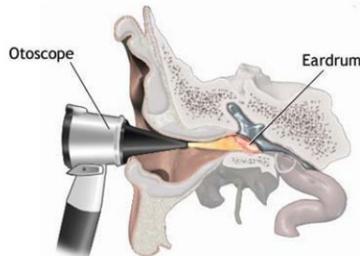


Our ears are one of the most important parts of our body, not only allowing us to hear, but they also play a role in maintaining our balance, which is vital in our ability to function in daily life. Ear problems may be in the ear canal (external), such as infections, blockages, or perforations of the eardrum; or internal, such as inner ear infections of the middle or inner ear areas. Sometimes the symptoms are similar, so it is sensible to seek medical care or advice if there is pain or a loss of hearing.

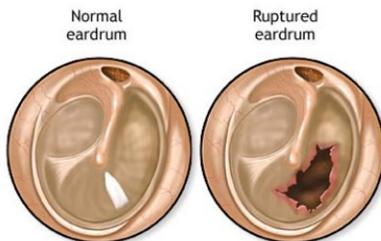
How can the doctor or pharmacist see what is going on inside my ear canal and can they work out if the problem is external or internal?

The instrument used to see inside the ear canal is known as an "otoscope." It is useful in examining the interior of the ear, especially the eardrum, and consists essentially of a magnifying lens and a light.

Please see the diagram below showing how it is inserted into the ear canal:



And showing examples of what may be seen through this instrument:

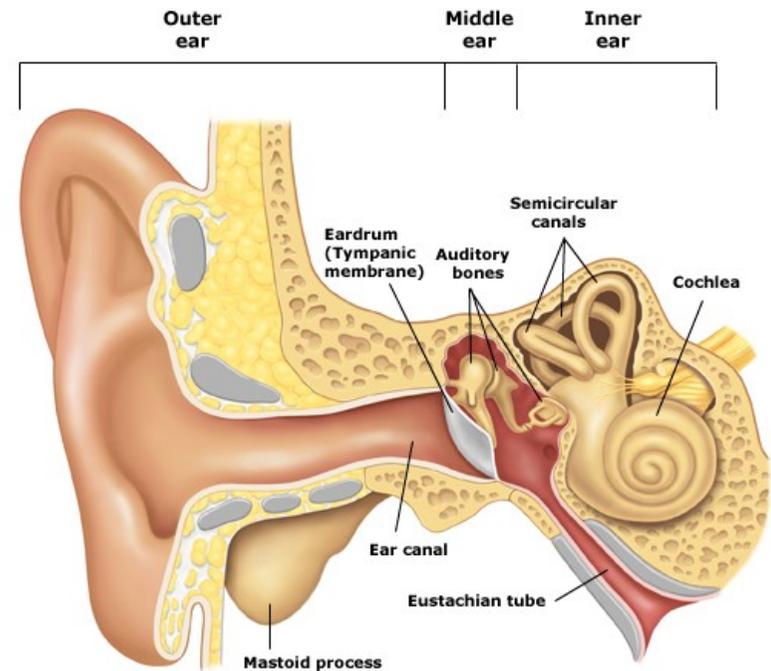


Basic Ear Anatomy

The ear has two important roles. It is our organ of hearing and our organ of balance. The lining of the ear canal is coated with wax, a type of lubrication that stops the tissues from drying out. The ear is made up of three different parts:

- The outer ear—this is the part you can see and its shape helps to collect sound waves
- The middle ear—separated from the outer ear by the eardrum, the middle ear contains tiny bones that amplify the sound waves.
- The inner ear—sound waves are changed into electrical impulses and sent to the brain. The sense organ of balance is located here too.

Please refer to the diagram on the right for basic illustration of the ear: →

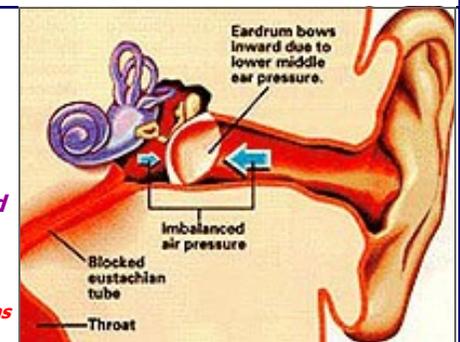


Why do I have trouble with my ears when I fly or scuba dive?!

You may have a blocked eustachian tube!

