



Chime

The National Charity for
Deafness and Hearing Loss

A Guide to Understanding Childhood Hearing Loss



Let's get started



We're here
to help

Introduction

The purpose of this booklet is to provide parents and families with information about childhood hearing loss and its management options.

In this booklet, you will find information on all types of hearing loss.

Many parents will have questions following their child's diagnosis.

Be reassured however that there are many professionals who are here to support you along your journey (these are discussed further along).

Chime's Child and Family services are provided by professionally qualified social workers who are familiar with all aspects of childhood hearing loss.

Our approach is to work in partnership with you and the other professionals to develop a pathway of support and information relevant to you and your child.



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Let's talk diagnosis

One to two of every 1,000 babies born in Ireland will be diagnosed with hearing loss. This statistic almost doubles during the childhood years when an acquired or progressive hearing loss may be identified. 90% of children identified with a hearing loss are born to hearing parents, so, as a parent, this may be your first experience of hearing loss.

The time of diagnosis can sometimes be difficult for some parents and families. You may go through an array of emotions, something that is perfectly normal. You may be confused by meeting professionals and learning new terminology, as well as anxious about making the right decisions for your child. Many parents wonder how they will communicate with their child, where they will go to school and how can they best support them.

All the professionals you will meet are here to help and answer your questions as they arise.

An early diagnosis is of great benefit; that way, a range of options can be offered in a time-sensitive manner that will provide the best outcome for your child. For many parents this will be an emotional period and managing these feelings will be an ongoing process. Be prepared for good and bad days and remember — it's perfectly okay to have these feelings.

You may not be feeling any of these emotions and you may have accepted the diagnosis without any major reaction. Be assured that there is no right or wrong way to react; the way you are reacting is right and normal for you. You may want to talk to other parents who have similar experiences, or to professionals who understand your child's diagnosis.

Coping strategies

Once parents gain some knowledge about hearing loss, their child's communication needs and language development, many say they start to feel less anxious about their child's diagnosis. Here are some strategies to help you at this time.

- Gather as much information as possible and take the time to read and understand it.
- Take the opportunity to speak to other parents — family and friends mean well, but there's nothing like talking to someone in a similar situation.
- Write down questions you want to ask the professionals before each appointment so you can clarify the info you receive and any jargon you're confused by. Write a few notes on the answers you get.
- Be aware that there are different views, opinions and approaches to communication methods. Take the time to get as much information as you need to make an informed decision that is best for your child and family.

Remember, a diagnosis does not change your child. They are still the same child they were before you learned this news and they'll still want to do all the same activities as their peers; they may just need to approach things in a different way.

Did you know that Chime offers support, advice and information? Contact your local centre



Your Support Team

THE REFERRAL PATHWAY

Each child is unique and there may be different access points and diversions on your journey ahead. This section will give you a general outline of each professional you may meet and a brief explanation of their role.

For newborn babies, the first contact will be with the Newborn Hearing Screening Programme in the maternity hospital. They will make a referral to the HSE Community Audiology services if your child does not pass the hearing screen.

For older children, initial hearing concerns are often raised at the Schools Health Screening in Junior Infants. This is conducted by the Public Health Nurses.

Sometimes parents themselves have some concerns around their child's hearing and may have attended their GP.

Any of these pathways can result in a referral to your local HSE Community Audiology team.



Your Support Team

AUDIOLOGIST

The Audiologist is the person who diagnoses hearing loss. They give you information on the type and level of hearing loss and where appropriate, fit your child with hearing aids and moulds. The audiologist will monitor your child's hearing loss as they get older. Audiology services and hearing aids are provided free of charge up to the age of 18 years, or for students until they leave college.

When your child receives their diagnosis, the Audiologist will seek your consent to make referrals to the rest of your support team.

They will refer to the Visiting Teacher service and paediatrician and inform your PHN and GP. Children who have middle ear disorders may be referred to an ENT Consultant. Those with a severe/profound loss may be referred to the Cochlear Implant Team at this point.

The Audiologist will have informed you about or referred you to Chime services. Parents are also welcome to make contact with Chime directly.

HSE community audiology services provide care for all children up to 18 years or older in full time education



SPEECH AND LANGUAGE THERAPIST (SLT)

The role of the Speech and Language Therapist is to assess your child's speech and language development and to offer advice and support to parents. They work directly with your child to facilitate the development of spoken language and good communication skills.

Some parents explore other speech and language early intervention programmes such as the Hanen programme. Your Speech and Language Therapist can always discuss ways you can help progress your child's language at home.

HANEN PROGRAMME

'It Takes Two to Talk' is a programme for early intervention years (from birth to age five). Parents of children identified with a language delay are shown practical strategies to help their children learn language naturally throughout the day. Hanen courses are often run by local HSE speech and language teams.

AUDITORY VERBAL THERAPY

This specialist early intervention programme is currently only available privately in Ireland, however, voluntary organisation Our New Ears can subsidise sessions for parents. Auditory Verbal Therapy is carried out through play-based therapy sessions with a focus on the child developing a listening attitude so that paying attention to sounds becomes an automatic skill. Sessions also aim to equip parents with the skills to maximise their child's speech and language development.

