

EARS 'R US

Answers to Old Myths

Self-Diagnosis and Treatment of Common Ear Problems Mysteries Unraveled

Herbert Silverstein, MD, FACS

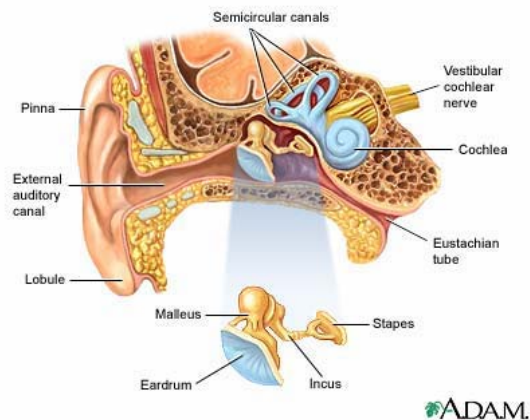
Julie Daugherty, MS, NP-C



Old wives tales, those traditional recipes for health passed down through generations, fill our heads with all kinds of myths - many of which can be made current, to our benefit and well-being. Read on to learn more of the why's and how's.

THE EAR MADE SIMPLE

Diagram



Outer ear: The most exterior part of the ear, the auricle (pinna), is connected to the ear canal (external auditory canal). Sound waves travel this route to the ear drum and middle ear. The ear canal skin constantly migrates outward, pushing the normally manufactured wax (cerumen) out of the ear.

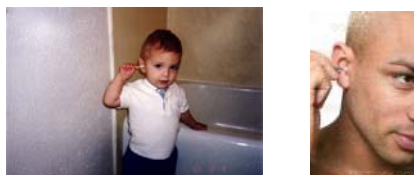
Middle ear: The ear drum (tympanic membrane) is the entrance to the middle ear. Sound waves vibrate this organ and cause motion of the three tiny hearing bones - the hammer (malleus), attached to the ear drum, anvil (incus), which connects the other 2 bones, and the stirrup (stapes), which vibrates the fluids of the inner ear.

Inner ear: The stapes bone rests in an opening to the inner ear called the oval window - the entry to the inner ear that surrounds the organs of balance and hearing in a delicately balanced fluid. The cochlea, a snail-shaped organ has tiny hair cells that receive sound impulses and pass them on to the brain via the hearing (cochlear) nerve. Beside the cochlea lies three balance canals (semi-circular). This organ, along with our eyes, muscles and joints keep us in balance (proprioception).

UNLOCK THE MYTHS

Cleaning Ears

MYTH 1 - *ONLY Q-TIPS®, KEYS, OR MY FINGER WORK!*



TRUE MYTH: Do not put anything in your ear smaller than your elbow!

Possible problems:

Mythology says that ears must be cleaned like our bodies to remain healthy. Although partially true, the ears actually clean themselves. The skin of the ear canal (cerumen) migrates outward and acts as a protector of the delicate eardrum. Many times, prodding, poking, or picking at this material pushes it inward causing blockage and potential temporary hearing loss or even accidental puncture of the eardrum. In that event, a serious injury to the hearing bones can result in the need for emergency surgery. Some ear canals are too narrow, interfering with nature's cleaning process, causing the ear wax to accumulate.

Diagnosing:

The ears may feel gummy and you may be tempted to grab that Q-tip® or key to dig out the mess. When the wax completely occludes the ear canal, you may experience hearing loss.

Itchy ears are often incorrectly relieved using Q-tips®. Years of scratching can cause a thickening of the ear canal much like a callous, pushing any wax deep into the ear canal.

Treatment:

Using a wet washcloth, you can gently clean the outer portion of ear canal. If your ear still feels blocked, you should call your ENT (Ear, Nose & Throat) doctor and have the cerumen removed. The next best thing is to gently irrigate the ear canal with hydrogen peroxide 3% using a small rubber ear syringe. Dry the ear canal with a hair dryer set on a medium temperature. Hot temperatures can cause transient dizziness due stimulation of the balance canals.