A rapid change in altitude and thus air pressure is equalised across the eardrum by a normally functioning Eustachian tube which opens frequently and widely enough to equalise these changes in air pressure. With altitude changes during the descent of an airplane, air pressure increases as the plane lowers. The air pressure change pushes the eardrum inward (retraction). This is when patients with Eustachian tube blockage can develop symptoms such as pain and fullness in the ear. These patients may also experience similar symptoms when riding elevators, driving through the mountains, or scuba diving.

Please refer to page 3 for treatment options



Otitis Externa

Also known as "Swimmer's Ear" or "Tropical Ear"

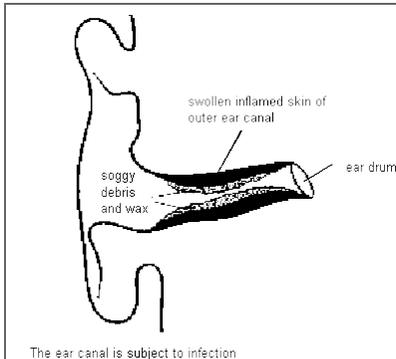
An inflammation or infection of the outer ear canal. This commonly occurs in climates that experience higher levels of humidity, as humid conditions cause excessive perspiration, and prolong the amount of time it takes for moisture to dry from the ear canal after swimming or bathing, hence making it more susceptible to infections. People who spend a lot of time in the water are also at an increased risk of getting this condition. The condition may also be caused by irritation from chemicals in hairsprays, shampoos, hair dyes etc, or cleaning the ear canal with cotton buds/fingertips (don't do this!).

Symptoms include:

- Irritated, itchy ear
- Ear pain, often made worse by movements such as chewing
- Discharge from ear (may be smelly)
- Feeling of fullness in ear
- Reduced hearing

What is the treatment? Treatment is aimed at clearing any infection and keeping the ear canal dry. Ear drops containing a combination of antibiotics, antifungals and steroids are often prescribed by the doctor, and are the best treatment if there is a lot of pain or hearing loss.

For mild or early signs of discomfort there are effective treatments available over the counter that "dry" up the moisture in the ear and limit the infection progressing, and some of these drops are also effective to prevent infection if used each time water enters the ear.



IMPORTANT NOTE! All patients with a "sore ear" symptom should seek advice from their pharmacist or doctor as it is essential to establish the specific part of the ear affected before choosing an appropriate treatment.

Otitis Media

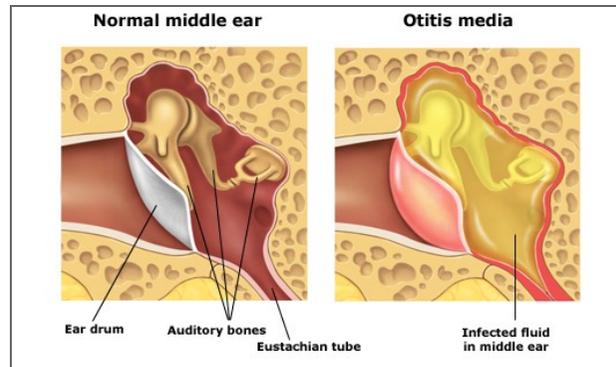
Also known as a "Middle Ear Infection"

An inflammation or infection of the middle ear. This condition is particularly prevalent in childhood and research shows 83% of children will have at least one episode of acute otitis media by the age of three years! This is because the tubes (called the Eustachian tubes) that connect the middle ear to the throat are smaller in this younger age group. The infection is usually caused by a viral or bacterial infection and often happens during or after a child has a cold.

Symptoms include:

- Ear pain and possible discharge
- Reduced hearing
- Fever
- Vomiting
- Irritability (infants may be unsettled, wake at night, rub their ears, have diarrhoea, lose their appetite)

What is the treatment? Paracetamol or ibuprofen may be used for the pain associated with the ear infection. Ear drops are not recommended and you should consult a doctor if symptoms do not improve in a few days (when they may decide to prescribe antibiotics).



Inner Ear Problems

These problems can affect both hearing and balance and are often caused by a virus.

Symptoms may include:

- Hearing loss, dizziness and nausea, vertigo (feeling light-headed and "giddy").

What should you do? Patients experiencing any of these symptoms should see their pharmacist or doctor.

Foreign Body

A foreign body in the outer ear canal can cause inflammation, damage and infection. Seek medical attention as soon as possible, especially with children.