Your Support Team

PAEDIATRICIAN

A paediatrician is a specialist medical doctor who works with children. The paediatrician can help to investigate if there is an identifiable reason for your child's hearing loss. The paediatrician may perform a number of tests such as blood tests, ECG, MRI scan, urine testing and make a referral for genetic testing. The paediatrician will also monitor all aspects of your child's development.

VISITING TEACHER

The National Council of Special Education (NCSE) provides Visiting Teachers (VTs) for Deaf/Hard of Hearing children. They specialise in working with you and your child from the time of referral through to the end of post primary education. They work in partnership with parents to provide information on communication options, language development, choice of school, use of assistive technology and amplification equipment.

NATIONAL COCHLEAR IMPLANT (CI) TEAM

This team is based in Beaumont Hospital. They assess children with severe / profound hearing loss to see if they are suitable for cochlear implants. If a decision is reached that your child requires an implant, they offer pre-surgery and post-surgery support.



The National CI Team
is based in Beaumont
Hospital

EAR NOSE AND THROAT CONSULTANT (ENT)

ENT consultants specialise in the health, medical and surgical treatment of the ears, nose, throat and associated structures of the head and neck. Children with a conductive loss are likely to be referred to ENT for further assessment.

GENERAL PRACTITIONER (GP)

Your GP will continue to be involved and will be updated by your audiologist and can be a link to refer to ENT or other services. The GP will support with any applications for allowances and entitlements by filling in the medical section of the form.

PUBLIC HEALTH NURSE (PHN)

Your PHN is employed by the HSE and will carry out development checks on your child from three months to three years. They can support with early referral to speech and language therapy and other support services you require.

THE CORK DEAF ASSOCIATION

The Cork Deaf Association (CDA) has been providing services to Deaf and Hard of Hearing people and their families in Cork since 1966.

The CDA Family Support Service is designed to provide support for families at all stages. Parents/guardians of children who are newly diagnosed with a hearing loss are linked in with a Social Worker for guidance, support and information around entitlements.

Other CDA services for children and families include:

- the Busy Bees parent and toddler preschool group
- the Smiley Club children's summer camp and other children's activities throughout the year
- the Cool Youth Club
- Young Adult Group
- Irish Sign Language and Deaf Awareness classes
- parent coffee mornings and educational training sessions.

Your Support Team

OUR NEW EARS (ONE)

Working in partnership with Chime, ONE is a parent-led voluntarily run organisation. It provides information and services to Deaf/HOH members, their families and hearing care professionals in Ireland. Parents often seek support from their peer group; emotional and practical advice is given by people who share similar experiences.

Raising Deaf/HOH children brings its own unique set of challenges and rewards. The ONE community consists of parents navigating their child's diagnosis of hearing loss together.

ONE works in partnership with parents to pursue their goals. It also advocates and campaigns for better services. You can make contact with them through their Facebook page, Our New Ears.

SHARING THE JOURNEY

Sharing the Journey is an independent organisation established by parents of Deaf and Hard of Hearing children. Their goal is to provide information and support to other parents of Deaf and Hard of Hearing children, regardless of the communication, education and technological decisions they have made or will make for their children.





How we hear

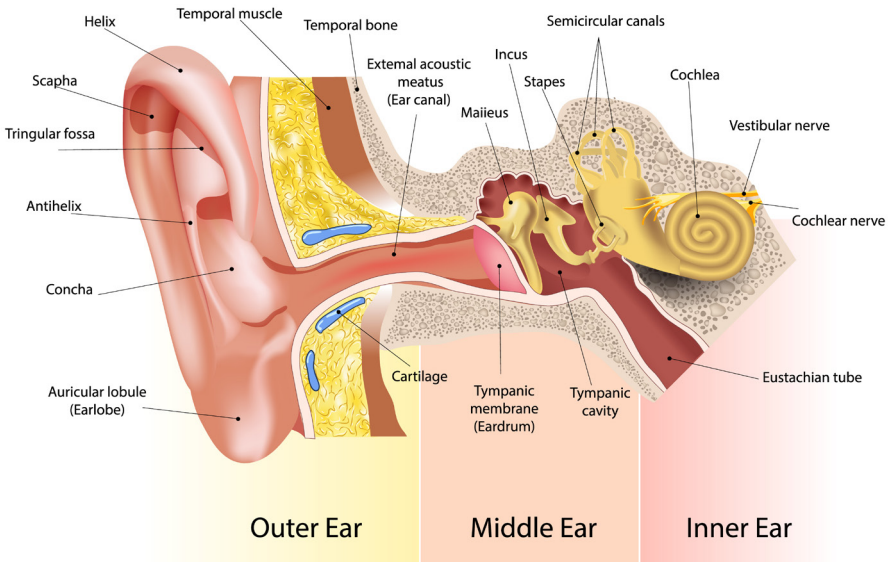
Before we can begin to talk about hearing loss, we must first understand how we hear...



