

Unilateral hearing loss – information pack

You have been given this leaflet because a hearing test has shown that your child has a unilateral hearing loss. This leaflet will tell you about what unilateral hearing loss means and what help is available.

What is unilateral hearing loss?

Unilateral hearing loss is any degree of permanent hearing loss that affects only one ear. 0.6 per 1000 children are born with a unilateral hearing loss in England.

Unilateral hearing loss can be present from birth. It may have been inherited or maybe caused by problems during the pregnancy or birth. A unilateral hearing loss may also occur later in life as a result of an infection, for example, mumps or meningitis, or because of a head injury. In many cases the actual cause of the unilateral hearing loss may not be identified.

Facts about unilateral hearing loss

- Most children with unilateral hearing loss develop clear speech as in many situations they can hear speech clearly using the ear that has normal hearing. For some children, however, the presence of a unilateral hearing loss can affect their speech and language development making them difficult to understand.
- With a unilateral hearing loss, a child may experience difficulties with:
 - Hearing sounds that are on the same side as the ear with the hearing loss.
 - Locating the source or direction of where the sound is coming from.
 - Hearing speech when there is background noise.
- In situations where there is background noise, for example at school, a child with unilateral hearing loss maybe more easily distracted. In order to participate fully in the tasks, he/she will have to maintain good levels of concentration that may increase their tiredness.
- It is important to protect a child's hearing both in their normally -hearing ear and if there is any residual hearing in the ear with the hearing loss.
- Your child should receive at least an annual hearing test at the Audiology department or sooner if you suspect any changes in their hearing.
- A child with a unilateral hearing loss relies more on visual information than a child with normal hearing. It is important that your child's eyesight is checked regularly.

What help is available?

Fitting a hearing aid

For some degrees of unilateral hearing loss, fitting a hearing aid to the ear with the hearing loss may benefit your child. This can be discussed further with your audiologist.

A hearing aid is a special type of small amplifier. Its job is to make the sounds we hear louder. For many people a hearing aid can make the sound vibrations entering the ear canal strong

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enough so that even a damaged cochlea can send a signal to the brain. The signal will not be perfect as the hearing aid does not make the hearing become normal but amplifies sounds so that your child can hear them.

Using a hearing aid can give the wearer a lot of useful information about speech and environmental sound. This may benefit a child with unilateral hearing loss by allowing them to hear sounds on the side of the hearing loss and thereby helping them to locate sounds more easily. It can also help with communication, particularly in background noise.

Types of hearing aid

There are many different models of hearing aid available in various shapes, sizes, colours and ways in which they process the sound. Your audiology team will discuss with you the most appropriate options to suit individual needs and preferences.

Most hearing aids fit behind the ear. All behind the ear hearing aids basically consist of a microphone and an amplifier and are powered by a small battery.

Special ear moulds are manufactured to carry the sound into the ear canal.

Earmoulds

Earmoulds are made from an impression of the ear taken by your audiologist. To do this they will usually place a small sponge in the ear and then insert a specially mixed plasticine-type material to fill the ear completely. Once this has hardened after 1-2 minutes, it can gently be removed.

Radio Aid Technology

For children with a profound unilateral hearing loss even the strongest hearing aid sometimes cannot provide enough sound information. This is because so many of the ear hair cells are not working that no matter how strong the vibrations which reach the cochlea, no useful signal is sent to the brain. Using Radio aid technology in a nursery or classroom setting maximises a child's access to the teacher's voice. The teacher speaking wears a transmitter microphone, and the radio signal is received to a hearing aid set with minimal amplification and worn in the child's normal hearing ear. Since the microphone is close to the teacher's mouth it ensures the child can hear the teacher's voice more clearly in their normally-hearing ear in situations where there is competing background noise. This maximises a child's access to the most important speech sounds.

CROS aid

Occasionally, older children with a profound unilateral hearing loss may benefit from a CROS aid. The CROS aid is designed to transfer the sound from the ear with the hearing loss to the ear with normal hearing. It has two parts that both look like behind-the-ear hearing aids. The first part is worn behind the ear with the hearing loss. It contains a microphone that detects the sounds. These are then transmitted to the second part into the ear with normal hearing.

