

Grommets (Middle-ear ventilation tubes)

What are Grommets?

Grommets are small plastic tubes that sit in the eardrum and let air in and out of the middle ear.

Why are they used?

They are normally used because there is fluid behind the eardrum (glue ear) which is causing persistent hearing problems (conductive hearing loss) or because of frequent ear infections.

They may also be used to try to correct retraction pockets in the eardrum which are due to chronic negative pressure (vacuum) in the middle ear which causes thinning and collapse of segments of the drum. This process can lead to recurrent infection, cholesteatoma formation (skin cysts within the middle ear) and permanent damage to the hearing.

What does the operation involve?

The day of the operation:

Admission is almost always on the day of surgery. The nurses will complete some routine paperwork and tests. You will be asked to change into a gown ready for theatre. The Anaesthetists will come to see you and discuss the anaesthetic side of things. A member of the ENT team will also see you before your operation.

The anaesthetic:

In children, the operation is performed under general anaesthetic. In adults, it may be possible to perform the operation under local anaesthetic.

The operation itself:

The operation involves making a tiny cut in the eardrum for the grommet to sit in. Any fluid (glue) is suctioned through the hole before the grommet is inserted. The procedure normally takes about 10 minutes but you may be asleep for longer.

After the operation:

The procedure is not normally particularly painful but children sometimes feel that sounds are very loud for a day or two. There may be a small amount of bloody discharge from the ear for a few days post-op and in some cases, you may be sent home with some antibiotic drops to use.

Your discharge from hospital:

If a local anaesthetic was used, full mobility can be resumed 1-2 hours following surgery. Following general anaesthesia, you will need to arrange for a responsible adult to pick you up from the hospital, take you home and stay with you for 24 hours after discharge. Depending on how fit and active you are before your operation, you may need to arrange for someone to stay with you for a few days

What is the follow up after the operation?

In cases where the only concern is the hearing loss, the first follow up appointment after the operation will be in the audiology department for a hearing test. If the hearing test shows a hearing improvement and your child's hearing is within normal limits, no further review will be arranged and your child will be discharged back to the care of your GP. In other cases with a history of ear infections or eardrum in drawing, a follow-up appointment will be arranged in the ENT clinic with a hearing test.

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What should I do when I leave the hospital?

Activity:

The ears should be kept dry for two weeks. Following this swimming is allowed but diving underwater should be avoided. Getting the ears wet with soapy water can cause discharge and you may be advised to use cotton wool balls covered in Vaseline in the ears when washing hair.

Flying:

This is perfectly safe with grommets in as the air pressure on either side of the eardrum is the same and therefore there will be no symptoms of pressure.

You should not drive for at least 24 hours following your operation. You can then drive when you are able to perform an emergency stop safely.

Wound care:

See above with regard to water exposure. Do not use cotton buds in the ears.

Work:

You should be fine to return to work/school the day after surgery.

Are there any risks involved in this operation?

Although modern surgery and anaesthetics are considered to be safe, all medical procedures carry some risks. The surgeon will discuss all these risks with you.

Risks associated with the operation are:

Grommets are designed to grow out with the skin of the eardrum; this normally takes 6-18 months. Sometimes the grommets will come out more quickly, for example, after an ear infection and they may need to be replaced if the underlying condition has not resolved. Sometimes they do not grow out at all and will occasionally need a further operation to remove them.

Perforation sometimes they leave a small hole in the drum (2-4%). The hole may not cause any problems but may need to be patched (Myringoplasty) if it causes problems (e.g. discharge). Discharge from the grommets reaching the outside of the ear is not uncommon for a day or 2 after the surgery. This may be blood-stained. Pus discharge particularly after getting the ears wet or with a cough/cold may also occur. This may need treatment with topical antibiotics (drops).

Occasionally the grommet will need to be removed if the infection becomes persistent despite antibiotic drops.

Recurrent glue ear may occur in 20% of patients after the grommets fall out. In these patients, the grommets may need to be replaced in a second operation. A few children require numerous operations for grommets until the condition clears completely.

Grommets may become blocked and need to be removed and or replaced.

Once the grommet falls out there may be some scarring or thinning of the drum at the site of the grommet. The drum may also develop some white patches due to calcium deposits (tympanosclerosis). These changes do not usually cause any problems with infection or to the hearing and in fact, these changes can occur in eardrums that have not had grommets.

Very rarely the grommet may fall into the middle ear and be trapped in the middle ear. It may cause no trouble at all but in rare cases, an operation may be needed to remove the grommet.

Failure to improve hearing. There may be a further problem causing or contributing to the hearing loss. In some very rare cases, the hearing may be worse after the operation or there may be no hearing in the ear at all (dead ear).

Risks associated with a general anaesthetic are rare and include:

- Infection can occur, requiring antibiotics and further treatment.
- Bleeding can occur and may require a return to theatre. Bleeding is more common if you are on blood-thinning drugs.
- Chest infection. Small areas of the lung can collapse, increasing the risks of chest infections. This may need antibiotics and physiotherapy.
- Blood clots in the legs (DVT) can cause pain and swelling of the legs. Rarely pieces of the clot can break off and can travel to the lungs (pulmonary embolism). This is a particular problem in obese patients. Patients may wear tight stockings and are advised to keep moving their legs to help the circulation. Blood-thinning injections are often given to prevent this.
- Heart attack or stroke could occur due to the strain on the heart.
- Increased risk in obese patients of wound infection, chest infection, heart and lung complications and thrombosis (DVT).
- Death as a result of a general anaesthetic/ this procedure is possible.

Are there any alternatives to this operation?

Glue ear may resolve after a period of “watchful waiting”. We would normally wait for at least 3 months before recommending grommets to see if there is any improvement over this time. If the glue ear is not causing any significant problems with hearing and if there are no concerns about your child’s speech development, ear infections or in drawing of the eardrum we can just watch and wait. If there are concerns it may be better to put grommets in, and we would advise you about this.

In some cases, a hearing aid may be appropriate to treat the hearing loss and speech problems caused by glue ear. This would mean that your child would not need an operation. In older children (>6 years) the Valsalva manoeuvre or nasal balloon technique may get rid of fluid or retraction pockets. If a recurrent infection is the main problem a longer course of low dose antibiotics is sometimes helpful. For glue ear though, antibiotics, antihistamines and decongestants do not help. Steroid nasal sprays may help some children if they have a nasal allergy. Alternative treatments, such as cranial osteopathy, are not helpful. Taking out the adenoids may help to improve glue ear, and your surgeon may want to do this at the same time as the grommet operation.

If you would like a second opinion about the proposed surgery please ask your G.P or Surgeon to arrange this.

Are there any risks of not having this operation?

In the case of glue ear:

- Ongoing hearing loss.
- Damage to the eardrum.
- Damage to the bones of hearing.

In the case of frequent recurrent ear infections:

- Spread of inflammation to the inner ear (cochlea) may result in permanent high-frequency hearing loss (sensorineural damage).
- Damage to the bones of hearing.
- Chronic perforation of the eardrum.