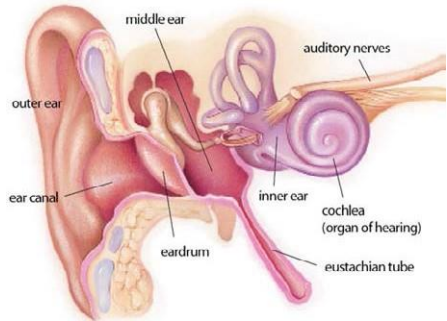


# Ear

The human ear is one of the most remarkable parts of the human body, not only because of its beauty and unique structure, but also because of its extraordinary sensitivity to sounds. From an anatomical point of view, the ear is divided into three parts - the outer, middle and inner ear.

**The outer ear** consists of the pinna (auricle) that leads into the external auditory canal. This canal collects sound waves from a wide area and funnels the sound into the external ear passage. On the inside surface of the outer ear is the tympanic membrane (eardrum), which is stretched across the end of the auditory canal, separating the outer ear from the middle.



**The middle ear** consists of small bones called ossicles that transfer sound waves to the inner ear. The ossicles are the malleus (hammer), the incus (anvil) and the stapes (stirrup). The opening into the inner ear is called the oval window, and below it is another membrane called the round window that stretches across the opening and further adjoins the cochlea in the inner ear.

**The inner ear** comprises a coiled structure called the cochlea. This snail-like spiral coiled tube contains receptors for sound, and the vestibular apparatus that is associated with a sense of balance. The cochlear duct contains the organ corti, which contains auditory receptor cells. The auditory nerve transmits sound vibrations to the brain.

## Function

Sound waves are perceived by the brain when nerve cells fire in the auditory portion of the central nervous system. The ear changes the pressure of the sound waves entering from outside into a signal of nerve impulses that are sent to the brain.

The ear also plays an important role in sensing balance and

position. Our ears have semi-circular canals filled with fluids. The sensory cells present in these canals sense the movement of the fluid over them as the head moves. This helps the brain understand the position of the head.

## Problems

The problems of the ear include :

### Loss of hearing

A major problem of the ear, loss of hearing may be partial or complete, and temporary or permanent, depending on the cause. It can be sudden or gradual, occurring over a period of days, weeks or even years. Infection, trauma, noise pollution, changes in atmospheric pressure and earwax build-up can cause a sudden loss of hearing. Hearing loss is divided into three categories -

- **Conductive hearing loss**

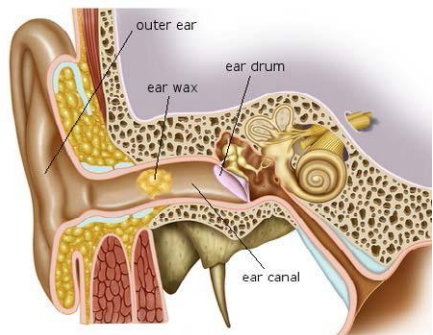
This occurs when the passage of sound waves is impeded in the external or middle ear.

- **Sensor neural hearing loss**

This is a consequence of damage to the structures or pathways of the inner ear. It may result from damage to the acoustic nerve (the eighth cranial nerve, also known as the auditory nerve), which carries information from tiny cells called hair cells in the inner ear to the brain. It can be caused by certain prescription medications, including a few antibiotics, non-steroidal anti-inflammatory drugs (NSAIDs), aspirin taken over a long period of time in high doses, quinine and infection in the inner ear.

### Earwax

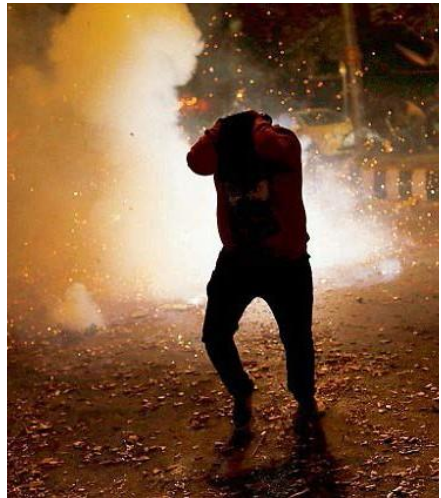
There are small glands in the ear canal that produce a yellowish wax. This wax entraps dust and foreign bodies to leave a clear passage for the sound waves to enter. It protects the skin of the ear canal, and assists



in cleaning and lubrication, besides providing protection from bacteria, fungi, insects and water. Earwax can cause irritation when it accumulates deep inside the ear canal causing a blockage. The block may also occur when wax gets pushed deeper into the ear due to use of cotton swabs, leading to discomfort. People who use ear plugs or hearing aids are more prone to earwax blockage.

### **Noise pollution**

Today, noise pollution is one of the major reasons behind gradual loss of hearing among people. It is believed that in earlier times, people retained good hearing capacities until the end of their lives, but with development came noise pollution, which harms our ear drums in long run. Generally, the human ear can hear sounds with frequencies between 20 Hz and 20 kHz (the audio range). If



there is a sudden loud burst of noise, it can rupture the eardrum and hamper the hearing capacity of the individual.

### **Ear infection**

Ear infections are quite common and if left untreated, they can impair the hearing capacity of the affected person.