Infections**MYTH 2- MY EAR HURTS SO BAD I MUST HAVE AN INFECTION!****Possible problems:**

Ear Pain caused by an inflammation of the temporomandibular joint (TMJ) is the most common complaint. This joint lies adjacent to the ear canal and many of the same pain nerves are shared.

Swimmer's ear (External Otitis), is very painful and occurs when the ear canal becomes wet. Bacteria and fungus love the warm wet environment and multiply prolifically causing an infection.

Otitis media, an infection in the middle ear, often occurs after an upper respiratory infection that reaches the middle ear via the Eustachian tube.

Neuralgia, an inflammation of the nerves around the ear can cause excruciating pain that feels like jabbing or stabbing inside the ear.

Diagnosing:



TMJ: Press on the jaw joint while opening and closing the mouth. Pain or tenderness may indicate TMJ syndrome.

Swimmer's Ear (External Otitis): Pain caused by gently pulling on the outer ear can be a sign that infection is present.



Otitis media: Pain may be felt deep in the ear. Pus from the infection may drain into the ear canal through a perforation in the ear drum.

Treatment

TMJ inflammation: Although this problem should be managed by a dentist, the discomfort may be relieved temporarily by eating a soft diet; placing a warm heating pad on the affected jaw joint twice daily or by anti-inflammatory medications. If the pain persists, a dentist that specializes in TMJ pain should be consulted.

External Otitis: Pain from an ear infection should be treated by an ENT doctor. Using special instruments, they will clean the ear canal and prescribe antibiotic ear drops to eliminate any infection. Once swimmer's ear infection occurs, there can be a tendency for recurrence when the ear gets wet. To prevent recurrent infections, it is important to fill the ear canals with rubbing alcohol after swimming for several minutes. Then, drain the alcohol from the ears and dry the ears with a hair dryer set on medium temperature.

Otitis media: An ENT should treat this infection with oral antibiotics.

Eustachian Tube

MYTH 3-POPPING MY EARS IS DANGEROUS



Possible problems:

Blocked Eustachian tube: The Eustachian tube connects the middle ear cavity with the throat. It aerates the middle ear when swallowing and drains mucous and secretions from the middle ear into the throat. Often a cold or sinus infection will cause the Eustachian tube membranes to swell. As a result, the Eustachian tube is not able to function, causing pressure and stuffiness in your head. Your hearing may feel diminished. Fluid can also accumulate in the middle ear.

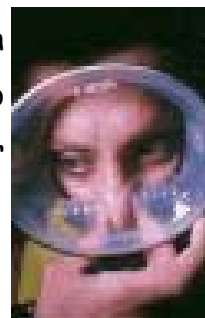
Abnormally Open (patulous) Eustachian tube: This is an uncommon cause of ear stuffiness and usually occurs when someone loses weight. When your Eustachian tube is open, it can cause the sensation that your voice is loud or has an echo (autophony), like you are inside a drum. You may also have the sensation of hearing air "whoosh" when you breathe through your nose.

Diagnosing

Blocked Eustachian tube (ET): Pinch the nostrils and blow hard against them. If you cannot "pop" your ears, it is likely the Eustachian tube is blocked by swelling of the mucus membranes. However, if suddenly you feel relief of pressure, you have probably opened the ET and equalized the middle ear pressure with ambient air pressure. This maneuver can be performed many times throughout the day to relieve a blocked ET. There is no danger of harming your ears with this technique. However, if you get dizzy, then see your ENT doctor.

Open ET: From a sitting position, bend forward completely at the waist putting your head between your legs. The pressure and stuffiness in your ear should disappear. Also, lying flat in bed will relieve the symptoms.

Increased Inner Ear Pressure: If popping your ears or lying down does not relieve the pressure, then your problem may be due to increased inner ear pressure and should be evaluated by an ear specialist.



