

## Glue ear/grommets

This leaflet explains glue ear and what to expect when your child comes into hospital for their operation.

### How do we hear?

The ear consists of three parts; the outer ear, the middle ear and the inner ear.

Sound waves enter the ear canal and cause the eardrum to vibrate. The sound then passes through the middle ear by means of the three small bones of hearing (ossicles), on to the inner ear, which is filled with fluid. The movement of the fluid in the cochlea stimulates the hair cells inside it to trigger a nerve impulse, which is carried to the brain by the auditory nerve. The brain then interprets these nerve impulses as sound.



### What is glue ear?

Glue ear is a very common condition that affects children. It is also called 'otitis media with effusion', which means that the middle ear contains fluids. It occurs when a sticky fluid (glue) builds up inside the ear. This can affect hearing because the parts of the middle ear cannot move freely, although the level of hearing loss is mild to moderate, rather than severe or profound.

### What causes glue ear?

It is not exactly known what causes glue ear, but doctors believe it is connected to the Eustachian tube not functioning properly. The Eustachian tube usually keeps the air pressure on both sides of the eardrum equal. If the tube is blocked, this causes the air pressure inside the middle ear to drop. Fluid drains from the surrounding tissue to fill up the middle ear. With time, this fluid becomes sticky and stops the eardrum and ossicles vibrating properly.

### What are the symptoms?

The first symptom parents tend to notice is their child's speech and language development is behind his/her peers. Any form of hearing loss can cause this but glue ear is the most common form that affects children. Your child might not seem to be listening to you or you may notice that they have the television at a constant high volume.

Occasionally, children with glue ear have a mild earache, but this is more common with ear infections. Glue ear is not an infection and the fluid building up in the ear rarely contains germs.

### How is glue ear diagnosed?

The doctor will start by looking inside your child's ear to see if there is any visible blockage of the ear canals and to check the appearance of the eardrum. This will be followed by some hearing tests to see whether there is any hearing loss and if so, whether it is caused by glue ear. One of these tests (tympanometry) tests the mobility of the eardrum and can give an indication of whether glue is present.

### How common is glue ear?

It is an extremely common condition, which usually tends to affect children under seven years of age, most commonly between the ages of two and five. However, some children

have 'recurrent' glue ear which means it returns after treatment over a period of some months or years. This can lead to problems in speech and language development, due to hearing problems.

Some children develop glue ear after a cold so it can be more common during the winter months.

### **How can it be treated?**

The doctor may suggest treatment by using grommets, which are inserted during an operation.

### **What are the benefits?**

If a child has an isolated case of glue ear, it may clear up on its own. However, if it persists it may start to affect their speech, language or schooling.

## **The operation**

### **What are grommets and what does the operation to insert them involve?**

Grommets are tiny tubes which are inserted into the eardrum. They allow air to pass through the eardrum, which keeps the air pressure on either side equal. The surgeon makes a tiny hole in the eardrum and inserts the grommet into the hole. The grommet usually stays in place for six to 12 months and then falls out. This is normal and will not affect your child.

### **Are there any risks?**

Every operation carries some risk of infection and bleeding, but as the hole in the eardrum is tiny, this risk is very much reduced. Around one in every 100 children may develop a perforated eardrum. If this persists it can be repaired later.

Every anaesthetic carries a risk, but it is very small. Modern anaesthetics are very safe and your child's anaesthetist is a very experienced doctor who is trained to deal with any complications.

### **Are there any alternatives?**

For persistent glue ear, grommets are the treatment of choice. Medical treatments with decongestants or steroids have not been shown to be particularly effective unless there are signs of infection or allergy. Antibiotics can help but only in the short term.

### **What happens before the operation?**

You will attend the pre-assessment clinic with your child where you will meet members of the team who will be looking after your child. The doctors will explain about the operation in more detail, discuss any worries you may have and ask you to sign a consent form for the operation to be carried out.

Another doctor, the anaesthetist, will visit you to explain about the anaesthetic and answer any other questions you may have.

If your child has any medical problems, particularly allergies, please tell the doctors about these. Please also bring with you any medicines your child is currently taking.

During this clinic you will be given the opportunity to visit the ward with the play specialist, here you will see where your child is to be admitted and where s/he will recover from their operation.

### On the day of the operation

It is very important that you follow the fasting guidelines explained to you at the pre-clerking clinic, as the operation is likely to be cancelled should your child have had anything to eat or drink during the stated period. This is because there is a very real danger of inhaling any contents of the stomach during anaesthesia, so it is vital your child's stomach is totally empty.

You will need to arrive at the day unit or ward at the time given to you by the nurse.

The time on the letter does not mean the time of the operation, so please expect to be in the unit for approximately four hours as your child needs to be admitted, seen by the doctors, and have some local anaesthetic cream applied to his/her hands, all before the operation.

Occasionally a child becomes distressed as a result of an anaesthetic and you may find that cuddling him/her and reassuring them on the way back from recovery will help keep your child calm.

### What happens afterwards?

After the operation, your child will return to the ward to fully wake up from the anaesthetic. Once s/he feels comfortable and has had something to eat and drink you will be able to take your child home.

You may be given or sent a discharge letter for your doctor. This is to inform him/her of the operation your child has had and should be handed into your GP surgery as soon as possible. You will also be given a copy of this letter to keep for yourself.

### Going home

You must not go home on public transport. It is important that someone drives you and your child home and we advise you to sit with your child in the rear seat of the car.

Your child's ear may ooze or bleed a little for a day or two after the operation. This is normal and should recover within a few days. You should clean any discharge from the outer ear, but do not attempt to clean inside the ear. Never use cotton buds in your child's ear.

If your child has mild earache, which is quite common, you should give him/her pain-relieving medication such as paracetamol or ibuprofen according to the instructions on the bottle.

Your child should avoid water getting into his/her ear until you have been to your out-patient appointment. You will need to take care during hair washing, bathing and especially showering. You should put a large ball of cotton wool with Vaseline on it into your child's outer ear. Do not insert it into the ear canal itself, as this could prove difficult to remove. A follow-up out-patient appointment will be given as required. If your child goes swimming, ear-plugs or a head band should be used. Please ask for advice.

The doctor may prescribe eardrops for your child. If so, please follow these instructions for inserting them.

- Check the instructions on the bottle
- Lay your child on the bed with the ear needing eardrops facing upwards
- Pull the top of the ear gently backwards and squeeze the prescribed amount of drops into ear canal
- Press your finger over the ear canal and gently push four or five times
- Your child should stay lying on the bed for a few minutes

Grommets stay in the ears only as long the eardrums allow them to. The growing ear usually pushes them out after six to twelve months of insertion. Once this happens your child's ears will depend on their own 'tubes' (eustachian) for air to reach the middle ear. The initial appointment is approximately six weeks after insertion and at six-monthly intervals until the grommets fall out. If the Eustachian tubes have not matured, the problem may recur and sometimes further surgery will be required.

#### **When to seek further medical advice**

You should take your child to see a doctor if he or she experiences any of the following:

- Bleeding or discharge from their ears
- Severe pain that does not subside after giving pain-relieving medication such as paracetamol or ibuprofen
- A fever, which does not respond to paracetamol

#### **What is the outlook for children with glue ear?**

Once glue ear has been diagnosed and treated, the outlook is very good. Most children with speech and language delays catch up and go on to have a normal school life. A small proportion of children may need extra help from a speech and language therapist.

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