CROS aids allow sounds from all directions to be heard although it may not help with localisation of sounds. CROS aids are really only suitable for older children (from about 7 years old) and can be useful in specific situations, such as when seated with the speaker on the side of the worse ear.

Bone conduction / bone anchored hearing aids

A bone conduction hearing aid transfers sound from the side with hearing loss to the opposite side, through the bone. The aid is generally worn on a headband. It allows sounds to be heard from all directions and also does not block the ear which may be beneficial for children who are prone to ear infections.

A bone anchored hearing aid works in the same way as the bone conduction aid but attaches to a screw that has been implanted in the skull just behind the ear with the hearing loss. This results in improved sound quality as the hearing aid is in direct contact with the bone. A bone anchored hearing aid may be an option for older children and is preceded by a trial of a bone conduction hearing aid.

Soundfield systems

Using a soundfield system maybe an alternative solution to fitting a hearing aid depending on your child's hearing difficulty. This is generally used to help listening in the classroom situation as it ensures the child can hear the teacher's voice at a constant volume wherever he/she is sat and in whichever direction he/she is facing.

The system comprises of a microphone and speaker. The microphone is worn by the teacher and the sound is transmitted to a loudspeaker. This is most commonly a portable speaker that sits on the child's desk but may also be speakers that are fitted around the classroom. Since the microphone is close to the teacher's mouth the speech sounds it detects and transmits to the child's speaker are clear and have less background noise interference.

Soundfield systems are *not* provided by NHS or Education services but can be purchased. They only provide help with listening in the classroom.

Hints to help with a unilateral hearing loss

Communication

- Keep background noise to a minimum as much as possible.
- Get your child's attention before speaking to them.
- In background noise, speak to your child at close range.
- Position yourself so that you are on their side with good hearing.
- Re-phrase sentences rather than repeating them if they have not been understood.

At school

- Make the teacher aware that your child has a unilateral hearing loss.
- Ask for your child to be seated as near to the teacher as possible.
- Your child should be positioned so that the side with good hearing is directed towards the teacher and the rest of the class, for example, if your child has a right-sided hearing loss they should be seated on the right hand side of the class so that the left ear, with normal hearing, is directed towards the teacher and class friends.

Locating a sound source

- Teach your child to look around them to locate where a sound is coming from.

- Before crossing the road it is particularly important that your child looks around to visually check for traffic.
- You may wish to install rear-view mirrors to your child's bicycle so that they can visually locate where traffic is behind them.

Protecting your child's hearing

- Your child should avoid listening to loud sounds for long periods of time, for example, loud music, and as they grow older, from headphones, concerts, pubs, bars or night-clubs. It is important that your child wears ear-protection when necessary.
- See your GP as soon as possible if your child has an ear-infection as this may cause his/her hearing to temporarily deteriorate. Furthermore, if the infection is severe and left untreated, it may permanently reduce the hearing levels.

Our commitment to you

- To provide you with an excellent service to meet your individual needs and those of your child.
- To give you and your child individual attention.
- To be available to you should you or your child need advice or reassurance.
- To provide support when you are coming to terms with a hearing loss.
- To offer help if a hearing loss causes problems when yours or your child's lifestyle changes.
- To ensure you and your child feel confident and happy using a hearing aid.
- To make every effort to offer you a suitable date and time for appointments.
- To make every effort to see you for an appointment on time.

Your commitment to us

- To make every effort to attend and be punctual at the appointments made for you.
- To inform us as soon as you know that you will be unable to attend an appointment.
- To help staff assigned to you or your child's care to help you by cooperating with them.
To respect and care for any devices loaned to your child as best you can, as they remain the property of the Royal Berkshire NHS Foundation Trust.

If you have any further questions, please contact:

The Audiology Department on tel: 0118 322 7238 or email: audiology.royalberkshire@nhs.net
Website: www.royalberkshire.nhs.uk/featured-services/children-young-people/children-s-hearing-services/

To find out more about our Trust visit www.royalberkshire.nhs.uk

If you would like this leaflet in other languages or formats (e.g. large print, Braille or audio), please contact the Audiology Department.

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