Treatment

Blocked Eustachian Tube: There are medications such as decongestant nasal sprays and tablets that can be purchased over the counter to help shrink the membranes, relieving pressure in the ears. Flying in an airplane, skin diving or scuba diving should be avoided if there is blockage of the Eustachian tube. Landing or descending in the water will result in severe pain in the ears. If you must fly, taking Afrin® nasal spray-2 sprays to each nostril and a 30mg Sudafed® tablet one hour before descending will help open the ET and help prevent any ear pain. If symptoms persist, you should contact your ENT doctor.

Open Eustachian Tube: Depending on the underlying cause of this condition, an ENT doctor will recommend treatment.

Increased Inner Ear Pressure: An ENT doctor can offer treatment to attempt to reduce inner ear pressure. Treatment options include the use of diuretics or office surgery to deliver steroids to the inner ear.

Noise Pollution

**MYTH 4- SO WHAT IF IT IS LOUD -
I'M STILL YOUNG!**



Possible problems:

Damage to the ear can occur from exposure to loud noises such as guns firing near the ear, industrial sounds, lawn and construction equipment, even music played too loud. Higher volume levels used on any personal listening devices, especially when using headphones placed directly in the ear, can cause sound damage .

Diagnosing

If your ears feel funny and there is ringing , stuffiness, or hearing loss after noise exposure, then damage to the delicate cells of the cochlea has probably occurred This is called noise induced hearing loss.

Treatment

The best treatment is prevention. Ear protection should be worn in noisy work environments, when using power tools, noisy yard equipment; during firearm use and when riding a motorcycle. Also, ear protection can prevent hearing loss when exposed to loud music at concerts. Hearing protection devices are available as ear plugs-which are inserted in the ear canal, and ear muffs-which are worn around the ear. Custom molded ear plugs are also available to ensure an optimal fit in the ear canal. Some personal listening devices have volume limits, preventing excess noise exposure. In some situations, a short course of steroids may reverse the acute hearing damage.

MYTH 5 - RINGING IN THE EARS (Tinnitus).

There is no treatment; you have to learn to live with it.

Diagnosing

This is a very common complaint and usually occurs as the little hair cells in the cochlea die. When the hearing is damaged, it can cause noise or ringing in the ear. People with ringing in the ears need to be evaluated by an ENT doctor. Most often, ringing in the ears is not a serious symptom. However, tinnitus can be a sign of a serious medical problem. Your physician will perform special tests to determine the cause and recommend treatment if necessary.

Treatment

There are many treatments available. Recommendations to relieve tinnitus include:

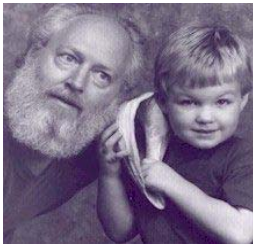
- Masking tinnitus with outside noise such as music or TV. If there is hearing loss, a hearing aid can increase the outside noise, reducing the intensity of the tinnitus. The idea is to overcome the sound that the inner ear generates.
- Low-salt diet
- Electrical Stimulation
- Stress reduction
- Bio feedback
- Zinc, Ginkgo, garlic pills and supplements including high level antioxidants
- Brain Retraining. A therapist works with the patient training the brain not to hear the tinnitus.
- Reassurance that there is no serious problem may help the patient cope .

Hearing Loss

MYTH 6 - I M OLD ALREADY!! MY FOLKS WERE DEAF!



Possible problems:



Sudden Deafness: If you suddenly notice that you can't hear out of one ear, it is a medical emergency. Hopefully it is just ear wax occluding the ear canal.

Heredity: We are genetic products of our family and hearing loss is no exception.

Aging: As we age, the tiny hair cells in the cochlea that lie closest to the middle ear begin to die resulting in a high-tone hearing loss.

Diagnosing

If the hearing loss occurs suddenly it is fairly obvious. Put the phone up to your ear, if you can't hear the dial tone, see an ENT specialist as soon as possible.

Do you need the TV or radio turned up louder than other family members?

IS "what?" a major word in your vocabulary?

Does your spouse accuse you of not listening?

Are sounds muffled, or distant?

