

# Paediatric Diagnostic Information

Hearing Services Department

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Information for Parents and carers



**Caution: Hearing aid batteries can be harmful if swallowed.  
Please ensure they are stored out of the reach of children.**

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## **Your child's hearing test**

Your child has been referred for a hearing test. The type and degree of testing that will be carried out depends on their co-operation and needs. The types of testing carried out are listed below with a brief summary. A number of these may be carried out during your child's appointment to obtain the information required, and we may need more than one appointment to build up a complete picture of their hearing. The appointment length can vary but is usually about 30minutes long.

### **Tympanometry**

The eardrum needs to be able to move effectively for sound to pass through it and to be able to hear as well as possible. Tympanometry is a pressure test that assesses the condition of the middle ear and looks to see how well the ear drum is moving. It produces a graphic representation of middle ear status only, but does not reflect your child's hearing levels. A soft rubber tip is placed at the entrance to the ear canal and a gentle puff of air is blown through it. The tip then measures the response that's bounced back from the ear.

A normal tympanogram shows good middle ear function and movement of the ear drum, a flat tympanogram shows limited movement of the ear drum which is usually due to the presence of the fluid in the middle ear. If your child has fluid behind their eardrum it does not necessarily mean they have a hearing problem.

### **Otoacoustic Emission Testing (OAE's)**

For every child born in the UK a hearing screen is carried out (Automated OAE). A soft tip is inserted into the ear through which sound is presented and records when the inner ear (cochlea) responds. This test is just a screen and rules out any significant hearing loss. This test is not suitable for children who have middle ear fluid.

### **Behavioural Hearing Testing**

There are a number of different hearing tests that can be used to test your child's hearing. These require some co-operation from your child hence a behavioural hearing test, and the test selected would be based on your child's developmental abilities. All behavioural hearing tests aim to find the quietest sounds your child can hear, and the results will be explained to you during the appointment.

Visual Reinforcement Audiometry (VRA) is usually used to test hearing in children from 8months-2.5years old. Your child will be seated on your lap or a chair of their own and sounds will be presented from a speaker or through insert foam headphones. They will be taught to link this sound with a puppet in a box or a cartoon on a computer screen.

Play Audiometry (performance test) is usually used to test hearing in children 2-5years old. Your child will be sat on their own seat usually and will have sounds presented through a speaker or foam inserts. They will be taught to complete a task when they hear a sound such as putting men in a boat, balls on a stick etc.

Pure Tone Audiometry (PTA) is usually for children above the age of 5years old. Your child will be sat on their own seat and will have sound delivered through headphones or foam inserts. They will then be required to press a button every time they hear a sound.

