

Information For Parents

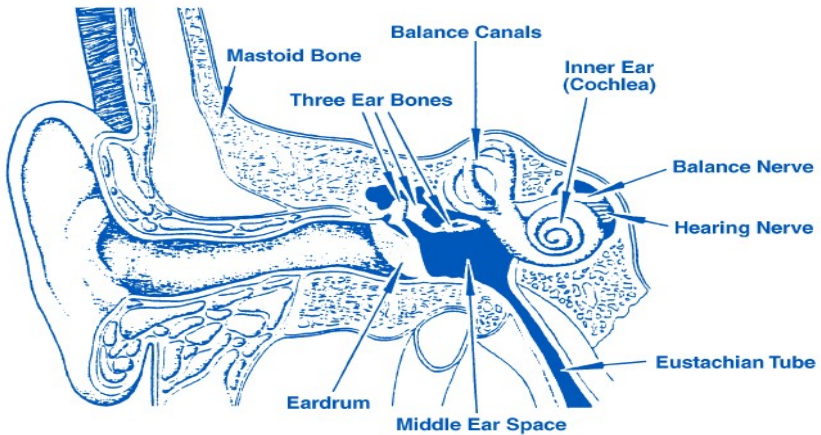
“Glue Ear”

THE
MEDICAL
SPECIALIST
GROUP
LLP

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THE EAR



How does it work?

The ear is divided into three parts: the outer or external ear, the middle ear and the inner ear.

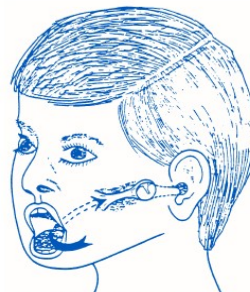
The external ear consists of the auricle or pinna on the outside and the ear canal. The ear canal, which is about 3 cm long, ends at the ear drum. The ear drum is a thin membrane that vibrates freely when sound waves hit it. The external ear collects sound and directs the sound waves towards the ear drum and middle ear.

The middle ear is a small air filled space that contains three little bones or ossicles called the Malleus (hammer), Incus (anvil) and Stapes (stirrup). The Malleus is attached to the inner surface of the ear drum and the Stapes lies in a tiny window that connects to the inner ear. The incus lies between the Malleus and Stapes. The sound waves that hit the ear drum are carried into the inner ear via these vibrating bones.

The inner ear is a fluid filled cavity shaped like a bony shell (the Cochlea). It contains delicate nerve endings. Sound waves carried to the inner ear by the Stapes are passed through the fluid of the inner ear to these nerve endings where they are changed into electrical signals that are then sent to the brain via the nerve of hearing (the Auditory Nerve).

What is “Glue Ear”?

The air filled middle ear is connected to the back of the nose by a passage called the Eustachian Tube. It plays an important role in keeping the air pressure behind the ear drum the same as the outside world. Muscles in the back of the nose and throat open the tube when you swallow and let air in to the middle ear.



Relationship of the opening of the Eustachian tube and Ear

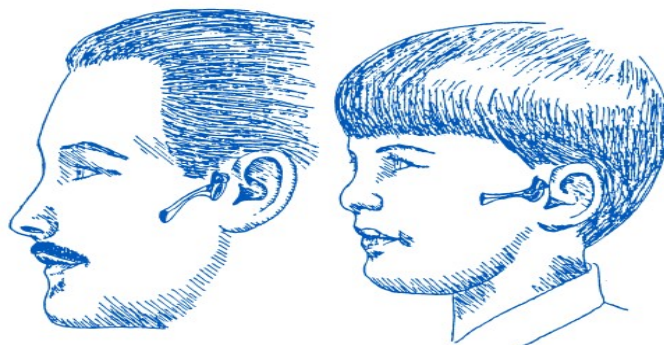
If this tube does not work properly, the air in the middle ear is gradually absorbed by the lining of the middle ear (mucosa) and this leads to a change in the pressure compared with the outside world (a vacuum). If this vacuum is not corrected by the Eustachian Tube, then the mucosa starts to fill the middle ear with fluid instead of air.

Initially this fluid is thin and watery but gradually (especially if there has been any infection as well) it becomes thick and sticky like glue and this sticky fluid gives rise to the name “Glue Ear”.

Why does Glue Ear occur?

In children the all important Eustachian Tube is smaller, more horizontal and wider than in adults. When children get colds or other infections, inflammation at the back of the nose can easily block up this tube and let bacteria into the middle ear. The Adenoid (a ‘third tonsil’ at the back of the nose) also lies just between the openings of the Tubes and enlargement of this gland or chronic infection within it can prevent the Tubes from working properly.