Having trouble hearing from a cellular telephone?

Treatment

Examination by an ENT doctor is necessary to make the correct diagnosis. A hearing test and other special ear tests may be needed. Treatment for sudden deafness is done with steroids given by mouth or put directly into the ear. A hearing device may be needed. Another treatment that can possibly reduce the progression of hearing loss include a four part program of healthy life style including:

- At least 30 minutes of daily exercise .

- Vitamin and mineral supplements.
- A healthy diet of veggies, fruits, whole grains, fish and lean meat.
- Protection of ears from excessive noise exposure.

MYTH 7 - If you are deaf in one ear there is no treatment.

Today, there are two hearing devices that allow a person to hear from a deaf ear. The first is a CROS (Contra Lateral Routing of Signals) or Bi-CROS hearing aid. This device uses microphones to pick up sound from the deaf ear and transmit it to the hearing ear. As a result, the CROS aid allows sound to be heard from all directions and even allows a telephone to be used in the deaf ear. The second device, the BAHA (Bone Anchored Hearing Aid) or bone stimulator, picks up sound from the deaf ear and transmits it through the skull to the hearing ear. Minor surgery is required to implant a titanium screw behind the ear, serving as an anchor for the external processor, which holds the device. The results are excellent.

Dizziness

***MYTH 8- I MUST HAVE HAD A STROKE -
I'M SO DIZZY!***



Possible problems:

Benign positional vertigo (BPV) is the most common cause of dizziness.

It is caused when the tiny crystals in the inner ear that help us balance break off and float around in the inner ear fluids. When the head moves in certain positions, these floaters tickle the balance cells, causing transient vertigo.

Labyrinthitis: A viral infection of the inner ear generally causes labyrinthitis. The symptoms of vertigo usually last for several hours.

Meniere's disease: Although the cause of this condition can be varied, the symptoms include a build up of excessive inner ear fluid causing pressure in the inner ear. This is similar to glaucoma of the eye. This results in hearing loss, stuffiness in the ear and debilitating recurrent vertigo spells that can last hours.

Diagnosing

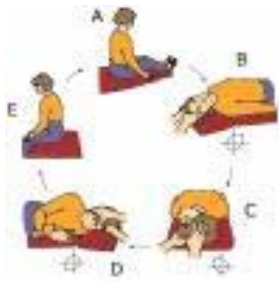
BPV: Room-spinning vertigo, lasting a few seconds, occurs with looking up, down or rolling over in bed.

Labyrinthitis: Violent vertigo with nausea and vomiting lasting for hours. There is usually no hearing loss or ear symptoms. This may be followed by weeks of unsteadiness, or transient vertigo when rolling over in bed.

Meniere's Disease: Recurrent bouts of vertigo, possible nausea and vomiting lasting 30minutes to hours usually accompanied by hearing loss, pressure in the ear, and roaring or ringing in the ear.

Treatment

BPV: In the office, a vestibular therapist can perform a maneuver that will move the crystals away from the balance cells (the Semont Maneuver). Ninety-percent of patients with vertigo are cured with this treatment, however, occasionally it needs to be repeated.



The Semont Maneuver

Labyrinthitis: Treatment for labyrinthitis includes oral medication to reduce the dizziness sensation and replacement of fluids for any associated nausea and vomiting. In severe cases, hospitalization may be needed to provide the medications intravenously until the symptoms subside.

Meniere's Disease: After the diagnosis is confirmed by the ENT doctor, various medications and surgical procedures are available to help reduce the frequency of vertigo attacks. Diuretics; drugs that increase circulation; sedatives and steroids are commonly used during treatment.

Uncommon causes of dizziness

Stroke

A stroke or "brain attack" , as it is sometimes called, occurs when the blood flow to the brain is interrupted and the brain cells are deprived of oxygen. There are several symptoms of stroke including sudden onset of dizziness or vertigo; difficulty walking or loss of coordination; numbness or weakness of the face, arm or leg; confusion; difficulty with speech and severe headache. When any of these symptoms suddenly occur, the person should be rushed to the hospital for evaluation. Every minute that the brain is deprived of oxygen, the greater the chance for damage

Treatment: In the event of a stroke, treatment is usually initiated in the emergency room and continued in the hospital by a doctor that specializes in neurological diseases.

