

🇺🇸 Diabetes Beat 🇺🇸

July 2015



July of 1776, the Continental Congress voted for independence and on July 4th, 1776 the Declaration of Independence written by Thomas Jefferson was adopted. Since this time, July 4th has been celebrated as the birth of America's Independence.

Wishing you a safe and happy July 4th weekend!



Ms. James has a Mystery

Ms. James is sixty-four years old and lives at home with her four cats. She loves to work in her flower bed and volunteers at her church once or twice a week. Ms. James was told she had diabetes about ten years earlier. No one had ever really explained what diabetes actually was and what little Ms. James knew was from reading on her own. She has never been to diabetes education classes.

Ms. James feels well so she has never given much thought to diabetes. Her doctor has told her that her A1c was elevated at 8.9% and she needed to get her sugar lower and also stop smoking. Since she really did not know much about diabetes, how could she get her sugar lower? Wasn't that her doctors' job anyway? Ms. James had smoked since she was sixteen years old. How could she possibly stop now? Cold turkey was not for her!

Two weeks ago, Ms. James tripped over "Big Boy", her lazy, gray cat and got a small cut to her lower leg. Ms. James promptly went in and cleaned her leg with soap and water and applied some antibacterial ointment and a small dressing. Now two weeks later her leg has still not healed and in fact it appears to look worse. Ms. James is puzzled, she has always healed fast. What could possibly be going on?

So what reasons do you see that Ms. James leg has not healed? Well, let's look at what's going on together. We know that smoking causes damage to the blood vessels and the heart. Having diabetes and smoking causes a greater risk of damage to the vessels and heart. Oxygen and nutrients are carried by vessels to aide in the healing process. Uncontrolled blood sugar from diabetes decreases this needed blood flow and slows the healing process. Although Ms. James is fictional, you may know someone like Ms. James that may benefit from education about diabetes. If so, have them call Kay Gattis @ 251-368-9136 ext. 2326 and ask her about an education appointment.

Donna Johnson, RN, CDE, CCM, CFCN



Come join us for our 1st
Diabetes Support Group Meeting
In
Pensacola, Florida

Where: Hyatt Place Pensacola Airport

When: July 9th, 2015 at 5:30pm

Light meal will be served.

This is a community event.

All are welcome!!!

Attention

Diabetes Support Group Meeting

Atmore, Alabama

When: August 18th, 2015 at 5:30pm

Where: Health Department Atrium



Featured speaker: Ms. Carrie Martin, RN, BSN

Light meal will be served.

All are welcome to attend!



The Ears Have It

August 23, 2010 January 27, 2015 by Nancy Vaughan, PhD, CCC-A

All About Hearing Loss

Many people think that having hearing loss is like listening to a radio set to a low volume — the sound is simply not as loud. Although it is true that certain kinds of hearing loss can make sounds noticeably softer and more difficult to hear, there are in fact different types of hearing loss that can have vastly different effects on how sounds are heard and understood. The different types of hearing loss tend to have different causes, and it appears that having diabetes can contribute to the development of certain types of hearing loss.

The mechanics of hearing

Hearing is a process in which the ear is only the beginning of the story. The chain of events starts when sound enters the ear canal and causes the eardrum to vibrate. The vibrations set in motion the three tiny bones that form a chain in the middle ear space that connects the eardrum to the cochlea — a hollow structure that is coiled in the shape of a snail's shell, containing three tubes filled with fluid. The last bone in the middle ear chain is connected to a membrane covering a small opening called the oval window at one end of the cochlea, and the vibrations of this membrane cause waves in the fluids inside the cochlea. This, in turn, causes movement of microscopic structures called hair cells, which are present in one of the tubes in the cochlea. The movement of these tiny hair cells creates an electrical signal that is sent to the hearing nerve, which connects the cochlea to the brain stem. The electrical signal travels up the brain stem and through a system of nerve pathways before arriving at specialized auditory centers of the brain where the message is finally processed. Amazingly, this entire chain of events takes only tiny fractions of a second.

Types of hearing loss

Damage can occur anywhere along the hearing pathway. The location of the damage determines the type of hearing loss that occurs.

Conductive hearing loss (outer and middle ear). Trauma to the structures of the ear that physically transmit sound, such as the eardrum and the bones in the middle ear, can result in conductive hearing loss, which reduces the ear's ability to physically conduct sound vibrations. The eardrum can be damaged by chronic infection, trauma resulting from pressure changes in the ear (such as those that occur in deep-sea diving), or blunt force to the ear or head. The tiny bones in the middle ear also can be damaged by blunt force. A condition called *otosclerosis*, which involves abnormal growth of bone in the middle ear, can reduce the strength of the sound vibrations that are transmitted into the cochlea, thereby reducing the volume at which sounds are heard.