A Cleft Palate is another important cause of “Glue Ear” because the muscles of the palate usually play a vital role in opening the Eustachian Tube when we swallow



Difference between Child and Adult Eustachian Tube

What problems does “Glue Ear” cause?

The ear drum and ossicles will only vibrate and let sound waves pass to the inner ear if they can move freely. The thick, sticky “Glue” behind the ear drum stops them from doing this. Imagine how dull a child’s toy drum would sound if it was filled with fluid instead of air! The main symptom of “Glue Ear” therefore is hearing loss.

Sometimes this can be quite minor and go unnoticed for years. In other children it can be severe enough to cause problems learning to speak.

Small children themselves do not usually complain about their hearing (or have never known any difference) and may simply appear to be stubborn or naughty or learn to speak more slowly than other children their age. The hearing loss is usually obvious in older children who may also complain of blocked ears or ear ache. Depending on the degree of hearing loss, children may have problems at school because they cannot hear their teacher properly, especially in a noisy classroom. Both hearing and these other problems can be much worse during and after colds.

How common is “Glue Ear”?

“Glue ear” is the commonest cause of deafness in children and approximately 20% of all children will have it to some degree in their first few years.

How can it be treated?

The most important first step is to detect the problem in the first place and this is why young children have routine screening hearing tests.

Whilst it is possible to treat ear infections with antibiotics, unfortunately these do not make the glue disappear any more quickly. Some Doctors try decongestants and anti-allergy medicines to dry up the glue but in most cases these make no difference and the “Glue” simply has to dry up by itself as the Eustachian Tube starts to work again.

This can take weeks or months in some cases but in most patients the “Glue” eventually clears and the hearing improves without any treatment at all.

Most Ear, Nose and Throat Specialists will therefore wait at least **3 months** from the time of diagnosis before getting concerned and during this period it is important that everyone around your child knows about his /her hearing loss (especially their teacher).

If you get your child’s attention before speaking, speak clearly while they are looking at you, and make sure they sit at the front of the class, then it is most unlikely that they will have any significant problems during this time.

What if my child still has “Glue Ear” after this time?

“Glue” does not have to be treated just because it is there! Something only needs to be done if there is a significant and prolonged hearing problem or other troublesome symptoms such as recurrent ear infections or ear ache or discharge. The usual treatment for prolonged, symptomatic “Glue Ear” is **Grommets**.

A Grommet is a tiny ventilation tube that is placed in the ear drum to let air into the middle ear from the outside. Basically, it takes over the role of the non functioning Eustachian Tube for a while and stops the “Glue” from coming back. It is there to let air in rather than fluid out!

Under a General Anaesthetic, a tiny cut is made in the ear drum under a microscope and all the “Glue” behind it is sucked out. A Grommet is then carefully positioned in the ear drum through the same incision and the inner flange on it keeps it in place for about 9 months. After the anaesthetic there is usually an immediate improvement in hearing and little if any pain (see diagrams over).

Sometimes the Specialist may suggest removing the Adenoids at the same time if they are very large or infected, but this is not usually done unless the “Glue” comes back after the Grommets have come out.

75% of children only need one set of Grommets as this gives them 9 months or more of trouble free hearing and growth that usually overcomes the problem. In the vast majority of cases, as the child grows older and bigger, the Eustachian Tube starts to work properly and “Glue Ear” problems disappear.

Can Grommets cause any problems themselves?

Fortunately Grommets rarely cause problems;

1. Discharge

The most common problem is discharge from the ear, and this usually occurs because the child has such a severe cold or other infection that even the Grommet can't keep the ear working properly. Mucous can then leak out through the Grommet until the cold settles. Occasionally oral antibiotics or special ear drops may be needed to settle the ear down.

2. Swimming

It used to be said that you couldn't swim with Grommets in place but we now know that this is alright in the vast majority of patients. It is far more important that your child learns to swim and enjoys a normal life than worries about the remote chance of getting an infection from swimming (See Discharge instructions and advice).

3. Early Extrusion

Very occasionally a Grommet will be rejected by the ear and come out earlier than planned. Depending on the problems it may need to be re-inserted.