***MYTH 9- MY BALANCE IS BAD BECAUSE I AM GROWING OLD,
SO I WILL JUST HAVE TO LIVE WITH IT!***

How the balance center works:

Our balance mechanism works like a tripod. The three limbs of the tripod are the balance canals of our inner ear, our eyesight and the sensation that comes from joints and muscles in our legs and feet. Impulses (sensory) from these tripod limbs are sent to the brain where they are organized. Our brain then sends out new impulses (motor), maintaining our balance. If there is weakness in the brain or one of the tripod limbs, imbalance usually occurs. Dysfunction of two limbs of the tripod makes it even more difficult to maintain balance. The majority of balance problems arise from dysfunction of the inner ear balance canals.

Possible problems:

There are many causes of dizziness and imbalance. Possible reasons include: lack of circulation to the balance area of the brain, a drop in blood pressure when moving from sitting to standing (orthostatic hypotension), inner ear disorders, problems with vision, diseases of the bones and joints, medication side effects or drug interactions. Also, an irregular heart beat or cardiac condition as well as many neurological diseases may present with symptoms of lightheadedness, dizziness or imbalance.

Diagnosing

In order to correctly diagnose the cause of dizziness or imbalance, a comprehensive evaluation by an ENT physician including specialized tests measuring inner ear and balance function is required. In some instances, a neurologist or other specialty physicians may need to be consulted. Some of basic symptoms can aid in the diagnosis process and should be discussed with

the physician.

If your imbalance occurs only for a short time when getting out of bed or when rising from a sitting position, it can be due to a transient drop in blood pressure.

Unsteadiness or imbalance only when walking can be related to problems in the balance center of the brain or the balance canals in the inner ear.

Vision problems can also be a cause of dizziness or imbalance.

Sometimes, there are multiples causes, requiring even more specialized treatment.