### **Auditory Brainstem Response (ABR)**

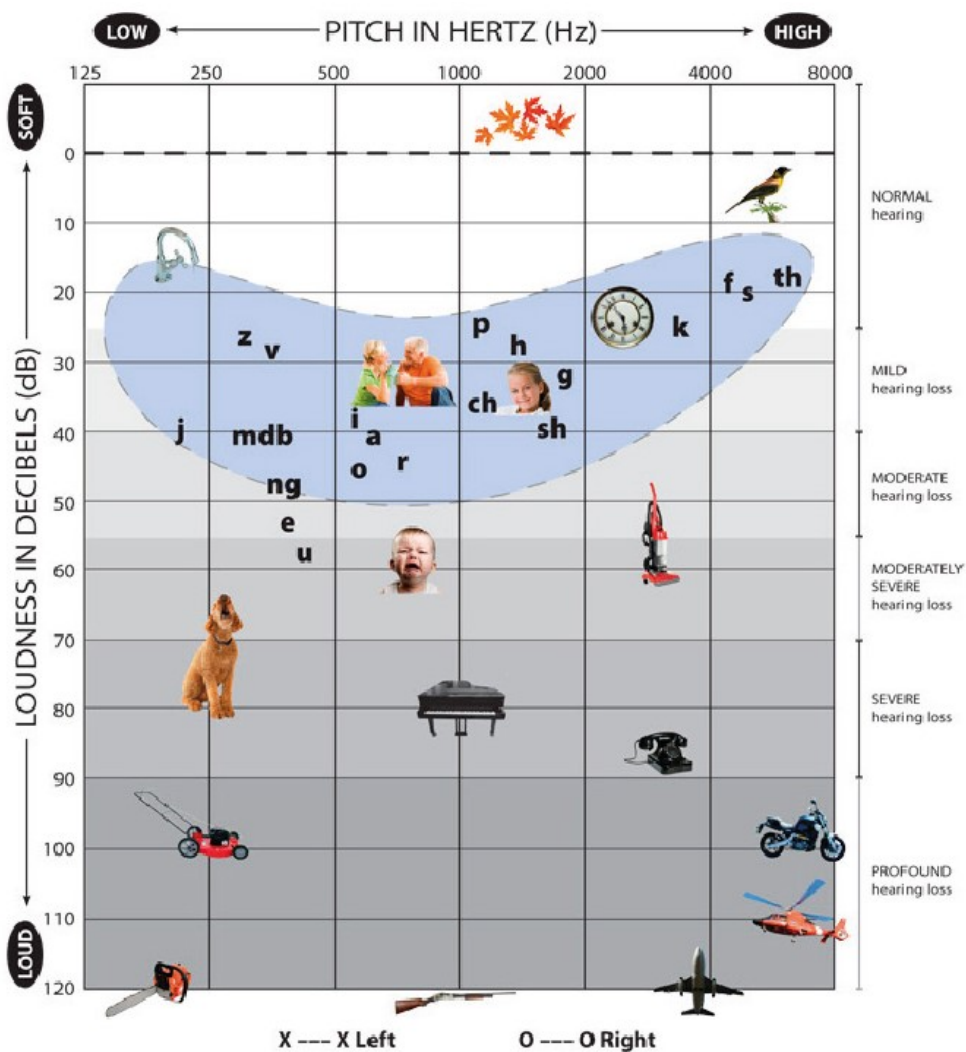
Should we fail to gain any behavioural testing information, and depending on the reason for the hearing test we may discuss an ABR with you. This is an objective hearing test where your child does not have to respond to the sound. They will be put to sleep using an anaesthetic and sensors are put on the head. These sensors measure the brains response to sound which is delivered through an earphone. Your child's medical suitability for this will have to be assessed by the ENT consultant for which you would have an appointment with them.

The tests mentioned are in no way concrete and can be changed to meet the needs of the child in clinic. Our Audiologists are experienced in being able to test children with additional needs such as Autism and developmental delay so please do let the Audiologist know if your child has any additional needs or medical conditions.

**Important Note:** If your child has been fitted with a Programmable Ventriculo-peritoneal Shunt let your Audiologist know prior to testing.

The results of your child's hearing test are explained below as well as potential difficulties your child may have based on the level of their hearing loss.

The chart below gives examples of where speech sounds and general environmental sounds lie. As you move down the chart sounds get louder, and as you move from left to right they get higher in pitch. The levels of hearing loss are shown on the right hand side of this chart and are explained in greater detail on the next page.



## **Degrees of hearing loss:**

### **Mild**

Your child may struggle to follow speech in noisy environments or if spoken to over a distance. In some instances this type of hearing loss can go undetected as they may hear the majority of sounds, but may miss others which in turn may have an impact on their speech and language development.

### **Moderate**

Your child may have difficulty following speech and hearing quiet sounds, and may often ask for repetition, especially in noisy environments. As they are unable to hear certain speech sounds as well as children with normal hearing they may mishear what has been said. This degree of hearing loss is likely to have an impact on speech and language development if the hearing loss lasts for a period of time without treatment.

### **Severe**

You may often have to raise your voice to get your child to hear you when speaking to them. They will struggle to understand what has been said if you are not facing them, and may struggle to hear certain environmental sounds. Without hearing aids your child will struggle to develop speech and language with clarity.

### **Profound**

Your child is most likely unable to hear most sounds unless they are very loud, including speech sounds. They will require hearing aids, and where this is not sufficient we can consider onward referral for cochlear implantation.

Please refer to our booklet 'Communication Tips' on suggestions for how you can improve the listening environment for your child for effective communication.

**Department of: Hearing Services**

**Contact details: 07950889139 or by email: PaediatricHSD@uhl-tr.nhs.uk**

**For further advice and support, visit the NHS Choices website: [www.nhs.uk](http://www.nhs.uk)  
or call 111 for non-emergency medical advice.**



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