

## Managing Hearing Difficulties

### Commonly asked questions for our ENT Team (Ear, Nose and Throat or Otolaryngology)

#### How and when will my child's hearing be tested?

All babies born in New Zealand now receive a hearing test within a few days of their birth. The test is called an automated auditory brainstem response test (AABR). This test is good at detecting both permanent sensorineural hearing loss caused by inner ear damage and mild temporary conductive hearing loss usually caused by fluid behind the ear drum. Babies with a cleft palate frequently have temporary problems with conductive hearing loss. Some babies can fail the first test, if so another will be booked within 2 weeks.

Babies with a cleft palate will also have a hearing test at 6-10 months of age even if they passed the newborn AABR test. This is because babies with cleft are prone to middle ear effusion which can affect hearing. For this test, baby will be awake and will be tested by visual response audiometry (VRA) which involves turning towards the direction of a sound and looking at interesting puppets.

If you have any concerns about your child's hearing please contact your Cleft Clinical Nurse Specialist (CNS) or your family doctor, who can help arrange a referral to your local ENT service.

#### If my baby fails their AABR (Newborn) hearing test, what happens next?

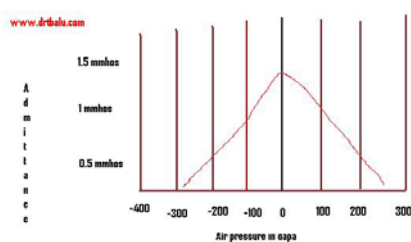
If a newborn baby does not pass the newborn hearing tests they will receive a follow up appointment for a diagnostic audiology test before 3 months of age. This test is a more comprehensive version of the newborn hearing test. It can confirm if a conductive or sensorineural hearing loss is present.

For this test your baby needs to be asleep so it is recommended to keep your baby awake before the appointment time. At the clinic your baby can be fed and when asleep the testing can begin. If a hearing loss is found, then intervention can begin immediately if required.

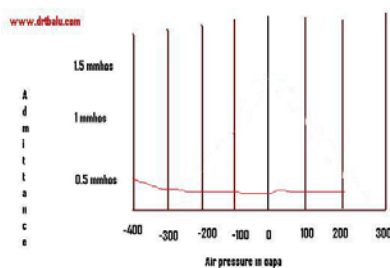
#### When should my baby first be seen by ENT?

Babies with a cleft palate will be referred to the ENT specialist and Audiologist as part of the protocol for cleft care. Appointments with the ENT specialist and Audiologist will be at approximately 6-8 months of age. If you have concerns prior to this age, please contact your Cleft CNS.

The middle ears will also be tested by checking if the eardrums (tympanic membrane) are moving properly. This test is called a Tympanogram. This test is not a hearing test but is done alongside a hearing test to distinguish between sensorineural and conductive hearing loss and also can help diagnose otitis media by demonstrating the presence of fluid in the middle ear.



A type Tympanogram



B type Tympanogram

In the general population a type A tympanogram is considered normal. A type B tympanogram indicates fluid in the middle ear.

It is important to note that for children with cleft, a type B tympanogram is common and not always an indication of hearing problems as it is common for cleft children to have fluid in their middle ear. A type B result needs to be taken in context with their cleft condition, treatment plan and general wellbeing.

Types of treatment for hearing loss for babies with cleft:

If conductive loss is present, the temporary use of a soft headband bone conductor could be offered pending the grommet insertion.

### **Will my child have difficulty hearing?**

The muscles of the palate assist in opening the Eustachian tube. In children with cleft palate this can result in Eustachian tube dysfunction and lead to middle ear effusion or “glue ear”. Glue ear can affect the ability of the child to hear clearly. Most babies with a cleft palate will have some form of Eustachian tube dysfunction which can lead to ear infections and the need for grommets. The ENT and Audiology specialists will regularly review your child to monitor their hearing and ear health. If you have any concerns, please contact the Cleft CNS.

### **How is persistent middle ear fluid and associated hearing loss treated?**

Children with a cleft palate may have some degree of middle ear effusion (fluid in the middle ear). Fluid in the middle ear is usually drained by the Eustachian tube which drains the fluid from the ear to the back of the nose and throat. The muscles of the palate open the Eustachian tube when we chew, yawn or swallow. For children with a cleft affecting the palate, the Eustachian tube cannot open and close properly which could lead to ear infections as the fluid is unable to drain. Fluid in the middle ear can affect your child’s ability to hear certain sounds and therefore also affect speech and language development. This is often called Otitis Media with Effusion or Glue Ear.



### **What are grommets and will my child need them?**

Grommets are tiny tubes inserted in the ear drums in order to help drain away fluid.

This minor procedure takes a few minutes but requires a general anaesthetic. It is done as a day procedure in most hospitals.

ENT surgery such as grommets is undertaken in your child’s local hospital. That means that the hospital near where you live will perform the ENT procedure. In Auckland, depending on where you live, the ENT specialist will assess the need for grommets and this procedure will be done at either Starship hospital or Manukau Surgery Centre.

Indications for grommet insertion:

- i. 3 or more episodes of acute otitis media

- ii. Conductive type hearing loss
- iii. Parental concern about hearing and evidence of middle ear effusion.

Repair of the cleft palate can improve the function of the Eustachian tube and therefore minimise episodes of glue ear so most grommets are inserted after repair of the cleft palate. In cases where frequent and painful otitis media occurs, your ENT specialist may consider grommet insertion before repair of the cleft palate. Approximately 75% of babies with a cleft palate will need grommets inserted in their ears at some stage.

Often ear problems decrease as the child grows. If you have concerns about your child's ears or think they may have hearing problems, contact your family doctor or the Cleft CNS.

### **Can my child swim with grommets in?**

Yes, but they will need to have ear plugs and a swim cap.

### **Can my child fly in an airplane if they have grommets in?**

Yes, airplane cabins are pressurized, but it is recommended to give a baby or child a drink on take-off and landing as swallowing can help equalise ear pressure

### **What happens when the grommets fall out?**

Grommets will fall out over time, this is due to the growth of the ear drum. If your child continues to have ear aches or infections, see your GP as you may need another ENT appointment.

### **Can my child have their adenoids or tonsils removed if they need to?**

Your ENT specialist will advise if tonsils and adenoids need to be removed. We recommend your child is seen by an ENT specialist who has knowledge of your child's cleft palate condition.

## **Glossary**

**Conductive hearing loss** happens when there is a problem conducting sound waves anywhere along the route through the outer ear, tympanic membrane (eardrum), middle ear or inner ear. This type of hearing loss may occur in conjunction with sensorineural hearing loss or alone.

**Sensorineural hearing loss** is a type of hearing loss in which the root cause lies in the vestibulocochlear nerve (Cranial nerve VIII), the inner ear, or central processing centers of the brain.

**Tympanogram** is an examination used to test the condition of the middle ear and mobility of the eardrum (tympanic membrane) and the conduction bones by creating variations of air pressure in the ear canal.

**Grommet** is a tube placed into the eardrum to allow air to pass through into the middle ear, and thus release any pressure buildup and help clear excess fluid within.