Symptoms include:

- Ear pain
- Discharge from ear
- Reduced hearing
- Noise (if the object is a live insect)

Ear Wax

Wax build up is one of the most common causes of temporary hearing loss. But why does it happen? A waxy oil called cerumen is produced by the hair follicles and glands that line our ear canal. This ear wax actually protects the ear by trapping dust, microorganisms, and other foreign particles and thus preventing them from entering and damaging the ear. It also functions as protection of the delicate skin of the ear canal, preventing irritation when water is in the canal. The body's normal function has a natural clearing mechanism of this wax, causing it to make its way to the opening of the ear, where it falls out or is removed by washing. However, in some people, the glands produce more wax than can be easily removed from the ear. This extra wax may harden in the ear canal and block the ear. Another common reason for wax blocking the ear canal is if you try to clean the ear with a cotton tip and accidentally push wax deeper into the ear canal!

Symptoms include:

- Ear discomfort
- A feeling that the ear is blocked or full
- Noise in ears (tinnitus)
- Reduced hearing

What is the best treatment? Most cases of ear wax may be treated at home. There are many ear drops on the market containing ingredients that "soften" the wax and allow it to naturally clear from the ear. There are also ear syringing kits, which involve irrigating the ear in order to "flush" out the wax plug. See below. Syringing by a doctor is effective, fast and best, so that a quick check of the ear canal can be made to look for damage or infection.



Treatment Options for ear problems

Oral pain relief

Paracetamol or ibuprofen can be given in order to provide pain relief for ear problems. Paracetamol works centrally in the body to decrease the patient's perception of pain, whilst ibuprofen will work as an anti-inflammatory to reduce swelling, pain and injury.

E.g. Panadol, Nurofen, Chemists Own Paracetamol, Chemists Own Ibuprofen, Amcal Paracetamol, Amcal Ibuprofen



Otitis media-middle ear infection-Decongestants

The pharmacist may sometimes recommend a decongestant for a patient suffering with ear pain due to colds etc causing mucus congestion. These medicines help to clear and dry the sinuses and thus can relieve some pressure on the ear. They are especially useful for patients needing to fly/scuba dive. In this case the decongestant works by shrinking the membranes lining the nose and throat and thus allowing the ears to equalise more easily. Please note oral decongestants are preferred over nasal if required for an extended period of time (as they are less likely to cause rebound congestion).



Otitis Externa –outer ear infections–Ear drops

There are many different ear drops available over the counter that may help to prevent/treat otitis externa. The most effective and fast treatment of otitis externa are prescribed combined antibiotic and anti inflammatory ear drops from a doctor.

Tropical Ear Drops: While prescribed antibiotic ear drops are best to treat external ear infections, we do have a very effective treatment available in our pharmacies made by "the Apothecary" known as "Tropical Ear Drops." These drops relieve pain and provide both prevention and treatment for infections of the outer ear canal.

Pain relief is achieved by the local anaesthetic Ligocaine, whilst infection is controlled by Tea Tree Oil, which is both antiseptic and antifungal.



Aqua Ear Drops: Contain acetic acid and isopropyl alcohol. Helps to prevent swimmer's ear by drying up moisture and retarding the growth of bacteria and fungi. Please note these drops will sting if put into an already inflamed/infected ear canal, so only use once infection/inflammation has subsided.



Other ear conditions :- Wax Removal:-

Ear clear or Waxsol ear drops can assist in the softening and removal of ear wax. Ear Clear contains carbamide peroxide so it not only softens but also fragments and disperses the wax. This may reduce the need for ear syringing.



Ear syringe/irrigation kits

E.g. **Ear Clear Ear Cleanser:** designed to work with the ear's natural cleansing process by gently washing away dirt and excess wax instead of pushing it further into the ear canal. It is the gentle alternative to cotton buds. When used 2 to 3 times a week, Ear Clear Ear Cleanser helps prevent wax build-up and leaves ears feeling clean and clear. The isotonic saline solution is pH balanced with bicarbonate and is gentle on the delicate tissues of the ear canal. The flared tip prevents over insertion into the ear and the low pressure spray directs the solution to the walls of the ear canal.



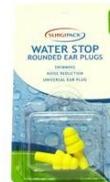
Ear Plugs

There are many different types of ear plugs made for different ear conditions: some for water, some for noise and some for flight. Here are a few common examples:

Ear Planes Flight Ear Protection: Removes in-flight ear discomfort with a filter that regulates air pressure and reduces harsh noise.