How we hear

The ear is made up of three different sections: the outer ear, the middle ear and the inner ear. These parts work together so you can hear and process sounds.

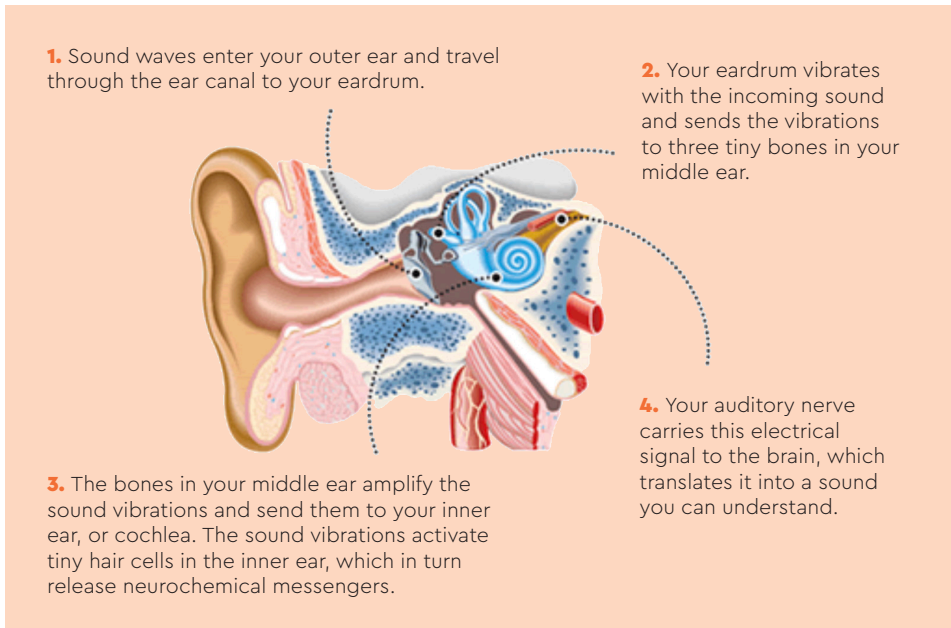
ANATOMY OF THE EAR



How we hear

The outer ear or pinna (the part you can see) picks up sound waves and funnels them down the ear canal towards the ear drum (tympanic membrane). When the sound waves hit the ear drum, they cause it to vibrate. These vibrations cause the three tiny bones in the middle ear to vibrate. These bones are called the ossicles (malleus, incus and stapes, commonly known as the hammer, anvil and stirrup). They conduct sound vibrations across the middle ear, which is air-filled, and on into the inner ear (cochlea). The stapes sits in the oval window and when it vibrates it causes the fluid in the cochlea to move like a wave. This wave travels along the cochlea and causes the sensitive hair cells in the cochlea at a particular point to vibrate. The point at which the hair cells vibrate depends on the frequency of the sound.

The function of the hair cells is to change sound waves into electrical impulses that then travel along the auditory nerve to the brain. A person 'hears' sound when the electrical impulses reach the brain. The hearing pathway is summarised in the diagram below.



Causes of hearing loss

It is not always possible to identify the cause of a child's hearing loss. However, further medical investigations (called aetiology investigations) may determine the cause. Your child's paediatrician is the point of contact for exploring causes of hearing loss.

POTENTIAL CAUSES OF A CONDUCTIVE HEARING LOSS

A common cause of conductive hearing loss in children is persistent middle ear infections that lead to otitis media effusion (commonly known as glue ear). Young children are prone to inflammation of the middle ear (otitis media) because the eustachian tube is less developed and at an angle where bacteria, viruses and other irritants may enter from the nasal passageway. This can lead to middle ear infections that in turn can result in fluid in the middle ear thickening (otitis media effusion), affecting the functioning of the middle ear.

Some infants are born with a maldevelopment or non-development of the ear canal called atresia. It can either occur on its own or along with other abnormalities involving the head and neck. It most commonly occurs on one side, but can occur on both sides and can cause a permanent conductive loss. Other causes of conductive loss can include frequent colds and flu, foreign bodies in the ear and trauma to the ear or head.



Causes of hearing loss

POTENTIAL CAUSES OF A SENSORINEURAL HEARING LOSS

Congenital hearing loss (which is present from birth) can have a range of causes such as events arising from pregnancy or birth. Examples include prematurity, lack of oxygen, intrauterine infections, including rubella, CMV or genetic factors. In some cases, the causes may not be known. Sensorineural hearing loss is also a natural part of the ageing process and can also be caused by exposure to loud noise for extended periods of time. Other causes include viral infections of the inner ear, measles, mumps, chickenpox, head injuries, Ménière's disease (abnormal pressure in the inner ear). Certain drugs may have a toxic effect on the sensitive structures of the inner ear and can cause sensorineural hearing loss.

HEREDITARY CAUSES OF CONGENITAL HEARING LOSS

Genes contain the instructions that tell the cells of people's bodies how to grow, connect and work. The instructions in genes control what colour a person's eyes will be or how tall they grow. There are many genes involved in hearing. The cochlea is a very complex and specialised sensory organ that needs many instructions to correctly guide its development and function. These instructions come from genes. Changes in any one of these genes can result in hearing loss.

