

Glue ear

What is glue ear?

Glue ear is an extremely common condition that affects mainly young children aged between two and five years. A sticky glue-like fluid builds up in the middle ear and in most children it clears up on its own. A small percentage get persistent glue ear which can cause long term hearing loss if left untreated.

The medical term for glue ear is '**otitis media with effusion**', '**secretory otitis media**' or '**chronic secretory otitis media**'.

What are the symptoms of glue ear?

The symptoms of glue ear vary with the age of the child. A young child may get repeated ear infections (inflammation of the ear) They may seem clumsy and late in walking, understanding language or speaking.

An older child may be able to tell you if they cannot hear very well. They may say “what “or” pardon” often or they may have the television extra loud. They can also appear clumsy and glue ear can make them feel dizzy.

How does a child get glue ear?

To understand glue ear and how it affects hearing you need to understand how the ear works.

Sound waves enter the ear and move along the external auditory canal until they reach the eardrum (or tympanic membrane) causing it to vibrate. Three small bones (or the ossicles) in the middle ear link the eardrum to the inner ear. They transmit the vibrations from the eardrum to the inner ear. From here the 'sound message' is passed along the auditory nerve to the brain.

The middle ear needs to be full of air in order for the eardrum and small bones to vibrate freely. Air reaches the middle ear through the eustachian tube which connects the middle ear to the back of the nose and throat. The eustachian tube is closed for most of the time only opening when you swallow or yawn.

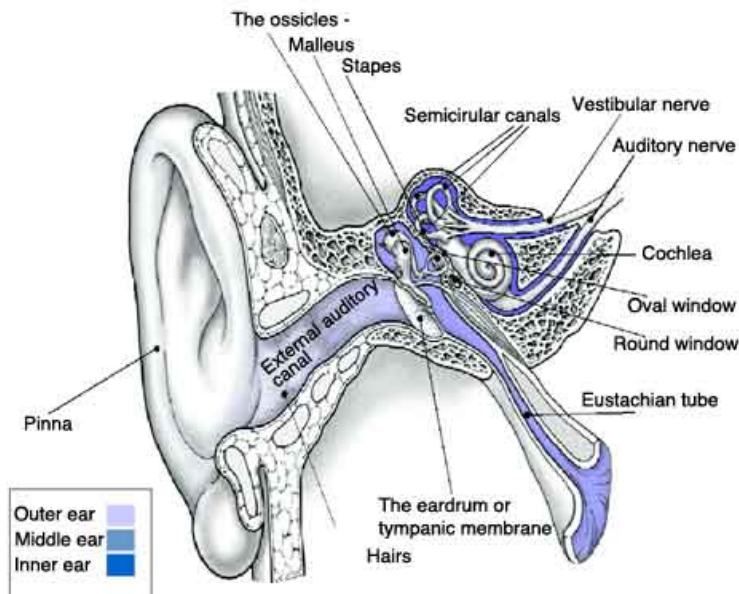


Diagram: RNID/Gillian Lee

The lining of the ear is similar to that in your lungs and air is absorbed through this lining and into your bloodstream. This means that you lose air from the middle ear space so unless the eustachian tube opens properly, you get a vacuum in the middle ear.

Children have a narrow and sometimes blocked up eustachian tube, which stops it from opening properly. This can lead to a vacuum in their middle ear. Once this vacuum has formed the lining of the middle ear becomes inflamed. To begin with, a thin fluid seeps out from this lining into the middle ear space. The fluid then becomes thicker, causing 'glue ear'. Fluid in the middle ear prevents the eardrum and small bones from vibrating and affects hearing.

What causes glue ear?

Glue ear is more common in winter and more common in boys than girls. Many children get glue ear after a cold or an ear infection. Allergies to pets, pollen or dust, and passive smoking may also cause glue ear in some children.

Some children with palate problems, such as cleft palate can keep getting glue ear.

What happens if glue ear is untreated?

Glue ear usually goes away by the age of seven to eight years and the condition improves on its own before puberty in 95% of children. When glue ear does not clear up and it is not treated, it can result in permanent hearing loss. This is because over a long period it may cause permanent changes to the eardrum.

How is glue ear treated?

If you are worried about your child's hearing and think they may have glue ear you need to take your child to see your GP (family doctor) first.

At the first visit, your GP will examine your child's ears for signs of glue ear. They will also ask you questions to find out if your child's hearing has been affected. They will assess your child's hearing indirectly, because few doctors' practices have the equipment and staff to carry out proper hearing tests.

The treatment your GP offers will depend on how long your child has had glue ear, how bad the problem is, how much their language and development are affected, and the number of bouts of glue ear they have had. Your GP may prescribe antibiotics if they notice an infection or pain. Some GPs prescribe oral decongestants (tablets) to thin the fluid in the ear and help it drain away, but there is no convincing evidence that these help. Some GPs prescribe antihistamines or nasal steroids in the form of drops or sprays for children with allergies.

