**Ear Infection (Otitis Externa)**

**Otitis externa** is an inflammation of the ear canal. The inflammation is usually caused by infection, although it can sometimes be due to allergy or irritation. Treatment with ear drops is usually effective. Further episodes of the condition can often be prevented by the tips given below.

Otitis externa usually clears within a week or so. When otitis externa is short-lasting, it is described as 'acute otitis externa'. However, sometimes it persists for three months or more and is then described as 'chronic otitis externa'.

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**What is otitis externa?**

Otitis means inflammation of the ear. The inflammation is usually due to an infection. Otitis externa means that the inflammation is confined to the external part of the ear canal and does not go further than the eardrum. See separate leaflet called Ear Infection (Otitis Media), for an infection of the middle ear.

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**What causes otitis externa?**

Otitis externa is an infection of the skin of the ear canal and is very common. The ear canal is a narrow, warm, blind-ended tunnel, which makes it a good protected environment for germs to grow in if they are given a chance. Most infections are caused by a germ (bacterium). Occasionally, they can be due to a fungal or yeast infection.

Some things can make you more prone to otitis externa - for example:

**Substances entering the ear**

If you regularly get water in an ear then this may provide moisture for germs to grow. It may also cause itching. You may then scratch or poke the ear. This can damage the skin in the ear canal and cause inflammation. Inflamed skin can quickly become infected. A vicious circle may then develop. The inflammation and infection cause more itch, you then scratch more, which then can makes things worse.

If you get shampoo, hairspray or other products into your ear this may have the same effect and may be worse, as the chemicals may additionally irritate the sensitive skin of the canal.

**Swimming**

Otitis externa is much more common in regular swimmers, due to water getting into the ear canal. In fact, otitis externa is sometimes called swimmer’s ear. It is more likely if you are swimming in water which isn't clean, such as ponds.
Warm weather
Otitis externa is more likely to develop in hot, humid and 'sweaty' weather. It is more common in hot countries.

Skin problems
Eczema or psoriasis may affect the ear canal and make the skin inflamed and flaky. If this happens then otitis externa is more likely.

Excessive earwax
This can lead to trapping of water and debris in the ear canal. Bugs (bacteria) can thrive in these conditions and infection then occurs easily.

Ear syringing to clear earwax
This may irritate the delicate lining of the ear canal and cause inflammation. Earwax is protective of the ear canal, and if too little is left it is easier for infection to take hold.

Middle ear infections
Sometimes middle ear infections (otitis media) can produce persisting discharge which can become stuck in the ear canal and then cause otitis externa.

What are the symptoms of otitis externa?
Common symptoms include itch, ear discharge, temporary dulled hearing and pain. Your ear may feel blocked or full.

Both ears can be affected; however, more often otitis externa affects one ear only. Sometimes the glands in your neck or around your ear can become enlarged and sore.

What is the difference between acute otitis externa, recurrent otitis externa and chronic otitis externa?
The only difference between these three 'types' of otitis externa is the length of time for which you have had the condition.

Acute otitis externa - this term means you have had the condition for less than three months. Usually, in fact, you will only have it for a week or so.

Recurrent otitis externa - this term means the condition keeps coming back. You have episodes that get better (or seem to get better) but then you develop the same symptoms again.

Chronic otitis externa - this term means the condition has lasted (persisted) for more than three months. Sometimes it can last for years. This is often because, even though you have had treatment, the underlying reasons for it are still there.

What is the treatment for otitis externa?
Most people with otitis externa are given treatment without having any tests, as the diagnosis is usually clear from examination of the ear. If you recognise the condition yourself you could try some ear drops for otitis externa. These are available without prescription, such as those containing 2% acetic acid.

Ear drops are usually enough to cure a bout of short-lasting (acute) otitis externa. However, other treatments are sometimes added. This is more likely to be necessary if you notice any of the following:

- Your ears are particularly painful or swollen.
- Your ears are completely blocked (so that the drops can't penetrate properly).
- Your otitis externa keeps coming back or has become persistent (chronic).

It is also very important that you take steps to help things settle down, as if the conditions that caused the otitis externa in the first place are unchanged, it may well come back.
Ear drops or sprays

A doctor or nurse will usually prescribe a short course of ear drops or an ear spray. These usually contain an antibiotic to clear any infection and a steroid to reduce the inflammation and itch. A combination of flumetasone and clioquinol is often used. It may take a week or so of treatment for symptoms to go completely. If one does not work well then a doctor or nurse may advise changing to another type with different ingredients.

If your otitis externa is thought to have resulted from overuse of antibiotics you may be given drops containing a steroid only.

If your otitis externa is being caused by an inflammatory skin condition (such as eczema or psoriasis), bacteria or fungal germs are not always involved and the ear may be chronically itchy but will not be painful. Again you may be given ear drops containing a steroid only. However, if your ear is painful or swollen it is likely that your doctor or nurse will want you to use drops which contain antibiotics too.

Painkillers

Otitis externa can be very sore, particularly if you touch the outside part of the earlobe close to the ear canal. Paracetamol or ibuprofen will usually ease any pain. Stronger painkillers are occasionally needed. If you hold a hot cloth (flannel) against the ear it may also ease pain.

Ear wick

Sometimes, particularly if the ear canal is very swollen and blocked, you may be treated with a wick. This is a piece of gauze soaked in treatment drops and pushed gently into the ear canal between the swollen walls. This makes sure that the treatment is held in contact with the sore skin for as long as possible. The wick is usually changed every 2-3 days until things have settled.