Occasionally a gene does not develop in the typical manner; this is called a mutation. Some mutations run in families and others do not. If more than one person in a family has hearing loss, it is said to be "familial". About 70% of all mutations causing hearing loss are non-syndromic, meaning the person does not have other symptoms. About 30% of the mutations causing hearing loss are syndromic, meaning the person has other symptoms besides hearing loss.

Of the children with genetic causes of their hearing loss, approximately 20% have other associated findings along with their hearing loss. These include Usher's Syndrome, Treacher Collins Syndrome and Down Syndrome.

(reference <https://www.cdc.gov/ncbddd/hearingloss/genetics.html>)

NON-HEREDITARY CAUSES OF CONGENITAL HEARING LOSS

These contribute to approximately 25% of infant hearing loss. They include: maternal infections such as toxoplasmosis, rubella, cytomegalovirus or herpes simplex or zika virus. Exposure to different types of drugs and medications (e.g anti-cancer drugs) during the early stages of pregnancy when the infant's ear is forming can be risk factors for hearing loss.

CYTOMEGALOVIRUS (CMV)

About 60,000 babies are born every year in Ireland. Between 150 to 450 are born with congenital Cytomegalovirus (CMV). If you are pregnant and you get CMV it may be a concern, because the infection can be passed to your baby. Most babies born with CMV won't develop any long-term problems but a small number will. It is the most common non-genetic cause of deafness in Ireland. If you have concerns that your infant/child may have congenital CMV (e.g., hearing loss suspected or confirmed) contact your care provider or infant paediatrician via your maternity hospital, who can refer to the appropriate service to arrange accurate testing to confirm or rule out the diagnosis. Ideally this should be done as early as possible (reference www.hse.ie)

PREMATURE INFANTS

Premature infants and infants with birth complications who spend more than 48 hours in a Neonatal Intensive Care Unit (NICU) have a higher risk of hearing loss.

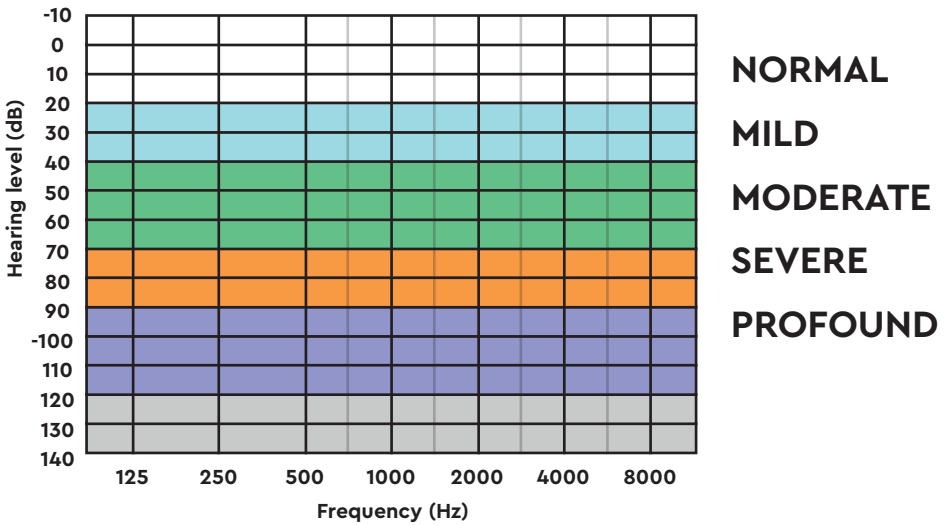
Levels of hearing loss



Your audiologist will explain your child's hearing loss using an audiogram. Let's find out what that is

Levels of hearing loss

Your audiologist will explain your child's hearing loss using an audiogram like in the diagram below. It may be helpful to plot your child's hearing loss on this diagram to illustrate your child's levels of hearing loss.



Levels of hearing loss

NORMAL

On average the quietest sounds heard by children with their stronger ear are up to 25 dB.

MILD HEARING LOSS

On average the quietest sounds heard by children with their stronger ear are between 26 and 40 dB.

The effects of a mild hearing loss are most noticeable when:

- someone is speaking at a distance
- the environment has a lot of background noise
- the speaker talks quietly.

In these situations a person with a hearing loss may not be able to understand the conversation. Younger children may not be able to 'overhear' or 'listen in' to other conversations and miss out on information in this way. Also quiet sounds in speech such as 's' and 't' at the end of words may be more difficult for younger children to hear properly.

MODERATE HEARING LOSS

On average the quietest sounds heard by children with their stronger ear are between 41 and 70 dB.

People who have a moderate hearing loss have difficulty keeping up with conversations when not using a hearing aid. Most conversation is spoken at around 65 dB and will only partially be heard by someone with a moderate hearing loss who is not using hearing aids. The quiet parts of speech, such as word endings and certain consonant sounds such as 'f' or 'ch', will not be heard at all without hearing aids.

