULE A HEARING APPOINTMENT CONTACT:

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Your Hearing
ILLUMINATED



INFORMATION FROM YOUR HEARING CARE PROFESSIONAL

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REDISCOVER your hearing and reconnect

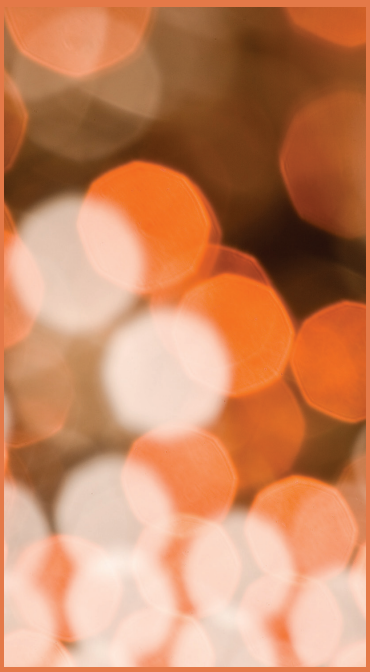






with the important things you might have been missing.

Your sense of hearing is a vital link to your world– a source of pleasure, information and communication. A hearing assessment by a qualified hearing care professional is an important step in learning more about your hearing capabilities. If you have a hearing loss there is something you can do to take control of the situation. Hearing loss should not get in the way of enjoying your life.



If you have never visited a hearing care professional you probably don't know what to expect. You are in for a pleasant experience that is interesting, informative, and a great start on your path to better hearing. You should feel at ease during this visit because you have taken an important step and have started to explore answers and solutions to your hearing needs.

During the visit, you will have an opportunity to discuss your personal hearing needs with your hearing care professional, ask and answer questions and receive a hearing evaluation. If you have a hearing loss, you will also receive follow-up recommendations about actions you can take. For example, you may receive information about hearing protection, communication tips, recommendations to visit a medical doctor, or advice about hearing instruments.

Many hearing care professionals recommend that you bring a spouse, family member or friend to this visit. You will typically get more out of your visit if someone close to you can share in the experience, particularly if hearing devices are recommended.



The Hearing Assessment

Your hearing care professional will discuss your hearing history to understand what factors have influenced your hearing, and also to get more information on your personal hearing needs:

- *how you think you are doing in different situations*
- *what you are doing to deal with hearing issues in your everyday life*

As your appointment approaches, it is a good idea to start thinking about these questions. Your spouse or family member can give important feedback. Often it is the other people you live and work with that can tell when you are having some difficulties.

The Hearing Evaluation- Audiogram

Your hearing care professional will conduct a thorough assessment of your hearing in a sound controlled setting, usually a sound booth or quiet room. While wearing an earphone at each ear, you will listen to quiet sounds and indicate when you hear each one by pressing a button or raising your hand. You may be asked to repeat words. The instructions will be clear, and the test will be as brief as possible to obtain the necessary information. The test is comfortable. All you have to do is listen and respond.

The sounds you hear vary in pitch from a deep bass to a high treble, measured on a "frequency scale" from 250 to 8000 Hz. This range is the most important for hearing of everyday sounds and speech. Lower pitched, bass sounds have a lower number on the scale and higher pitched, treble sounds have a higher number. The volume of each sound is adjusted until the softest level for each sound is detected. This level is called your "threshold."

Your hearing care professional will chart these thresholds on a table or

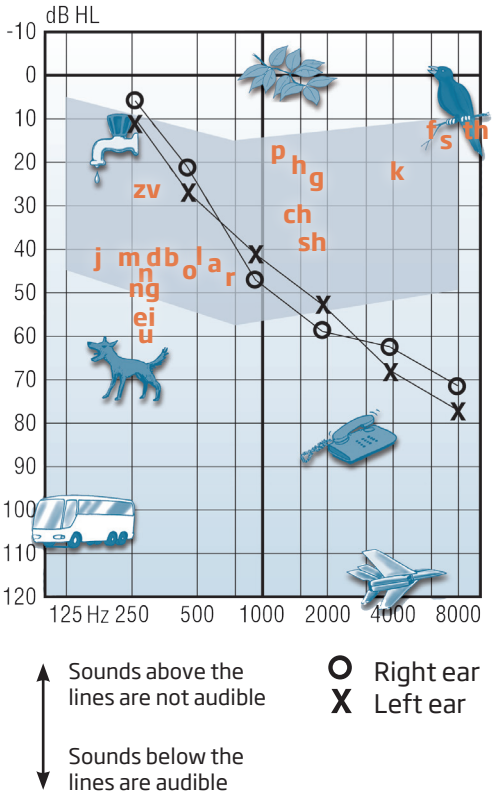


Low Bass ← → High Treble

graph, called an audiogram. The symbol "X" represents your left ear threshold, and the symbol "O" represents your right ear threshold at each frequency.

In the pictured graph, the frequencies, or pitches are shown across the bottom from low (125 Hz) to high (8000 Hz). Levels (loudness) are shown from top to bottom– the quietest sounds are at the top of the scale to the loudest sounds at the bottom. This graph indicates that this person could hear the soft low pitched sounds very well but could not hear the high pitched sounds until the level was increased. Everything above the markings were inaudible, and everything at and below the line were audible.

Your evaluation may also include a speech audiometry test. Here you will be asked to listen to and repeat a series of familiar words which become softer and softer. This will help determine your speech threshold, the softest level that you can recognize familiar two syllable words, like "baseball" or "hotdog,". Words will also be played at a comfortable, conversational level to determine your word recognition score–how well you can understand speech if the volume is appropriate for your needs. If necessary, other tests can be performed to evaluate how well you hear in difficult or noisy environments.