Surgipack Ear Plugs Water Stop: Moulded ear plugs to help seal out water.

Surgipack Ear Putty: Silicone ear putty which helps seal out water and noise. Very pliable and easy to use in children—useful for keeping water out of the ears in otitis externa.



Complementary Therapies

Tebonin

This is a herbal product containing *ginkgo biloba* that is marketed to assist in the symptomatic relief and management of vertigo and tinnitus. It is thought to increase the blood supply and circulation in the body and thus relieve inner ear problems like vertigo, which are often associated with poor circulation. Please note this is a complementary medicine and more clinical evidence is required to confirm its efficacy.



Ear Candles

Ear candling is an alternative medicine practice claimed to improve general health and well-being by lighting one end of a hollow candle and placing the other end in the ear canal. The basic premise in ear candling is the spiral of the cone causes the smoke to be pulled down in to the ear canal. This causes the ear canal to warm up and loosen the wax and any other material. As it heats it up, the candle causes a suction by creating a vacuum in the ear canal. Air is drawn up from the Eustachian tube into the middle ear then through the porous membrane out into the outer ear. The heat and the vacuum draw out the wax and other materials from the ear canal into the base of the candle. Please ensure you follow the directions for use very carefully, as these candles can be dangerous if not used correctly. Please also note that their use is

"complementary" to other pharmacological remedies and if you are suffering with earwax impaction or other ear condition, these candles should only be used as an adjunct to other conventional therapies recommended by the pharmacist.



Note—sometimes ORAL antibiotics are required from a doctor if an external ear infection has spread into surrounding tissue, so seek medical care if pain persists despite treatment with ear drops alone.

Antibiotics

May be prescribed by a doctor if a bacterial ear condition is confirmed.

Grommets

Tiny drainage tubes inserted through the ear drum by a patient's doctor.

Lifestyle Advice for Healthy Ears

- **Shake water from ears after swimming and bathing**
- **Use drying, antiseptic ear drops after swimming and bathing to prevent otitis externa (e.g. Aqua Ear)**
- **Use water-repelling ear plugs during swimming and bathing, especially if you have, or are prone to, external infections.**
- **A warm pack or cold pack to relieve the ear pain, especially if combined with pain relievers.**
- **Avoid flying in children with a congested nose as this may prove uncomfortable.**
- **Avoid deep diving, as water can be forced into the middle ear.**
- **Decongestants may help prevent ear pain when flying soon after an ear infection.**
- **Do not poke anything into the ear canal to remove a foreign body—it is best to consult a doctor for removal.**
- **Take children with ear ache to a doctor as soon as possible.**
- **If you have recently had a discharge from your ears or an ear infection, or have had a burst eardrum in the past, always check with your pharmacist or doctor before using over the counter ear drops.**
- **Consult a doctor if any of the following occurs with an ear problem:**
 - **Pain lasting more than 24 hours**
 - **Fever, dizziness, stiff neck**
 - **Discharge**
 - **Hearing loss or ringing in the ears**
 - **Balance problems**
- **Clean your ears with extra care. Wipe the outer ear with a washcloth or tissue. Do not put anything into your ear smaller than your elbow. Do not use cotton tips, bobby pins or sharp pointed objects to clean your ears. These objects may injure the ear canal or eardrum.**
- **If you have pierced ears, clean your earrings and earlobes regularly with rubbing alcohol.**
- **If you scuba dive, learn and practice proper underwater techniques to avoid potentially damaging changes in pressure inside your ears.**
- **When flying in an airplane, swallow and yawn frequently when the plane is ascending and descending to equalize pressure in your ears. If you have an upper respiratory problem such as a cold or sinus infection, take a decongestant a few hours before descending, or use a decongestant spray just prior to descent and on landing.**
- **Know the warning signs of hearing loss:**
 - **Difficulty hearing conversations, especially in the presence of background noise**
 - **Frequently asking others to repeat what they have said**
 - **Misunderstanding what other people say and answering inappropriately**
 - **Difficulty hearing on the telephone**
 - **Requiring the television or radio volume to be louder than others in the room prefer**
 - **Feeling that people are mumbling or have marbles in their mouth when they talk**
 - **Difficulty hearing environmental sounds, such as birds chirping**
 - **Withdrawing from conversations and social situations because it is too difficult to hear**
 - **Reading lips so you can try to follow what people are saying**
 - **Straining to hear or keep up with conversations**
 - **Noise within your ears or head called tinnitus not caused by an external sound source**