SEVERE HEARING LOSS

On average the quietest sounds heard by children with their stronger ear are between 71 and 90 dB.

Conversational speech (c. 65 dB) will not be audible to a child with a severe hearing loss. Children with severe hearing loss will benefit from hearing aids but many also rely on visual clues and lip reading to help with understanding conversation.

PROFOUND HEARING LOSS

On average the quietest sounds that can be heard by children with their stronger ear are at 91db or more.

Conversational speech without hearing aids will not be audible to a child with a profound hearing loss. Children who have a profound hearing loss may benefit from powerful hearing aids or may be suitable for a cochlear implant. Families may decide to communicate with their child using speech only, sign language only, or a combination of sign language and spoken language.

Audiograms: understanding sound, frequency and volume

READING AN AUDIOGRAM

The audiogram is a graph on which a person's ability to hear different tones (frequencies or pitch) at different volumes (intensities) of sound is recorded.

MODES OF TESTING

The standard hearing test is called 'pure tone audiometry'. Different types of earphones can be used to present sounds to the ears in different ways.

- **Air conduction** is what your child can hear when sounds are passed through their external and middle ear. This can be measured by playing sounds through loudspeakers, which tests the better hearing ear. It is preferable to use earphones that either go over the ears or that can be placed in the ear canal, as this means each ear can be assessed separately.
- **Bone conduction** vibrates the bone behind the ear to bypass the outer and middle ear in order to stimulate the inner ear directly. A headband with a small vibrator is placed at the back of the ear so that sound vibrations can pass directly to the inner ear.

By comparing the results of the air and bone conduction tests, the audiologist or ENT specialist can determine whether the hearing problem is a conductive or sensorineural hearing loss and the degree of hearing loss.

SYMBOLS USED IN AUDIOGRAMS

Left ear air conduction, represented by a red **X**

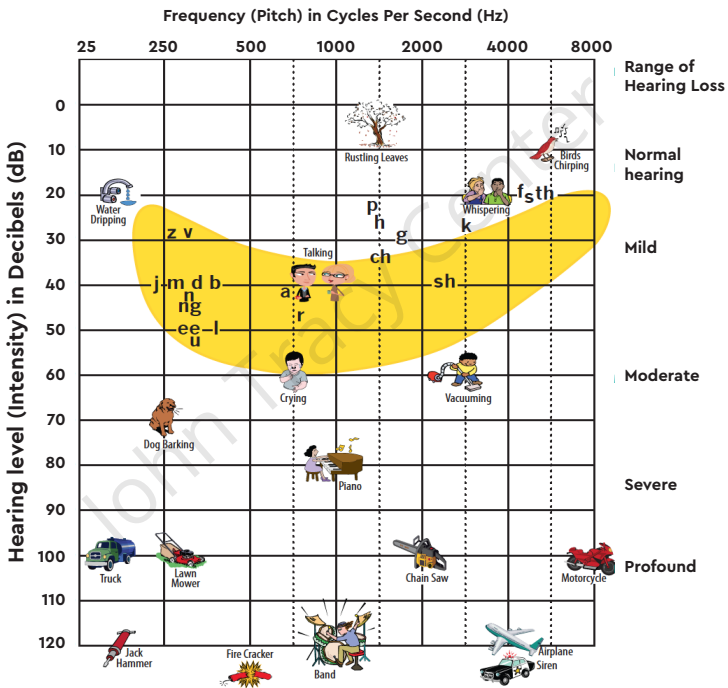
Right ear air conduction, represented by a blue **O**

Bone conduction, represented by a **△**

A hearing loss may be unilateral (affecting one ear, also called single-sided deafness or SSD) or bilateral (affecting both ears).

UNDERSTANDING SOUND AND VOLUME

Most sounds are made up of different frequencies; these give the sound its pitch. Frequency is measured in Hertz (Hz), as is shown across the top of the audiogram. Speech is made up of different frequencies from low pitch sounds (250Hz) up to high pitch sounds (4000Hz). High frequency speech sounds include 's' and 'f'. Loudness is measured in decibels (dB) and is shown vertically on the left column in the diagram below. The sounds get louder as you move down the column. The diagram shows how loud some everyday sounds can be.





Hearing screening and audiological tests

UNIVERSAL NEWBORN HEARING SCREENING PROGRAMME

Since November 2013, all babies born in Ireland and eligible will be offered a newborn hearing screening at birth. The hearing screening uses sensitive equipment to automatically measure responses from the baby's hearing system. This means that children born with hearing loss are usually diagnosed by three months of age.

The aim of the screening is to identify all children born with a moderate or greater congenital unilateral (one ear) or bilateral (two ears) permanent childhood hearing loss. This is much earlier than was previously possible and means that children with a hearing loss and their families can benefit from earlier support and intervention.

International research shows that early diagnosis of hearing loss, combined with quality family-centred support programmes, results in hugely improved life outcomes for Deaf and Hard of Hearing children that are on a par with their hearing peers.