An audiogram is the product of a hearing assessment. More precisely, it is a graphical representation on paper, showing the specific pitches (frequencies) and loudness (intensity) levels that a person can hear in each ear.

Your hearing care professional may also perform tests to evaluate other aspects of ear function to better understand your needs and provide appropriate recommendations.

Types of hearing loss

The hearing care professional will reveal whether you have a hearing loss, its extent and type.

In general, there are three types of hearing loss:





Conductive Hearing Loss:

This type of hearing loss is caused by problems in the ear canal and/or the structures in the middle ear. It occurs when sounds from the outside world cannot be transmitted normally through the ear canal and/or middle ear to the inner ear. The most common causes of conductive hearing loss can be a buildup of wax in the ear canal, a perforated eardrum, fluid in the middle ear (common in children), or damaged or defective ossicles (middle ear bones). A person with conductive hearing loss may notice their ears seem to be full or plugged. Most conductive hearing losses can be medically or surgically treated. If for some reason the hearing loss cannot be corrected, hearing instruments can provide benefit.



Sensorineural Hearing Loss:

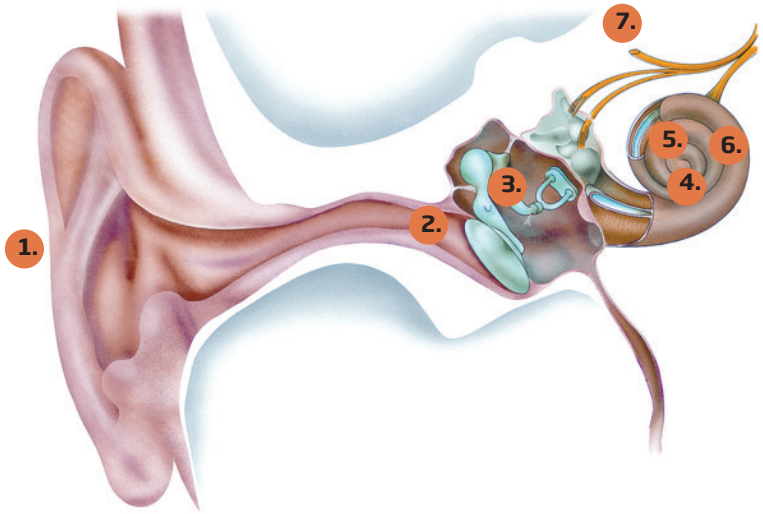
This type of hearing loss is the most common type of hearing loss. More than 90 percent of all hearing instrument wearers have sensorineural hearing loss, resulting from problems in the inner ear or the auditory nerve. Inner ear hair cell damage is the most common reason for sensorineural hearing loss. These tiny hair cells, once damaged or destroyed, become unable to convert sound vibrations in to the electrical signals needed by the auditory nerve. Sensorineural hearing loss can be attributed to long-term occupational or recreational exposure to loud noise. It also commonly occurs in the later decades of life. People with sensorineural hearing loss typically report they can hear people speak, but can't understand what they're saying. It often seems to them that people are "mumbling." Usually there is no medical way to correct this, but hearing devices often help.



Mixed Hearing Loss:

This kind of hearing loss is caused by a combination of problems in the middle and the inner ear or the auditory nerve. For example, the person may have a noise induced hearing loss from noise exposure and a perforation in the eardrum. The combination of sensorineural and conductive hearing loss is therefore, mixed.





How sounds travel through the ear

The anatomy of the ear is precisely shaped to capture sound waves and amplify them. When sound waves enter the ear they follow what might seem like a long and arduous path. But every 'station' has a precise function. This is how it works:

1. Sound waves are picked up by the outer ear, which is made up of the pinna and the ear canal.
2. Sound is channeled to the eardrum, which vibrates when the sound waves touch it.
3. The vibrations are picked up by three tiny bones known as the hammer, anvil and stirrup, which create a bridge from the eardrum to the inner ear.
4. The vibrations move on to the cochlea – a spiral-shaped capsule housing a system of fluid-filled tubes.
5. When the sound waves reach the fluid it begins to move, setting thousands of tiny hair cells in motion.
6. The movements of the hair cells are transformed into electric impulses that travel along the auditory nerve to the brain.
7. The brain decodes and interprets the electronic impulses, turning a stream of speech sounds into separate, recognizable words.

Causes of hearing loss

If you have a hearing loss, you may wonder what caused it. It is often not possible to determine a cause with high certainty. Your history and the results of your hearing evaluation will help provide information. This can guide your hearing care professional to better understand factors that may have led to your current hearing condition.

Age-induced hearing loss

The most common type of hearing loss is called presbycusis, or age-induced hearing loss. This is caused by a gradual deterioration of hair cells, which is part of the normal aging process. The degree to which hair cell loss occurs varies from one individual to another. Some people experience a significant loss of sensory cells at the age of 50, while others only have a negligible loss even at the age of 80. Hearing problems associated with presbycusis can be significantly reduced with the right hearing device.

Noise-induced hearing loss

Another less common type of hearing loss is noise induced, arising from an acoustic trauma or from exposure to excessive noise for extended periods of time. This causes damage to both the inner and outer hair cells of the cochlea. People with noise-induced hearing loss typically have difficulty hearing high frequency sounds, but hear quite well in the low frequencies. Hearing devices are ideal solutions for noise induced hearing loss.

Next steps

Your hearing care professional will intepret the results of your hearing evaluation and explain them to you clearly. If you have a hearing loss, hearing devices may be recommended. Fortunately, hearing devices can help most people and today's choices are easy to try, often right in the office or in your own home. People who use hearing devices report an improved quality of life and a new dimension in hearing and belonging.

