



# Middle ear infection and grommets

Infection of the middle ear is the most common cause of temporary hearing loss in children. Middle ear infection is also known as *Otitis Media* (see also the Australian Hearing Information Sheet on Otitis Media) or **glue ear**.

At any given time one out of every three primary school age children will have some form of middle ear condition, often with reduced hearing.

## How the middle ear works

The middle ear is connected to the back of the nose by the Eustachian (pronounced *you-stay-shun*) tube. This tube does two things:

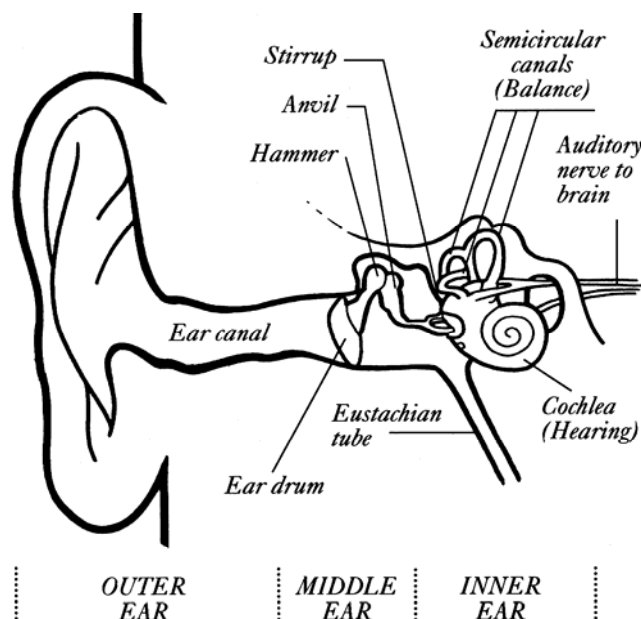
1. It helps to maintain an equal air pressure inside and outside the middle ear, and so allowing the eardrum to vibrate efficiently; and
2. It allows the fluid from the mucous membranes in the middle ear to drain away.

The tube opens to allow the pressure to equalise in the middle ear space. This causes the click or pop which you can experience when swallowing, or when flying or driving up a steep hill. These “pops” are evidence that your Eustachian tube is doing its job.

## How does middle ear infection happen?

If the Eustachian tube is not working properly or is blocked by inflammation, the air in the middle ear is absorbed but cannot be replaced. This causes the air pressure in the middle ear to be less than the air pressure in the ear canal.

This results negative pressure (partial vacuum) that occurs in the middle ear causes fluid to collect there. Over time this fluid tends to become thicker, like egg white, leading to the name “glue ear”.



## Its effect on hearing

When the middle ear does not work well, the ear structures become less mobile and less capable of carrying sound vibrations to the inner ear. The type of hearing loss this causes is referred to as *conductive* because the sound is prevented from being properly "conducted" through the middle ear to the hearing nerves in the inner ear.

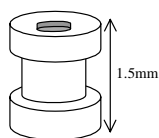
However, middle ear infection only causes a partial loss of hearing. You cannot be completely deaf because of glue ear. If middle ear infection is treated quickly and successfully, hearing nearly always returns to normal or near normal.

## How is middle ear infection treated?

In short term cases a conservative approach might be taken, often involving an antibiotic. Decongestant medicines are helpful if the nose is congested.

In cases of recurring or long-standing middle ear infection, an Ear Nose and Throat Surgeon may decide to perform a *myringotomy* (pronounced *mirrin-got-tommy*). This simple surgical procedure involves making a small cut in the eardrum to remove the fluid from the middle ear and enable the middle ear to "breathe". This is done under a general anaesthetic, and may be accompanied by the insertion of ventilation tubes, commonly known as **grommets**.

A grommet is tiny, smaller than a match head



## What is a grommet?

A grommet is a tiny tube inserted into the eardrum to allow air to enter the middle ear. The grommet does the work that the poorly functioning Eustachian tube should be doing, giving the middle ear a chance to recover.

Grommets cause no discomfort while in place. The healing ability of the eardrum is so great that it usually pushes the tube out in 6 to 12 months, leaving the drum intact.

## Caring for a child with grommets

Jumping and diving into water is best avoided unless earplugs are used.

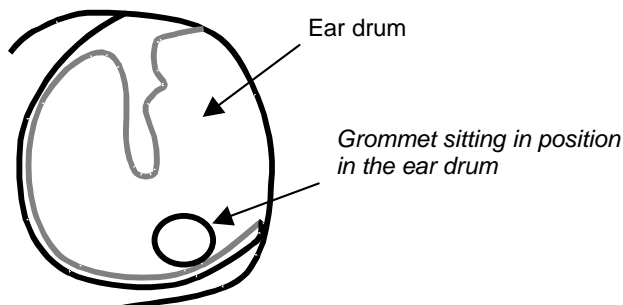
Fluid may drain from the ear following the insertion of grommets. However if the discharge persists and/or smells unpleasant, please have your doctor examine the child's ear.

## Want to know more?

If you would like to know more about the use of grommets as treatment for middle ear problems, please talk to your Ear Nose and Throat specialist, General Practitioner or **Australian Hearing** Audiologist.

### Sources:

- "Handbook of Audiology" Katz (ed), 1985
- "Glue Ear" by Australian Hearing, 1992



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