A two-stage hearing screening programme is provided for newborn babies in Ireland; more information and leaflets in different languages can be found on the HSE website.



Hearing screening and audiological tests

AUTOMATED OTOACOUSTIC EMISSIONS (AOAE)

An Automated Otoacoustic Emissions (AOAE) test is the first test in the Newborn Hearing Screening Programme and is usually carried out in the hospital. Otoacoustic emissions are weak sounds generated by the movement of the outer hair cells of the cochlea in response to sound stimulation. In this test, the emissions, often called echoes, are measured by a sensitive microphone recorded from the ear canal. This is a simple, quick and non-invasive test that gives immediate results. Your baby stays with you at all times and is usually relaxed or asleep when the test is carried out. Most AOAEs are completed in maternity hospitals before mother and baby are discharged.

If the AOAE records a complete response, the baby has satisfactory hearing. Where the test does not produce a complete response it does not mean that the baby definitely has a hearing loss. For example, it is possible that the environmental conditions were not good at the time of the test, or that the baby was too active. The hearing screener may repeat the AOAE test or refer your baby for a further test called an Automated Auditory Brainstem Response (AABR) test which gives further information.

AUTOMATED AUDITORY BRAINSTEM RESPONSE (AABR)

An Automated Auditory Brainstem Response (AABR) screen measures neurological (electrical) responses from your child's hearing nerves and brain to a single level of sound. It is performed when well babies do not have a complete response to the AOAE screening test. It is also completed routinely with babies who have had more than 48 hours in the Special Care Baby Unit, as these babies can be at a higher risk of having a hearing loss. The screener places sensors on the skin, one on the forehead, a shoulder, and the back of the baby's neck. At this stage, sound is sent to the ear via an ear muff and the sensors pick up the brain activity in response to the sounds.

The test will give one of two results, a 'complete response' that indicates the hearing is satisfactory; a 'no complete response' that means that the result is still not clear and that the baby will need to be referred on for a more comprehensive audiological assessment to an audiologist. If the baby records a complete response, the hearing screener will check with the baby's mother if there are any risk factors that may be associated with late onset hearing loss. If there are, the baby will be put on a waiting list to be seen at around nine months of age in the HSE Community Audiology Services for further hearing assessments.



Hearing screening and audiological tests

EARLY ASSESSMENT CLINIC AUDITORY BRAINSTEM RESPONSE (ABR)

This test is more detailed than the AABR test used in the hearing screening programme and is completed by an audiologist. The audiologist will use a range of intensities and, if required, frequencies of sound to measure your child's responses, the results of which are analysed on the computer and assessed. This test needs to be completed when your child is completely asleep and relaxed so that the results are not affected by movement or noise from the baby. The audiologist aims to perform this test with babies referred from the NHSP as early as practicable to maximise the time window when the baby is likely to sleep for the duration of the test, typically before three months of age.

Older babies and toddlers who are referred for an audiological assessment will have age-appropriate hearing assessments.

OTOSCOPY

This test involves looking into your child's ear canal with a special magnifying torch called an 'otoscope'. This is to check for wax, blockages or any problems with the ear canal or eardrum that need to be taken into account before proceeding onto other tests.

The HSE Community Audiology website explains these tests in detail and also gives some practical advice to parents attending with their children.

Hearing screening and audiological tests

VISUAL REINFORCEMENT AUDIOMETRY (VRA)

This test relies on the toddler's response to sounds and is carried out at the audiology clinic in a sound-proof booth, typically at around nine months of age. Your child sits on your lap and you are positioned between two loudspeakers. The audiologist produces a range of different intensities and frequencies of sound through the speakers and your child is shown how to respond to what they hear by turning towards the speaker and toy reinforcer.

Once they have responded, your child is rewarded with the movement or lighting up of an animated toy, which maintains their interest during the test. The purpose of this test is to determine the lowest volume at which your child responds consistently to a variety of sounds but it does not give specific information about each ear, as the sound from the speakers goes to both.

More detailed assessment is obtained using either headphones or insert earphones to get information for each ear separately or the use of the bone conductor to determine if the problem lies within the cochlea or middle ear.

CONDITIONED PLAY AUDIOMETRY

This test involves your child listening to a range of intensities and frequencies of sound. The test is suitable for children who are too old to respond consistently to VRA. Again it can be performed with sound from different earphones to build up a picture of the child's hearing ability. This test uses a play scenario to obtain a response.

The child has to wait until a sound is heard and then performs an activity such as placing a peg in a hole or dropping a block into a bucket.



TYMPANOMETRY

This is an automated test to assess middle ear function. It measures the movement of the eardrum in response to a change in pressure and produces a graph. During this test, a small rubber tip is inserted in the ear and your child will feel a slight pressure change. The sensation is a little like going up and down in an airplane, which causes a bunged-up type feeling in the ear.

