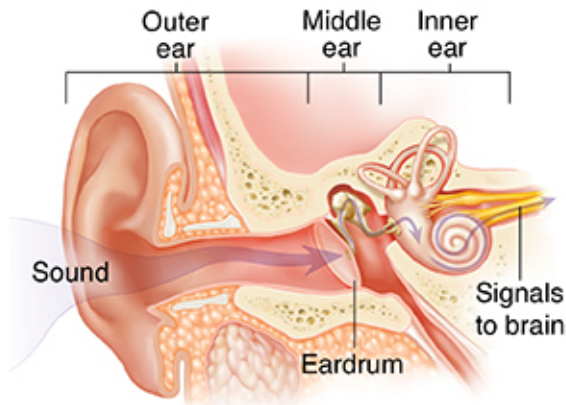


## Middle Ear Infections

### Where is the middle ear?

The middle ear is that part of the ear that sits between the ear drum and the cochlea. Its function is to transmit sound waves that travel down the ear canal into the cochlea, where the nerve of hearing sits. From here, the nerve sends signals to the brain that are interpreted as meaningful sound.



The lining of the middle ear is kept moist with a thin layer of liquid produced by the cells there. When this liquid becomes thick, it can resemble 'glue', hence the term 'glue ear'.

Middle ear infection (called otitis media) is an infection behind the eardrum. Ear infections are very common and are usually painful. By the age of six, most children have grown out of middle ear infections and are not likely to suffer long-term problems.

### How does the 'glue' get there?

The middle ear connects to the back of the nose by the Eustachian tube. This Eustachian tube is normally closed, but opens when we yawn, swallow, or 'pop' our ears. At that moment, a bubble of air can enter the middle ear and excess liquid empties out. If the lining of the Eustachian tube is swollen when a child has a severe cold, or particularly if the child has allergic rhinitis (nasal allergy), the tube can become blocked. Similarly if the muscles to open the tube do not work properly, or if there is anything blocking the opening of the Eustachian tube (as sometimes happens when children have enlarged adenoids), the tube may not work well. In these situations the fluid cannot empty out, accumulates and in time thickens to 'glue'. Infections can form in the 'glue' (fluid).

Children exposed to cigarette smoke are much more likely to suffer 'glue ear'.

### Symptoms of middle ear infections

Infection can cause:

Earache – mild to severe pain in the ear or face or pulling at the ear and irritability in an infant

Fever – a high temperature might be the only symptom in babies or young children

Mild deafness – caused by fluid that builds up from the infection. In some cases this hearing loss can cause abnormalities of speech, including mispronunciation of words or slow development of speech.

Ear discharge – this happens when the eardrum bursts because of pressure behind it, and you may see a discharge (sometimes blood stained) on the child's ear or pillow

Balance issues – some children become 'off balance' – this resolves once the fluid clears

Children usually recover from mild infections within a day or two. Repeated infections, persistent symptoms and other considerations may prompt your doctor to prescribe medication.

### **What causes infections?**

Middle ear infections are usually caused by a viral or bacterial infection and often happen during or after a child has a cold.

### **Treating middle ear infections**

Mild cases of infection can be treated initially with paracetamol. In many cases the 'gluey' fluid clears away without any treatment and a watchful waiting (wait & see) approach is taken, especially over summer when colds are less frequent.

Within one month about 50% of children have cleared their fluid and hearing is back to normal but it can take up to 3 months.

If symptoms of 'glue ear' persist then insertion of tiny ventilation tubes ('grommets') may be advised.

### **When to see your doctor**

If your child;

Is six months of age or younger

Has a high fever or bad earache

Has an ear discharge that lasts more than 24 hours

Continues to have fever or bad earache two days (48 hours) after they start treatment

Still seems to have trouble hearing or experiencing speech delay after treatment by your doctor

**Seems to be getting worse or you are worried at any time.**

## When are antibiotics required?

Children six months of age or younger will generally require an antibiotic. In older children, antibiotics may not be needed in all cases. As many cases are viral, antibiotics are not always prescribed for middle ear infections.

If antibiotics are prescribed, it is important that your child finishes the medicine according to the instructions (usually for five to seven days). Your child must keep taking the medicine, even if they seem better after a day or two.

## Other treatments

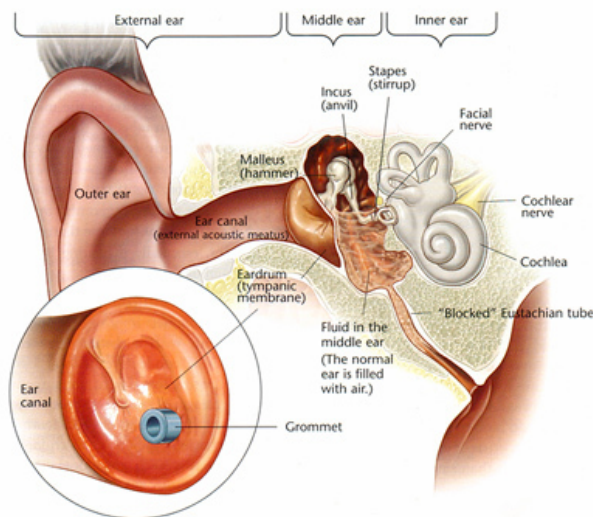
Your doctor may consider using nasal sprays and other medications, depending on the age and clinical assessment of your child.

In some cases that don't respond to medical treatment, grommets may be recommended.

Please ensure you discuss all medications, supplements and herbal remedies with your doctor before starting any new medications/undergoing surgery.

## What are grommets and how do they work?

A 'grommet' is like a tiny tube that is surgically placed into the eardrum to let fresh air into the middle ear.



Grommets are inserted through a tiny cut made in the eardrum, under general anaesthesia in an operating theatre. Any fluid is suctioned out and the grommet allows air to enter the middle ear. This helps to improve hearing by allowing the tiny bones of hearing and ear drum to move freely again.

Hearing should improve immediately; to ensure hearing is back to normal, hearing tests are performed routinely both pre and post operatively.

Grommets will gradually fall out of the eardrum after 6-12 months, but can take up to 2 years, depending on the type of grommet, and the nature of that ear. Patients with grommets will need regular checks of the ear until the grommet falls out.

For detailed information regarding risks and benefits of surgery for middle ear effusions, please refer to your specialist and the patient information sheet provided by your surgeon.