4. My Grommet won't come out!

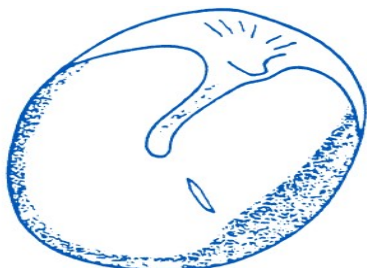
Even more rarely a Grommet won't come out at all. If it is causing problems or clearly doesn't need to be there anymore then the Specialist may suggest removing it under another anaesthetic.

5. Scarring of the ear drum

Every operation or cut anywhere will cause a degree of scarring but on the ear drum the cut is usually so small as to be invisible. Occasionally there can be more scarring than usual and this can theoretically stiffen the ear drum. It is rarely bad enough to affect the vibrations of the eardrum or the hearing itself and cannot be seen or felt.

6. Perforated Ear Drum

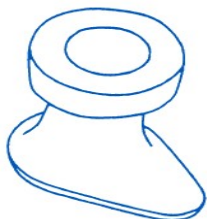
When the Grommet comes out, the cut almost always closes over behind it. Only very rarely (<1%) will a permanent hole be left which needs to be repaired.



Small opening in eardrum to remove fluid and to insert grommet



Grommet in eardrum



"Shah" grommet



Grommet tube seen in cross section

Is there any other alternative to Grommets?

The only alternative to waiting or Grommets is a Hearing Aid. These certainly help with the hearing loss but do not overcome the discomfort associated with “Glue Ear” and are often rejected by parents and children alike as being an unsuitable and difficult-to-manage alternative.

If you would prefer to avoid an operation and have a hearing aid instead, then this can certainly be arranged if you speak to the Specialist. Occasionally in children who keep getting “Glue Ear” all the time, this is a better alternative anyway.

Discharge Advice following Grommet Insertion

Grommet insertion is an extremely safe and straightforward procedure and problems following it are rare. The most common problem is discharge from the ear (early or late) and the following advice is given to minimise this risk and help manage it if it occurs.

1. Return to School/Work

If Grommet insertion has been performed alone, then you can return to school/work after 24 hours.

2. Exercise and Swimming

There are no restrictions on general activities and you are allowed to swim and shower etc. with Grommets in nearly all cases. Standard Grommets are so small that they do not normally allow significant amounts of water into the middle ear and even if this does occur it rarely causes anything other than minor irritation, not unlike getting water in your eyes

You should however not swim in dirty water e.g. a river, dive head first into water or ‘duck-dive’ too deep under the water as these activities can theoretically lead to infection and discharge. Similarly you should not submerge your ears under dirty, soapy bath water as this contains bacteria from your body and not only is soap an irritant but it also allows water to pass through the Grommets more easily.

Showering and hair washing without protection are fine but if you find this irritating a simple disposable plug of Cotton Wool smeared with Vaseline acts as an excellent water tight seal!

Overall, the chance of infection following water contamination is so small that it is much more important that your child learns to swim and enjoys normal activities rather than be restricted in any way.

3. Socialising

There are no restrictions on socialising or contacting other children/people.

4. Pain Relief

The procedure is usually painless but if there is any discomfort it should be covered well by Paracetamol (Calpol).

5. Bleeding from the Ear

Occasionally some bloodstained fluid may drain from the ear in the first few hours after the operation. This is a mixture of blood from the tiny incision that is made to insert the Grommet and ear drops that are often instilled at the time. It can be absorbed by a small piece of cotton wool placed in the opening of the ear canal as needed.

6. Early Discharge from the Ear

10% of patients will have some discharge from the ear following the operation. This is because the “Glue” is often infected and the lining behind the ear drum takes time to revert back to normal again. If the “Glue” is very infected at the time of the operation the Specialist will put antibiotic ear drops (Sofradex) in the ear at the same time and you may need to continue these for 24 hours post-op. The discharge can go on for several days but if it does not stop after 3 days then oral antibiotics and further ear drops may be required and you should contact your local GP or the Specialist to get these.

7. Late Discharge from the Ear

Occasionally the ears can discharge some time after the operation, usually in association with a heavy cold. If you develop “runny ears” then ear drops +/- oral antibiotics may be required and you should “mop” the affected ear dry before each dose of drops.

8. Follow-up

A check-up and Hearing Test are usually performed about 3 weeks after the operation and you should be given an appointment time when you leave the hospital. If you have any other problems or concerns, then please phone the **Hospital (725241)** and speak to a nurse from the ward you were on who will advise you over the phone or contact the Specialist for you (**Specialist Group number 238565**).

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