### **Causes**

- Earwax
- Acoustic neuroma (damage to the auditory nerve)
- Anaemia
- Use of earplugs or head phones
- Otosclerosis (a condition in which the small bones of the middle ear become immobile)
- Side effects of medications, such as aspirin, antibiotics and non-steroidal anti-inflammatory drugs taken for a long time
- High blood pressure

- Stress and depression
- Arthritis or trauma to the eardrum
- Use of bobby pins or match-sticks to clean the earwax
- Stroke or shock

## **Symptoms**

- Fever and deep pain in the ear, and/or fluid draining from the ear
- Redness and swelling of the outer ear and the surrounding skin
- A headache-type pain and redness behind the ear, or tenderness when you touch the bone behind the ear
- Thick pus or bloody drainage from the ear canal, after a sharp and sudden pain
- Swollen ear, itching and pain
- Cracking of the jaw joint while chewing or opening of mouth
- Sound of fluid in the ear and blocked ears (either due to stuffiness or pressure) that can't be cleared with coughing, yawning or swallowing, along with cold or flu symptoms
- Tooth pain on the same side as the ear pain while biting
- Ear pain during and after an airplane journey
- A pimple in the ear canal
- Problems in hearing

# Ear Cleanse

Very often, the cause of hearing loss is an underlying medical condition. In such cases, a cleanse may not be the ultimate solution. However, earwax is a common cause of various ear problems, including hearing loss. Hence, following are a few remedies for removing earwax -

## **Oil**

One of the best ways to remove earwax is applying olive oil, as it softens the wax, making it easier to clean.

### **Ingredients**

Olive oil (or mustard oil)

### **Procedure**

Put 2-3 drops of olive oil into the blocked ear before bedtime. Clean it up after 15-20 minutes using cotton or ear buds. Repeat it for 3-4 days.



## **Vinegar Solution**

With a little vinegar and water, you can easily clean your ears and remove excess wax.

### **Ingredients**

White vinegar and rubbing alcohol

### **Procedure**

Mix equal parts of white vinegar and rubbing alcohol in a tablespoon. Pour a few drops into the clogged ear.

This solution is very helpful in getting rid of earwax.



## Baby Oil

Baby oil is a soft and gentle way to remove earwax.

### Ingredients

Baby oil (or mineral oil, or Glycerine)

### Procedure

Put a few drops of baby oil or mineral oil in your ear with the help of a dropper to soften the earwax. Let the oil settle in for some time by placing a cotton ball at the ear opening. This prevents oil from oozing out before reaching the earwax. After some time, take out the cotton ball to drain out the extra oil from the ear.



## Hydrogen Peroxide

Hydrogen peroxide provides an effective method for softening earwax blocking the ear canal.

### Ingredients

Hydrogen peroxide and water

### Procedure

Mix equal parts of hydrogen peroxide and water. Make sure that the concentration of hydrogen peroxide is not more than 3%, as anything more than that may be harmful.

Put a few drops of it in your ear by tilting your head sideways. Let it settle for 3-5 minutes. Now, tilt your head to the opposite side and let the extra solution drain out. Avoid doing it more than once in a week.



## Cleanses for ear infections

### Garlic

Garlic has antimicrobial properties and natural pain relieving qualities, making it highly effective for treating ear infections. The following are a few ways to use garlic for treating ear infections -



- Make garlic oil by cooking two garlic cloves in two tablespoons of sesame oil or mustard oil until it turns blackish. Strain the solution. When it is bearably warm, pour two to four drops of this oil in the infected ear.
- Alternatively, you can also boil two or three fresh garlic cloves in water for five minutes, then crush them and add some salt. Put the mixture in a clean cloth and place it against the affected ear.
- Consume two to three cloves of raw garlic daily to help speed up the healing process.

### Basil (Tulsi)

You can also use holy basil to treat minor earaches and ear infections. It can relieve ear pain as well as reduce infection.



- Crush four to five fresh holy basil leaves gently to extract the juice. Apply the basil juice on or around the infected ear. Avoid getting the juice inside the ear canal.
- You can also mix a few drops of holy basil oil with an equal amount of carrier oil, like coconut, olive or mustard oil. Soak a cotton ball in the mixture and gently wipe just inside the ear,



around the outer edge and behind the ear. Repeat the process twice daily.

### **Apple cider vinegar**

Ear infections may also be caused due to fungus. Apple cider vinegar is a good cure for the same.

1. Mix one part apple cider vinegar with an equal amount of water or alcohol. Soak a cotton ball in the solution.
2. Put the cotton ball in your ear like a plug and leave it for about five minutes.
3. Remove the cotton ball and lay down on your opposite side to drain the liquid from the ear. Use a hair dryer to dry your ear as much as possible.



### **Onion**

Onion has many medicinal uses, including treating ear infections.

- Chop one small onion, put it in a bowl and heat it in the microwave for one to two minutes. Alternatively, you can also heat it in a pan. Allow it to cool and then strain out the onion juice.



Put two to three drops of the juice in the infected ear, leave it for some time and then, tilt your head to let it drain out of your ear.

- You can also bake an onion for half an hour, cut it into halves and put one half in a thick cotton cloth. Place the cloth on the infected ear for five minutes. Repeat the process after a break of 10 minutes.

### **Breast milk**

Breast milk has natural antibodies that can help speed up the healing process of any kind of ear infection. It alleviates swelling and discomfort, and cures an ear infection within one or two days. This remedy works for both children and adults.

1. Use a dropper to put a few drops of breast milk into the affected ear
2. Repeat the process every few hours, as needed
3. In case of a child with an ear infection, the breast-feeding mother can directly drop a few drops of milk to the infected ear from her breast

**Benefits**

- Reduces ear itchiness
- Prevents swimmer's ear
- Removes excess wax
- Prevents gradual hearing loss
- Maintains the health of auditory nerves.

**Important: Doing a Mouth Cleanse helps the ear cleanse from within.**

**A Liver Cleanse helps in Ear Cleanse too.**