Ear canal cleaning

It may be helpful for the doctor or nurse to clear away discharge and dust from the ear canal. This is to allow the treatment (drops) to make better contact with the lining of the ear canal, so that they can be more effective. The ear canal may be cleaned by gentle swabbing, by suction or by careful syringing. This cleaning may need to be repeated after a few days.

Oral antibiotics

If the infection is particularly severe or there is infection in the skin around the ear (cellulitis) then you may be given antibiotic tablets to take by mouth, usually in addition to the ear drops. It is important to complete the course.

Referral to a specialist

This may be needed for such measures as cleaning the ear canal of discharge, putting in a wick, or for a more detailed examination of the ear if things don't settle.

How do I make sure the treatment works?

Let the discharge escape: try not to leave balls of cotton wool in the ear canal. If the discharge is heavy, you may need to place some cotton wool lightly in the outer part of the canal to mop it up. If you do this, replace it frequently with a fresh piece.

Use the ear drops correctly: sometimes otitis externa does not clear because ear drops are not used correctly. You have to put them in as often as prescribed to be fully effective. If the drops come out of the ear quickly, they may not work so well. When using drops:

- Lie with the affected ear upwards.
- Put several drops in the ear and remain lying in this position for 1-2 minutes.
- Press the cartilage at the front of the ear canal a few times to push the drops deep inside the ear canal.

Keep your ears dry (apart from the drops): this will help the current attack to settle down and help to prevent future attacks (see below). It is best to avoid swimming and getting water in the ears whilst you have otitis externa. Getting more water in the ears (particularly if it isn't clean water, or it contains detergents or other chemicals) will tend to make things worse.
What if the treatment doesn't work?

These treatments, together with your prevention measures, will clear up most cases of otitis externa. However, your doctor or nurse may consider a few other measures if it still continues.

**Allergy**

Some people develop an allergy or sensitivity to the ear drops used for otitis externa. You can be allergic to the antibiotic or to the preservative. The itch and discharge may then become worse when you use the drops, rather than better. If this is suspected then a change to an ear drop low in preservatives may be advised and sometimes a steroid-only ear drop may be tried.

**Fungal infections**

Most infections of the ear canal are caused by germs (bacteria). These germs usually clear up with antibiotic drops. Occasionally, however, chronic otitis externa is due to a fungal infection. Fungal germs are not killed by antibiotics and may be made worse. If your otitis externa does not clear with the usual treatment, a small sample (a swab) may be taken to see if fungi are present. It may take several weeks of antifungal ear drops to clear a fungal ear infection.

**Middle ear infections**

If the ear canal is full of discharge it may be difficult for a doctor or nurse to tell whether it is from the outer ear (otitis externa) or from a middle ear infection (otitis media) which has come through a burst eardrum. If infected material from behind the eardrum leaks into the ear canal it will tend to cause otitis externa in addition to the otitis media. This condition may need oral antibiotics.

**Necrotising otitis externa**

This is a very rare condition, which is unlikely to affect you unless you have impaired immunity. The otitis externa infection spreads to the bone beside the ear and causes swelling, discharge and pain. People with this condition are likely to feel very unwell. It is mainly caused by a germ called *Pseudomonas aeruginosa*. It requires a lengthy course of antibiotic ear drops and tablets.

How can I prevent otitis externa?

There are several things that will help prevent otitis externa from occurring in the first place, from returning after treatment, or from becoming chronic. It’s particularly important to try to do these if you know you are prone to the condition:

**Don't clean your ear canal with cotton buds.** You may damage and irritate the inflamed skin and also push wax further into the ear. Wax is designed to come out by itself. Just clean the outside of the ear with a cloth when any discharge appears. Don’t scratch or poke the ear canal with anything, as you may scratch the delicate lining.

**Keep your ears dry.** If water gets in there, tip it out as soon as possible. You can also help dry your ears with the low heat setting of a hairdryer. When you swim try wearing a tightly fitting cap that covers the ears. Some swimmers use silicone rubber earplugs but you should only use them if they do not irritate the skin in your ear canal. When you come out of the pool do your best to tip the water out of each ear. Jumping up and down before you do so may help free it.

**Try not to let soap or shampoo get into your ear canal.** If you are prone to otitis externa you can do this when you have a shower, by placing a piece of cotton wool coated in soft white paraffin (eg, Vaseline®) into the outer ear.

**Use prevention drops.** Some swimmers use acetic acid drops (obtainable from pharmacies) in their ears before and after swimming. This can help prevent infection. Peroxide drops have also been used for the same reason, although some doctors and nurses worry that these may irritate healthy tissue.

**Consider wax dissolving drops.** If you tend to have excessive wax and flakiness, proprietary wax drops from pharmacists, or olive oil, can melt out some of the wax. This helps to keep the ear canal clear and to prevent water trapping.
Return to the doctor or nurse if things don’t settle. Very occasionally, the germs (bacteria) which infect the ear canal are resistant to some antibiotic ear drops. A change to a different type of ear drop may be helpful. Sometimes a small sample (a swab) of the discharge is taken and sent to the laboratory to identify which germ is causing the infection. If the infection is severe, antibiotic tablets may be needed in addition to drops.

Further reading & references
- Otitis externa; NICE CKS, July 2015 (UK access only)

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