

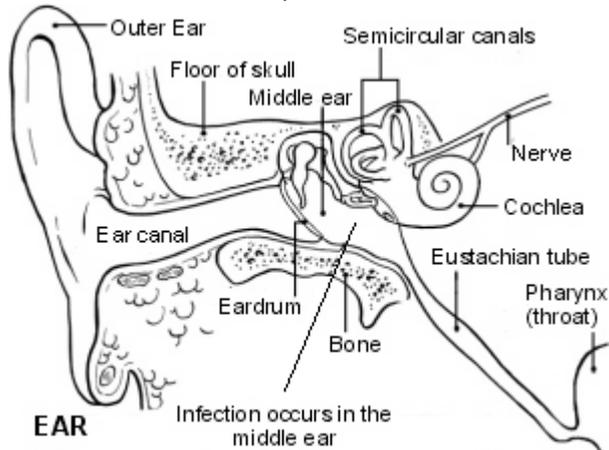
Ear Infection (Otitis Media)

Ear infection is common in children but can occur at any age. The main symptoms are earache and feeling unwell. Painkillers are the main treatment. Antibiotics are not usually needed but are prescribed in some cases. The infection usually clears within a few days.

[Watch Dr Sarah Jarvis' personal advice on ear infections.](#)

What is an ear infection?

Ear infections are usually divided into those which occur in the ear canal (otitis externa) and those which occur in the small space behind the eardrum (the middle ear). You may hear an infection of the middle ear referred to as 'acute otitis media'. This article deals with infections of the middle ear. There is a separate leaflet called otitis externa.



How does an ear infection occur?

The small space behind the eardrum in the middle ear is normally filled with air. It is connected to the back of the throat by a tiny channel called the Eustachian tube.

The middle ear space sometimes becomes filled with mucus (fluid), often during a cold. The mucus may then become infected by germs (bacteria or viruses). Children with glue ear who have mucus behind their eardrum are more prone to ear infections. Sometimes an ear infection occurs 'out of the blue' for no apparent reason.

What are the symptoms of an ear infection?

- Earache is common but does not always occur.
- Dulled hearing may develop for a few days.
- High temperature (fever) is common.
- Children may feel sick or vomit and can be generally unwell.
- Young babies cannot point to their pain. One of the causes of a hot, irritable, crying baby is an ear infection.
- Sometimes the eardrum bursts (perforates). This lets out infected mucus and the ear becomes runny for a few days. As the pain of earache is due to a tense eardrum, a burst eardrum often relieves the pain. A perforated eardrum usually heals within a few weeks after the infection clears.

A note about earache

Earache is a common symptom of ear infection. However, not all earaches are caused by an ear infection. If a child has earache but is otherwise well, an ear infection is unlikely. A common cause of mild earache is a build-up of mucus in the middle ear after a cold. This usually clears within a few days. Sometimes pain that you can feel in the ear is due to referred pain from other causes such as teeth problems.

What is the treatment for an ear infection?

Most bouts of ear infection will clear on their own without treatment within 2-3 days. The immune system can usually clear germs (bacteria or viruses) that cause ear infections. However, treatments that may be advised include the following:

Painkillers

If the ear infection is causing pain, then give painkillers to children regularly until the pain eases. For example, paracetamol (Calpol®, Disprol®, etc) or ibuprofen. These medicines will also lower a raised temperature which can make a child feel better. If antibiotics are prescribed (see below), you should still give the painkiller as well until the pain eases.

Recent research studies have found that a few drops of a local anaesthetic medication (lidocaine) placed into the ear may help to ease pain. Further studies are needed to clarify the use of this treatment. However, it seems logical and may become more widely used over time, especially in children with severe ear pain.

Antibiotics - are prescribed in some cases only

Antibiotics are not advised in most cases. This is because the infection usually clears within 2-3 days on its own. Also, it is best not to take antibiotics unless needed, as side-effects such as diarrhoea or rash can sometimes be a problem. Antibiotics are more likely to be prescribed

- The child is under 2 years old (as the risk of complications is greater in babies).
- The infection is severe.
- The infection is not settling within 2-3 days.
- Complications develop.

When an ear infection first develops it is common for a doctor to advise a 'wait and see' approach for 2-3 days. This means just using painkillers to ease the pain and to see if the infection clears. In most cases, the infection clears. However, if it does not, then following a review by a doctor an antibiotic may be advised. Sometimes, it may be difficult to see a doctor again in 2-3 days if things do not improve - for example, over a weekend. In this situation a doctor may give you a prescription for an antibiotic with the advice to use it to get the antibiotic only if the condition does not improve within 2-3 days.

What are the possible complications from an ear infection?

It is common for some mucus to remain behind the eardrum after the infection clears. This may cause dulled hearing for a while. This usually clears within a week or so and hearing then returns to normal. Sometimes the mucus does not clear properly and 'glue ear' may develop. Hearing may then remain dulled. See a doctor if dulled hearing persists after an ear infection has gone.

If the eardrum bursts (perforates), then it usually heals over within a few weeks once the infection clears. In some cases the perforation remains long-term and may need treatment to fix it.

If a child is normally well, then the risk of other serious complications developing from an ear infection is small. Rarely, a serious infection of the bone behind the ear develops from an ear infection. This is called mastoiditis. Very rarely, the infection spreads deeper into the inner ear, brain or other nearby tissues. This can cause various symptoms that can affect the brain and nearby nerves. See a doctor if a child becomes more ill, does not improve over 2-3 days, or develops any symptoms that you are not sure about.

Will it happen again and can it be prevented?

It is common for children to have two or more bouts of ear infection throughout childhood. In most cases, there is nothing you can do to prevent the infection from occurring. However, there is some evidence to suggest that an ear infection is less likely to develop:

- In breast-fed children.
- In children who live in a smoke-free home. Passive smoking of babies and children can increase the risk of developing ear infections, and various other problems.
- In babies and young children who do not use dummies. However, research studies have shown that the use of a dummy in young babies when getting off to sleep can reduce the risk of cot death. It is not clear how but it seems to help. So, regarding dummies, consider using a dummy in babies up to 6-12 months old at the start of each episode of sleep. However if you breast-feed, do not start to use a dummy until you are well established with breast-feeding. This is normally when the baby is about one month old. But note:
 - Do not force a dummy on a baby who does not want one. If the dummy falls out when a baby is asleep, just leave it out.
 - Never coat a dummy with anything such as sweet liquids or sugar.
 - Clean and replace dummies regularly.
 - It is best to use a dummy just to help a baby get to sleep but not at other times.
 - Consider stopping using a dummy when the baby is about 6-12 months old.

Occasionally, some children have recurring bouts of ear infections close together. If this occurs, a specialist may advise a long course of antibiotics to prevent further bouts from occurring.

Occasionally, a specialist may advise the insertion of a grommet into the eardrum if ear infections are very frequent. This is the same treatment that is used to treat some cases of glue ear. A grommet is like a tiny pipe that helps to drain fluid out from the middle ear. Some research suggests that this may reduce the number of ear infections that occur. See separate leaflet called Operations for Glue Ear for more detail.

Further reading & references

- [Respiratory tract infections](#), NICE Clinical Guideline (July 2008)
- [Otitis media - acute](#), Prodigy (July 2009)
- [Otitis media with effusion](#), Prodigy (March 2011)
- [Donaldson J](#); Acute Otitis Media, Medscape, Dec 2011

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