Conductive hearing loss causes a reduction in the overall volume of sounds, but if speech can be made loud enough — by means of a hearing aid or the speaker talking louder, for instance — it can most often be understood. In many cases, areas of the ear involved in conductive hearing loss may be treated with medicines or repaired with surgery.

Sensorineural hearing loss and central processing disorders (inner ear and central hearing pathway). Damage to the inner ear or to structures along the nerve pathway is called sensorineural hearing loss because it involves either the delicate sensory hair cells in the cochlea or the hearing nerve, and sometimes both. When the nerve pathway from the ear to the brain is damaged, this is usually referred to as a central processing disorder. Unlike people with conductive hearing loss, those with sensorineural hearing loss or processing disorders may have difficulty understanding speech even when it is amplified. In fact, too high a volume can result in distortion of the speech, causing an unpleasant sound and making it even more difficult to understand.

A person whose sensorineural hearing loss is caused by damage to the hair cells in the cochlea typically has difficulty hearing sounds at particular frequencies, or pitches. This is because each group of hair cells is sensitive only to one frequency, and when any damage occurs, some hair cells may be affected more than others. The hair cells nearest the entrance from the middle ear, which detect high-frequency sounds, seem to be more susceptible to damage related to aging and noise. This can lead to hearing loss in the high-frequency range, making it difficult to understand speech, which contains a mix of low- and high-frequency sounds.

Sudden sensorineural hearing loss. Sensorineural hearing loss that appears suddenly can have a number of causes, including a blow to the side of the head or a sudden loud sound like an explosion. This type of hearing loss can involve a wide range of frequencies, depending on the nature of the injury. Sudden sensorineural hearing loss that has no known explanation occurs only rarely, and in a large percentage of these incidents, the people recover their hearing spontaneously. (Many physicians think these cases are the result of viral infections, but this explanation has not been confirmed.)

There have been reports of sudden sensorineural hearing loss associated with [diabetes](#), but this is extremely rare. However, there is evidence that high [blood pressure](#) may increase damage to the small blood vessels in the cochlea of people with diabetes, which could result in sudden sensorineural hearing loss. A recent study found that people with diabetes and sudden sensorineural hearing loss were more likely to have higher blood pressure, higher cholesterol, and a higher [HbA1c](#) (an indicator of blood glucose control over the previous 2–3 months) than people with diabetes but no sudden hearing loss.

If you experience sudden hearing loss, you should report it to a physician, preferably an otolaryngologist (ear, nose, and throat specialist). It's important to get medical attention as soon as possible, because specific medicines can often recover some or most of the hearing if they are administered early.

Noise-induced hearing loss. Hearing damage from noise exposure typically occurs in a very restricted frequency range, creating a gap in the sequence of frequencies that can be heard. The gap is usually in the high-frequency range, which can affect a person's ability to understand speech. However, noise damage can sometimes affect such a narrow frequency range that the person may not even be aware that he has hearing loss.

Protecting your ears from loud sounds can reduce the potential for hearing loss caused by noise exposure. Many comfortable forms of hearing protection are available, including earplugs, which fit into the ear canal, and earmuffs, which secure over the ears with a band. Some people are reluctant to wear hearing protection in noisy environments because they are concerned they won't be able to hear others talking to them. This is not something to be concerned about, however, because most people talk louder in noisy situations, so it is possible to hear conversations even with ear protection.

Age-related hearing loss. As we age, hearing loss occurs gradually, beginning with the high frequencies. In general, vowels, which account for the loudness of speech, are in the low-frequency range, while consonants, which provide the clarity of speech, are in the high-frequency range. Therefore, high-frequency hearing loss may not affect how loudly sounds are heard, but it can make speech less clear and, as a result, more difficult to understand. This is especially the case when watching television or listening to the radio, where speech is often fast and where visual cues, such as lip movements and body language, are not as readily available, as well as in noisy situations.

As far as age-related changes in hearing are concerned, it's important to remember that the ear alone is not responsible for hearing. Sound is converted into electrical signals that travel from the cochlea through a series of nerve pathways to the brain for interpretation. In addition to problems associated with physical deterioration of the hair cells in the cochlea, there are age-related changes in the processing ability of the hearing-related nerves (the central processing disorders mentioned earlier) as well as cognitive changes that may slow a person's ability to understand speech. These changes can have a profound effect on a person's verbal communication abilities, regardless of whether hearing loss is present. For example, a common complaint of some older people is that people talk too fast. This is because as we age, the mental processes that are

needed to understand speech can overload when information is presented too rapidly. In a study I conducted at the Veterans Affairs National Center for Rehabilitative Auditory Research (NCRAR) in Portland, Oregon, we found that older people who have poorer performance on certain cognitive tests (those related to thinking, learning, and remembering) also perform poorly on speech recognition tests (tests that use lists of sentences speeded up by a computer).