Hearing screening and audiological tests

DIAGNOSIS OF OLDER CHILDREN

It is important that parents continue to be vigilant even though their child's hearing has been confirmed as satisfactory by the Newborn Hearing Screening Programme. Hearing loss can occur in early or late childhood and the cause may be known or unknown. Causes of acquired hearing loss include meningitis or a serious accident. Such children will not be diagnosed through the Newborn Hearing Screening Programme. If you are concerned about your child's hearing at any stage, talk to a health professional about your concerns.

The childhood hearing checklist is available on the HSE website.

Visit
www.hse.ie/services





Types of amplification: hearing aids



BEHIND THE EAR (BTE) HEARING AIDS

These hearing aids are worn behind the ear and are connected to a custom made silicone or acrylic ear mould that fits inside the outer ear. The components are held in a case behind the ear. Sound is picked up by the microphones, is amplified within the digital processing system and travels through the ear mould into the ear.

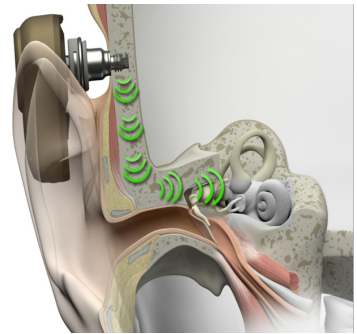
If your child's hearing loss is in the mild-moderate range, an open fitting type hearing aid may be recommended. This still includes a BTE aid. Instead of using an ear mould, a very thin tube passes the sound into the ear canal and this is held in position by a small dome.

BONE-ANCHORED HEARING AIDS (BAHA)

The first type transmits sound from the processor to the implant through a connector that crosses the skin. This is called a percutaneous system.



The second type transmits sound from the processor to the implant through the skin using internal and external magnets. This is called a transcutaneous system.



Children being considered for a BAHA can have a trial using a test BAHA on a headband (called a softband). This allows parents, the visiting teacher and the audiologist to see how the child is responding. For young children, the softband may be the best option until the child is old enough to undergo surgery for the BAHA.



Hearing aid maintenance

EAR MOULD

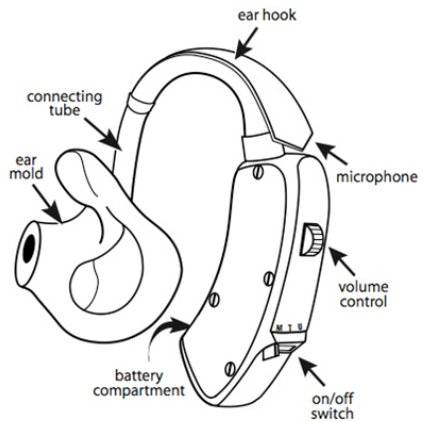
As your child grows, the ear mould will not fit as well; any whistling sound is the sound leaking out of the ear. As your baby grows, you may also need to make extra appointments to have new ear moulds made. You may need to bring your baby to the clinic for a new ear mould impression every two to three weeks in the first few months of their life.

If wax becomes stuck in the ear mould, you can remove it from the hearing aid and wash gently and use the wax brush or puffer to remove debris in the mould.

PAEDIATRIC HEARING AID CARE KIT

This kit can be helpful in maintaining your child's hearing aid and contains:

- paediatric clip HI holder
- drying capsules
- battery tester
- stickers
- phonak air puffer
- drying beaker
- listening tube.



MOISTURE BUILD UP

If your child likes putting the hearing aids in their mouth, it can be a good idea to place it in a drying tub at night to remove moisture build-up.

REPAIRS

For minor hearing aid repairs Chime can help with cleaning and changing the tubing. However for technical repairs and for replacement ear moulds you will need to contact your local Audiology team.

BATTERY

A paediatric hearing aid will have a safety latch on the battery compartment so it can seem tricky to open. Batteries can last up to five days but it is important to check them regularly using a battery-tester or alternatively, by turning the hearing aid on in a cupped hand, you should be able to hear some feedback to reassure you that the hearing aid is on and working. When the hearing aid is not in use leave the battery compartment open to save the battery power.

Chime can help with some minor repairs and tubing





Types of amplification: cochlear implants

A cochlear implant (CI) is a highly sophisticated electronic device that provides a hearing sensation for people with a severe/profound hearing loss. It replaces the function of the damaged inner ear (cochlea) by electrically stimulating the hearing nerve (also known as the auditory or VIIIth nerve) to produce a sensation of sound. It can give awareness of everyday sounds and facilitate the development of spoken language.

The cochlear implant consists of both internally implanted and externally worn components. The internal device consists of a receiver, stimulator and electrode array, which is inserted into the cochlea by the ENT surgeon.

1. Magnet
2. FM Receiver
3. Electronic package
4. Electrode array
5. Reference electrode

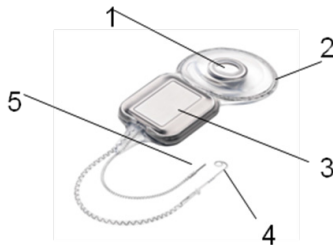


Figure 1:
The Nucleus
cochlear implant

The external part of the equipment consists of a battery driven sound processor and a transmitting coil and cable. The external sound processor is fitted and activated about four weeks after surgery and until then, no hearing sensation occurs.



