Cleft palate network

Glue ear and grommets

The hearing system

The hearing system can be broken down into four sections:

- the outer ear
- the middle ear
- the inner ear
- the central hearing pathway

How do we hear normally?

- Sound waves enter the ear, travel down the ear canal and hit the ear drum causing it to vibrate.
- Behind the ear drum is the middle ear space. This is an air-filled space with three tiny bones in it. The three bones are connected in a chain. One end of the chain is in contact with the ear drum and the other end contacts the inner ear (the cochlea).
- As sound waves vibrate the ear drum, the middle ear bones move and transmit the sound vibrations to the cochlea in the inner ear.
- From the cochlea, electrical signals are sent up the hearing nerve (auditory nerve) to the brain and the type or meaning of the sound is worked out.

Hearing loss can happen in any part of the ear. Glue ear or middle ear effusion affects the second section of the hearing system, the middle ear. Remember that normally the middle ear is filled with air, but in ‘glue ear’ it is filled with secretions/fluid. This is because the eustachian tube (the tube connecting the back of the nose with the middle ear, which opens and closes with swallowing to allow air into the middle ear) does not work efficiently. This is even more likely in children with cleft palate.
Glue ear means that:

- The eardrum is unable to vibrate properly.
- The tiny chain of bones in the middle ear cannot move so well.
- It is harder for sounds to travel through the middle ear.

For your child, this means that sounds may be softer or muffled. They may be less aware of sounds going on around them. You can simulate this type of hearing problem by sticking your fingers in your own ears; outside sounds will be softer but your own voice will seem louder.

**Grommets**

It has been suggested that grommets could help your child to hear better.

**What are grommets and how do they work?**

**The middle ear should be filled with air and with glue ear it is filled with fluid.**

A grommet is a small plastic tube that is put into the ear drum. Grommets are inserted under general anaesthetic. An ENT (ear nose and throat) surgeon makes a tiny cut in the ear drum. Then the fluid in the middle ear space is removed, and the grommet is placed into the hole. The grommet keeps this hole open and keeps the middle ear full of air. With the fluid removed, the hearing system can work normally again and your child will be able to hear more clearly.

![Ear drum with grommet in place.](image)

Grommet insertion is carried out via the ear canal - the outer ear is not touched at all. After grommets have been inserted, it is important that you bring your child for a check up at your local ENT department and for a hearing test with your local audiologist. You will be notified of appointment dates and times. Sometimes these appointments can be made for the same day, but often the two are at different times. They are both important. The grommets need to be checked by an ENT doctor and hearing needs to be checked by audiology to make sure the grommets are doing their job.
What happens when the grommet comes out and how does it come out?

Just as your fingernails are replaced with new nail, your ear drum is continually renewing itself. As the ear drum’s skin is replaced, the grommet is gradually pushed out into the ear canal and the hole in which it sat quickly closes. Grommets remain in the ear drum on average between 6 – 12 months. The grommet is so small that you may not even notice it fall out of the ear canal.

What are the risks of grommets?

1. Grommets need to be inserted under a general anaesthetic. This will be discussed with you by your consultant.

2. A small percentage of children may suffer with ear infections because the grommet is creating an artificial link between the middle ear and the environment. If the ears have clear discharge with a cold, it will settle when the cold goes away. If the discharge is coloured or smelly, you should get antibiotic treatment from your GP.

3. In one percent of children, a hole or perforation remains in the ear drum after the grommet has come out. Usually the person is unaware that they have a perforation. Some are prone to infections. Some eventually heal themselves. Occasionally a further operation (myringoplasty) is required to patch the hole.

4. If the system is still not working properly after the grommets have come out, another set of grommets may need to be inserted. Your audiologist and ENT doctor will discuss this with you.

Commonly asked questions

1. Will my child be able to feel the grommets in place?
   No.

2. Do grommets hurt?
   Some children experience a mild ache in the first 24 hours after the operation, but otherwise, no.

3. How long does the operation take?
   It takes approximately 5 to 10 minutes for the grommet insertion.

4. Will I notice a change in my child’s hearing immediately?
   Usually straight away or over the first two weeks.

5. How will I know if the grommets have come out?
   Usually by being told by a doctor/audiologist. Sometimes you will know as their hearing may get worse.

6. Can my child still go swimming with grommets?
   Yes, but please try to prevent water from entering their ears by using ear plugs.

7. Should we be using ear plugs when in the bath or washing hair?
   Yes, to try and prevent infections.
Is there anywhere I can read more about glue ear and grommets?

Yes. If you are searching the Internet there are a lot of sites; if you type in grommets or glue ear there will be thousands, but they are not all accurate! The best place to find out more information is through the National Deaf Children’s Society (NDCS contact details below) the website has a lot of good information which is well researched and accurate. Many of its fact sheets are free and are available either through the post (phone or order on line) or to download and print.

Any specific questions about your child's hearing or operation should be directed to your ENT doctor or audiologist.

Further information:

NDCS Contacts
Helpline
020 7250 0123
www.ndcs.org.uk
helpline@ndcs.org.uk

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Document history

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Contact number
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Publish/Review date
August 2018 / August 2021
File name
PIN1187_glue_ear_grommets_v4.doc
Version number/Ref
4 / PIN1187 / Document ID 5335