Age-related hearing loss may not be immediately evident to the person whose hearing is damaged, and as a result, his hearing may be significantly diminished before he seeks help. Indeed, older people may not think they have hearing loss at all. They can still hear a lot of sounds loudly, so they simply think that other people are mumbling. In fact, this type of hearing loss is often noticed first by friends and family who find communication becoming increasingly difficult.

Age-related hearing loss progresses at different rates in different people. Some people still have very little loss even in their 80s, although that isn't common. It is not clear what makes some people more susceptible to hearing loss than others, but as with any other age-related condition, good nutrition, physical activity, and good prevention practices (hearing protection, in this case) can contribute to lessening the effects or delaying the onset of hearing loss.

Diabetes and hearing loss

The connection between diabetes and hearing loss remains controversial, despite the amount of research that has been devoted to clarifying this issue.

Some of the more common complications of diabetes are damage to blood vessels and to nerves, structures that are both present in the hearing pathway. Because the cochlea has a rich supply of tiny blood vessels that provide nourishment to the various structures involved in hearing, it is susceptible to these effects. There is evidence that high blood pressure in people with diabetes may worsen diabetes-related damage to the small blood vessels in the cochlea, possibly intensifying any high-frequency hearing loss that is already present.

Some studies have found high-frequency loss in people with diabetes, while other studies have found more prevalent hearing loss in the low and middle frequencies in people with diabetes. In a recently completed study at the NCRAR, we tested approximately 800 veterans for hearing loss, about half of whom had diabetes. Although there was a tendency for people with diabetes to have more hearing loss across the entire range of frequencies, the difference was large enough to be significant only in the ultra-high frequencies, beyond the range of frequencies that would normally affect a person's ability to understand speech. However, this difference was found only in people 60 years old and younger. Over the age of 60, it is likely that age-related hearing loss balances out any difference between people who have diabetes and people who don't. Because age-related hearing loss typically begins in the high frequencies, the type of hearing loss exhibited by people with diabetes 60 and younger may reveal that the cochlea undergoes early aging in those who have diabetes.

Current recommendations for people with diabetes do not include hearing tests, but a yearly hearing test would provide an opportunity to monitor any changes in hearing that have occurred since the previous test and to determine whether those changes are greater than hearing changes typically expected with aging. If you have concerns about your hearing, talk to your health-care provider about having your hearing tested.

Getting help

Changes in the ability to hear and understand speech can lead to undesirable changes in lifestyle. A person may begin to avoid social situations such as restaurants or meetings, where hearing and understanding speech is an important part of the experience. It may be frustrating for a person to watch TV when he must struggle to understand the dialogue. For people with hearing loss, listening can become a chore, rather than a pleasure. In many cases, however, a hearing aid or an assistive device can improve a person's ability to hear and communicate.

There are three types of hearing health professionals to turn to for assistance when hearing becomes a problem: physicians, audiologists, and hearing aid specialists. Physicians diagnose and provide medical care for conditions that contribute to hearing loss. Doctors who specialize in conditions of the ears, nose, and throat are known as otolaryngologists, while those who specialize in conditions of the ear specifically are known as otologists. Certified clinical audiologists are trained in the prevention and diagnosis of conditions that affect hearing and can provide nonmedical treatment, including the selection of hearing aids. Hearing aid specialists, the third category of hearing professional, are trained to fit and dispense hearing aids and to provide follow-up care once someone has received a hearing aid. (See [“Resources”](#) for more information about how to get help for hearing loss.)

It is important that you identify which of these professionals is best suited to address your hearing needs. It is also important that the professional you choose demonstrates an ability and willingness to make referrals to another expert if your needs cannot be met by the one you have chosen to consult.

Most states require you to have a physician examine your ears before you are fitted with a hearing aid. This is a precaution to rule out a disease or malformation of the hearing structures that could be treated with medicines or surgery. In some states, you can waive this requirement by signing a form stating that you do not wish to have a medical examination. However, if there are indications that special medical treatment may be needed, your audiologist will require that you see a medical doctor. (If necessary, the physician will provide a further referral.) If you do not need special medical treatment, your audiologist can evaluate your hearing problems through a number of tests and recommend a course of action and type of hearing aid, if needed. While you can obtain a routine hearing test in a doctor's office or from a hearing aid specialist, only an audiologist is qualified to conduct additional tests such as central auditory processing tests and electrophysiologic tests, which evaluate how sounds are processed beyond the cochlea.

