

or pressure in the ear, along with hearing loss. Pain behind or in the ear may cause significant discomfort.

Dizziness or muscle weakness on one side of the face (the side of the infected ear) can also occur. Any or all of these symptoms are good reasons to seek urgent medical evaluation.

Treatment of cholesteatoma

An examination by an otolaryngologist — head and neck surgeon can confirm the presence of a cholesteatoma. Once diagnosed, cholesteatoma usually requires surgical treatment to protect the patient from serious complications. Preoperative hearing tests are performed to determine hearing levels in the ear.

Surgery is performed under general anaesthesia. The primary purpose of surgery is to remove the cholesteatoma so that the ear becomes dry and the infection will be eliminated. Hearing preservation or restoration is the second goal of surgery. In case of severe ear destruction, reconstruction of middle ear bones may not be possible. In this case, after surgery, patient will have a large cavity inside the ear which requires frequent cleaning.

Surgery can often be done on an outpatient basis. For some patients, an overnight stay is necessary. Time off from work is typically one week.

Follow-up clinic visits

After surgery, follow-up clinic visits are necessary to evaluate results and to check for recurrences. In cases where an open mastoid cavity has been created few clinic visits are needed initially to clean out the mastoid cavity and prevent new infections. Later on, once-a-year visit to the clinic is usually required.

Is it a dangerous condition?

Yes, at times cholesteatoma can be dangerous and should never be ignored. Bone erosion can cause the infection to spread into the surrounding areas, including the inner ear

and brain. If untreated, deafness, brain abscess, meningitis, and rarely, death can occur.

Section of Otolaryngology and Head & Neck Surgery

The section of Otolaryngology and Head & Neck Surgery offers a full range diagnostic and therapeutic services for diseases of the Ear, Nose and Throat. The section also provides expert treatments for benign diseases of the head and neck and inflammatory and infectious diseases effecting the ear, nose and throat. Surgical treatments for chronic sinus disease and chronic ear disease are available by state-of-the-art functional endoscopic sinus procedures and microscope assisted otologic surgeries, respectively.

More recently, Aga Khan University started the first Cochlear Implant programme in Karachi. We have internationally trained and certified experts in the surgical treatments of head & neck cancers who work in conjunction with other services of Radiation Therapy and Medical Oncology to assist in the treatment.

AKUH is the only hospital in Pakistan to be awarded the prestigious US based Joint Commission International (JCI) accreditation for achieving and maintaining international quality standards that are comparable with the leading hospitals of the world.

For clinic appointments, please contact:

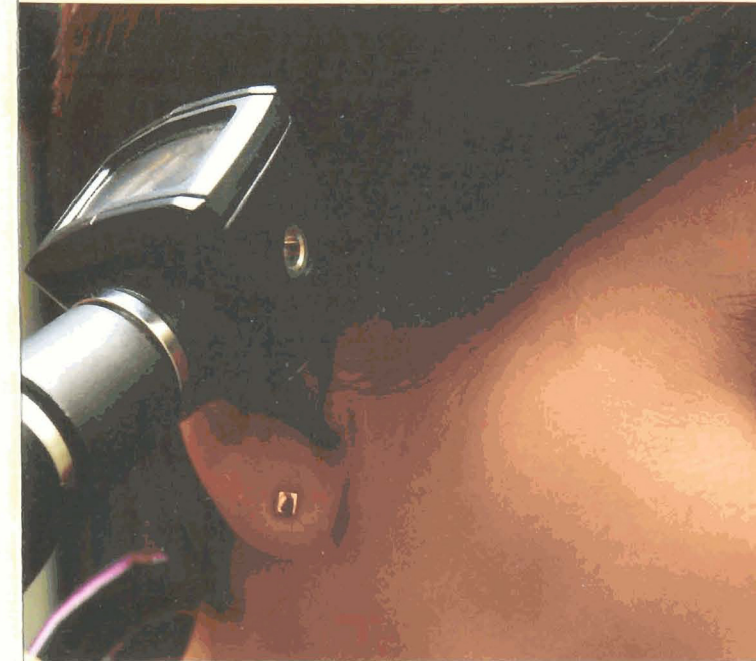
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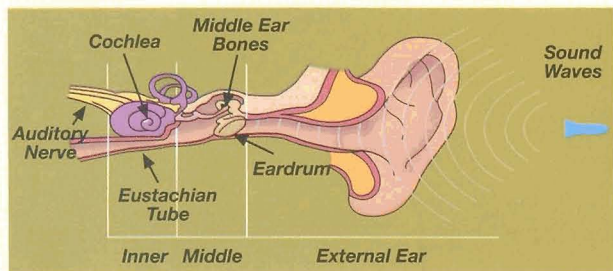