As most children recover naturally from glue ear, GPs usually adopt a wait-and-see approach to begin with. Your child will normally be observed for about three months to see if they need further treatment.

These approaches are usually effective for most children. If your child continues to have problems, your GP may decide to refer them to an ear, nose and throat (ENT) consultant at a hospital or clinic near you.

Visiting the ENT consultant

The ENT consultant will examine your child's ears and treat the symptoms of glue ear. Your child will also be seen by an audiologist who will carry out hearing tests and tympanometry.

The hearing tests

The hearing tests will help the audiologist find out your child's level of hearing and how well their middle ear is working. Your child will be played different sounds via headphones, a vibrating pad on their head or through loudspeakers, and the audiologist will make a note of which sounds your child responds to. These tests do not cause any discomfort and children usually find them interesting.

Tympanometry

Tympanometry tests the eardrum to find out if it is moving normally and also tests how well the middle ear is working. It can be carried out on all children, including babies. It should not be painful and takes less than a minute for each ear. A graph called a tympanogram will show the results immediately.

Surgical treatment using grommets

What is involved?

If your child has had glue ear over a few months and hearing tests have shown that they have a hearing loss, they may need a 'grommet' or ventilation tube. This involves making a small hole in the eardrum and inserting the grommet through the hole. Fluid is sucked out of the middle ear through this hole. The grommet keeps the hole open for a few months, lets air into the middle ear space and lets fluid in the middle ear drain away.

This procedure is known as a myringotomy. It is carried out under a short general anaesthetic and takes about 15 minutes. Your child will usually be allowed to go home the same day.

What happens to the grommet?

The grommet slowly moves outwards as the eardrum grows. It is then naturally pushed out of the eardrum into the outer part of the ear. It moves outwards with earwax until it falls out of the ear canal, often unnoticed.

Most grommets fall out nine to 12 months after insertion but they can also easily be removed at a follow-up ENT appointment.

Over half of children who have grommets do not need further surgical treatment as they get older. However, 30% of children will need grommets inserted a number of times until their glue ear improves. Although the eardrum is tough, repeated grommet insertions may eventually scar it, which can sometimes cause a hearing loss.

Looking after a child with grommets

The hole in the eardrum for grommet insertion is small, however, it is worth taking a few simple precautions to stop water getting into your child's ear:

- Your child should swim on the surface of the water only and not dive.

- Use earplugs or cotton wool with Vaseline to stop soap water getting into the ears when washing their hair.

Flying is actually easier for a child with a grommet in their ear. The grommet allows air in and out of the ear and reduces the stress on the eardrum that is caused by changes in air pressure in the aircraft. However, children who have a history of frequent ear infections or have had grommets in the past (but no longer have them) are occasionally at risk of perforation of the eardrum when flying. If you are worried about this, ask your GP.

About 5% of children with grommets get an ear discharge at some time, often after a cold. This is usually not serious or painful, but it is important to keep your child's ears clean and to consult your GP as soon as possible. Your GP will usually prescribe antibiotics or eardrops.

If your child gets a lot of discharge, gently clean their ears using a twist of clean cotton wool or a very soft cloth. Never use a cotton bud as you may go too far

into the ear and cause damage. If infections are treated quickly, the ears will get back to normal with the grommets in place in most children.

Other surgical treatment for glue ear

Other surgical treatment for glue ear involves an 'adenoidectomy'. This involves taking out your child's adenoids, which are tissues (similar to tonsils) at the back of the nose. An adenoidectomy is commonly carried out in children over the age of three and is thought to help stop your child getting glue ear again. Removing their adenoids does not harm your child. Adenoids are removed through the mouth under general anaesthetic and your child is usually allowed to go home the same day.

How you can help your child

If your child has glue ear you can do a number of things to help.

- Make sure your child has been properly assessed by your GP who may refer you to an ENT consultant.
- If you suspect that an allergy is causing glue ear ask the ENT consultant about this.
- Avoid smoking near your child.

While waiting to see if glue ear clears up on its own or waiting for grommet surgery children sometimes have reduced hearing for quite some time and will need help with communication. During this time they may need to use a hearing

aid and have support at home and school. Here are some ways in which you can make communication easier with your child.

- Reduce background noise when talking to your child, for example turn down the television.
- Attract their attention before you start speaking to them.
- Put your head at their level. Do not shout.
- Speak clearly. Do not exaggerate mouth movements.
- Let family and teachers know about the problem.
- Remember that glue ear usually stops being a problem well before puberty.

The information in this factsheet has been reproduced with kind permission of the National Deaf Children's Society and the RNID.

Deaf Connexions produces a range of information sheets covering all aspects of hearing loss and deafness. If you would like further information contact :

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