Hearing aids and assistive devices

The basic function of a hearing aid is to amplify sound, but today's hearing aids use sophisticated technology to reduce background noise, the primary complaint of hearing aid users. However, this technology can also affect the quality of speech heard through the hearing aid. The "processed" sound is often unfamiliar. Some people may benefit from the more sophisticated, complex (and expensive) processing while others may do just as well with more traditional hearing aids. Your audiologist should have a wide range of hearing aids from which to choose, so that he can recommend the most appropriate device for your needs.

You may find that adapting to speech that is processed through a hearing aid can require some adjustment, particularly if you have had long-standing, gradual hearing loss. This is why most audiologists provide rehabilitation training after you have purchased a hearing aid. This training will include information on what to expect from a hearing aid, advice on how to adjust to this new way of communicating, and guidance in how to properly use and maintain the hearing aid. More in-depth rehabilitation methods may involve training programs to increase your listening skills and teach you methods to compensate for any mental changes that may be affecting your hearing. This training may include exercises like picking out and listening to one voice among several speaking on a tape. (Computer programs are being developed that would allow this sort of training to take place in the person's home. In this case, the audiologist would receive progress reports either by phone or by checking the automatic updates provided by the program online. This would permit a less frequent schedule of visits to the clinic.) It's also important for the people most involved with the hearing aid user to learn the best way to communicate with him, so family members are often included in rehabilitation training.

In addition to hearing aids, assistive listening devices, or ALDs, can help people with hearing impairment understand speech in places such as movie theaters and churches, many of which are now equipped with ALD transmission systems. There are a number of different types of ALDs, including personal frequency modulation (FM) systems and infrared systems. Personal FM systems consist of a microphone used by the speaker and a receiver that transmits sound to the listener via either a hearing aid or headset. Infrared systems use infrared light waves to transmit sound to a receiver, the volume of which can be adjusted by the individual. Infrared systems can also be used either with or without a hearing aid. For more information on these and other types of ALDs, visit www.asha.org/public/hearing/treatment and click on "Assistive Technology." Your audiologist can help you decide which, if any, of these devices would be appropriate for your needs.

Here's to hearing

The more you look out for your hearing, the better it will be, so protect your ears with earplugs or earmuffs, and get your hearing tested if you miss words in conversation or have trouble hearing in any situation. If you have hearing loss, assistance is available, and it can help put the pleasure back in hearing again.

Nancy Vaughan is a Research Investigator at the National Center for Rehabilitative Auditory Research in Portland, Oregon, and an assistant professor at Oregon Health and Sciences University, also in Portland.

Sliders with Shallot-Dijon Relish



Nutritional Information

Calories 167
Calories from fat 37 %
Fat 6.8 g
Sat fat 2.6 g
Mono fat 2.7 g
Poly fat 0.8 g
Protein 10.8 g
Carbohydrate 14.2 g
Fiber 1 g
Cholesterol 23 mg
Iron 1.8 mg
Sodium 404 mg
Calcium 7 mg

Ingredients

1/2 teaspoon kosher salt
1/4 teaspoon freshly ground black pepper
1 pound ground sirloin
Cooking spray
3 tablespoons finely chopped shallots
1 tablespoon Worcestershire sauce
1 tablespoon Dijon mustard
2 teaspoons butter, softened
8 (1-ounce) Parker House rolls
16 dill pickle chips

Preparation

1. Prepare grill to medium-high heat.
2. Combine 1/2 teaspoon salt, pepper, and sirloin. Divide meat mixture into 8 equal portions, shaping each into a 1/4-inch-thick patty. Lightly coat both sides of patties with cooking spray. Place patties on grill rack; grill for 3 minutes on each side or until done.
3. Combine shallots, Worcestershire sauce, mustard, and butter in a small bowl, stirring well. Cut rolls in half horizontally. Spread shallot mixture evenly over cut sides of rolls. Layer 1 patty and 2 pickle chips on bottom half of each roll; top with top halves of rolls.

Note:

MyRecipes is working with *Let's Move!*, the Partnership for a Healthier America, and USDA's MyPlate to give anyone looking for healthier options access to a trove of recipes that will help them create healthy, tasty plates. For more information about creating a healthy plate, visit www.choosemyplate.gov.

Elizabeth Karmel,

Cooking Light

June 2008