آغا خان یونیورسٹی ہسپتال، کراچی

The Aga Khan University Hospital, Karachi

How do our ears work?

The ear has three main parts: the outer, middle and inner ear. The outer ear (the part you can see) opens into the ear canal. The eardrum separates the ear canal from the middle ear. Small bones in the middle ear help transfer sound to the inner ear. The inner ear contains the hearing nerve, which leads to the brain.



Any source of sound send waves which funnel through the ear opening, down the ear canal and strike your eardrum, causing it to vibrate. The vibrations are passed to the small bones of the middle ear, which transmit them to the hearing nerve in the inner ear. Here, the vibrations are converted into nerve impulses and go directly to the brain, which interprets the impulses as sound (music, voice, a car horn, etc).

Cause of long-standing ear discharge

Long-standing ear discharge is due to **chronic otitis media**. The term otitis media refers to inflammation within the middle ear. There is no absolute time period but disease that persists for more than three months is considered as chronic.

There are two subtypes of chronic otitis media:

- Chronic otitis media due to a perforated eardrum
- Chronic otitis media due to cholesteatoma

a) Perforated eardrum (Tympanic Membrane)

A hole or rupture in the eardrum (a thin membrane that separates the ear canal and the middle ear) is called a perforated eardrum.

A perforated eardrum is often accompanied by decreased hearing and irregular discharge (pus). Pain is usually mild or it may be absent.

Causes of eardrum perforation

The causes of a perforated eardrum are usually **infection** or **trauma**.

Middle ear infections may cause pain, hearing loss, and spontaneous rupture of the eardrum. Most are tiny tears and will heal on their own, but at times frequent infections can lead to a permanent hole.



A perforated eardrum from trauma can occur if an object (such as a Q-tip, hair pin or match stick) is pushed too far into the ear canal, after sudden noise trauma or with a skull fracture.

Treatment of perforated eardrum

If there is active infection, patient will be given antibiotics and ear is cleaned in clinic. Once the ear becomes dry, definitive surgery is planned. Before attempting any correction of the perforation, a hearing test should be performed.

The benefits of closing a perforation include prevention of water entering the ear while showering, bathing or swimming (which could cause ear infection) improved hearing and

diminished tinnitus. If the perforation is very small, an otolaryngologist (ear, nose and throat doctor) may choose to observe the perforation over time to see if it will close by itself.

If perforation is large or it does not heal on its own, surgery may be required. There are a variety of surgical techniques, but most involve grafting tissue across the perforation to allow healing. This procedure is called tympanoplasty or myringoplasty. Surgery is typically quite successful in repairing the perforation and making the ear dry. It is often done on a day-surgery basis. After surgery it is important to prevent water from entering the ear for a few months.



b) Cholesteatoma

An abnormal skin growth in the middle ear behind the eardrum is called cholesteatoma. Cholesteatoma often develop as cysts that shed layers of old skin, which build up inside the middle ear. Over time, the cholesteatoma can increase in size and destroy the surrounding delicate bones of the middle ear. Hearing loss, dizziness and facial nerve paralysis can result from continued cholesteatoma growth.

Signs and symptoms of cholesteatoma

Initially, the ear may drain fluid with a foul odor. As the cholesteatoma enlarges, it can cause a feeling of fullness