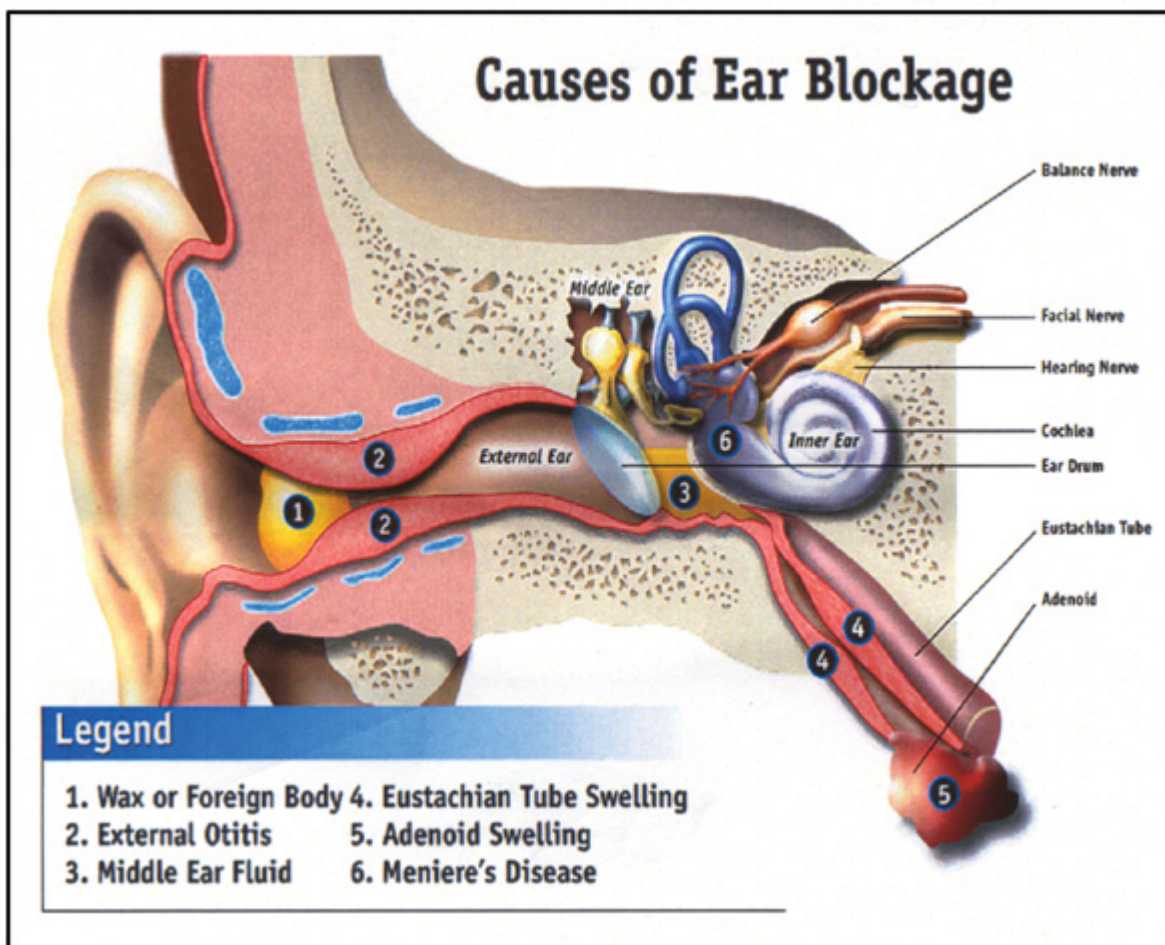
Treatment

In most instances, dizziness and imbalance can be treated by initiating Vestibular Rehabilitation (VR). VR is an individualized, systematic program of home exercises and activities designed by a therapist with specialized training in balance disorders. Prior to starting VR, an assessment is made of your musculoskeletal system by testing the strength, coordination and range of motion of your arms and legs. Also, your balance when walking is observed. Then the therapist designs a program specific to your needs. Your progress is monitored at regular, follow-up appointments. The goal of VR is to decrease dizziness and increase balance function, improving general daily activity levels. Remember, age is not a factor in maintaining healthy balance function!

Summary

We hope this little guide is helpful, however, it is not meant to be an answer to all questions concerning the ear. Some main points to remember include:

- Popping the ear is not dangerous or bad and can be beneficial.
- Ear pain is not always caused by an ear problem.
- Vertigo is usually a sign of inner ear disease.
- Sticking Q- tips or other objects in the ear is very dangerous and should be avoided.
- Everyone can be made to hear using advanced technology.



About the Silverstein Institute

The Silverstein Institute, located in Sarasota, Florida, is an internationally-respected physicians' practice dedicated to diseases and surgery of the Ears, Nose and Throat. The Silverstein Institute provides premier patient care for the treatment of head and neck diseases consistent with the highest standard of medical excellence and the latest innovative technology.



Founded in 1979 by renowned ear surgeon and clinical research specialist Herbert Silverstein, MD, the Silverstein Institute is now the hub of a busy, three location practice employing four full-time physicians, one graduate otology Fellow, and 45 support professionals.

The Silverstein Institute is composed of four divisions: the Florida Ear and Sinus Center, Medical Hearing Aid Systems, the Premier Facial Plastic Surgery Center, and the Ear Research Foundation. The Florida Ear & Sinus Center is in every sense a full-service practice, offering diagnosis, evaluation, testing, treatment (including office-based laser surgery and balance rehabilitation), and a full range of customized hearing aids through its Medical Hearing Aid Systems division. For appointment information, call **TOLL FREE 1-888-418-9200**.



Sarasota
1901 Floyd Street
Sarasota, FL 34239

Venice
400 S. Tamiami Trail, Ste. 260
Venice, FL 34285

1-888-418-9200