Figure 2:
The Nucleus 7
sound processor

Types of amplification: cochlear implants

HOW DO YOU HEAR WITH A COCHLEAR IMPLANT?

The ear level microphone **(1)** picks up sound which is then sent to the sound processor. The sound processor converts the sound information into an electrical signal. This information is then sent to the transmitting coil **(2)**, and crosses the skin to the internal receiver stimulator via radio signal. This signal is then decoded to determine which electrodes should be stimulated and at what level of stimulation. The appropriate electrodes in the cochlea **(3)** are stimulated and they send electrical impulses to the auditory nerve **(4)**. The auditory nerve sends the signals to the brain where they are interpreted as sound. This whole process happens at the same speed as normal hearing.

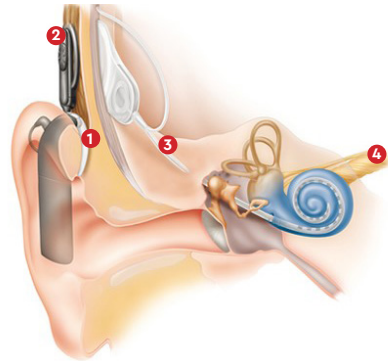


Figure 3: Transmission of sound using the cochlear implant



The external parts of the implants can be removed at any time, for example, when sleeping. When they are removed no hearing sensation occurs. A cochlear implant does not restore or create normal hearing. Instead, under the appropriate conditions and with the right supports, it can give useful auditory information to support listening and spoken language development. For young congenitally Deaf children, early fitting of cochlear implants, ideally close to the first birthday, has been shown to be crucial for the development of good spoken language.

Which children will benefit from a cochlear implant?

Children are considered for implantation if the following criteria are met:

- bilateral severe/profound sensori-neural hearing loss
- aged under five years if spoken language has not developed
- ideally children born with a severe/profound hearing loss who have not acquired spoken language should receive their cochlear implant before the age of five. Otherwise it becomes increasingly difficult for the child to make sense of the new auditory sensation, and to learn to listen and talk. If the child has already acquired spoken language age is not a factor
- limited auditory speech perception ability
- have parents who understand the long-term commitment involved in cochlear implantation and will ensure attendance at the National Hearing Implant & Research Centre (NHIRC) for ongoing management
- have local professionals who support the process of cochlear implantation and will provide consistent oral/aural input whatever the educational or communication setting
- appropriate inner ear and hearing nerve anatomy as shown on MRI scan.

Children with additional disabilities or complex needs are also considered for cochlear implantation.



Ask your support team if you have any questions

How does someone receive a cochlear implant?

In Ireland, the National Hearing Implant and Research Centre (NHIRC) is based in Beaumont Hospital and the Children's Hospital Ireland at Temple Street, Dublin. A detailed assessment is needed to establish whether cochlear implantation is likely to benefit your child. The assessments are carried out by the multi-disciplinary team at the NHIRC. Each child is assessed individually and all factors that may affect outcomes are considered. As parents, you need to be aware that not everyone benefits to the same degree from cochlear implants. The NHIRC team will discuss this in detail with you during the assessment phase.

Referrals are accepted from ENT consultants, GPs and audiologists, and must include an up-to-date audiogram.

Cochlear implantation involves a surgical procedure. The decision to receive a CI should involve a lot of discussion with the NHIRC. Some people may choose not to have a cochlear implant for a variety of personal reasons. Although cochlear implantation is almost always a safe surgical procedure there is a small risk of complications, as with any surgical procedure. It takes time to learn to interpret the sound sensation from a cochlear implant and longer for spoken language to develop. A commitment to attend appointments at the NHIRC is important, as is a commitment to support your child in everyday life to learn to listen and develop spoken language to the best of their potential.



Tips to help your child to wear hearing technology

Babies can often adapt well to hearing aids initially, but when they reach the really important developmental stage of learning to use their hands, the aids can continuously wind up in the mouth. This can be a frustrating time and some parents have used the items below.

CAPS AND BONNETS

Some parents use little cotton 'caps' that come down over the baby's ears and tie under the chin. Once the cap is made of cotton it will make very little difference to the sound reaching the hearing aid microphones.

HEADBANDS

Headbands are a convenient, comfortable and easy to manage solution for keeping technology on. They are usually adjustable to size.

Some examples of these include:

Hearing Henry: These can be used with cochlear implants to keep technology snug and secure. They can be purchased from the online Chime shop and posted to your home.

Rubybands: These can be made to order for cochlear implant, hearing aid or bimodal users. They are made in Ireland; to purchase see www.rubyband.com

DOUBLE-SIDED OR "TOUPE" TAPE

You can get tape made for use on skin that will hold the hearing aid firmly against your baby's head. This can be purchased from the online Chime shop and posted to your home.

CLIPS

Hearing aid clips have lightweight cords that attach to the hearing aids and clip onto the back of your baby's vest or top. This prevents the hearing aids from being lost and makes it more difficult for your baby to get the hearing aids into their mouth.

For older children, it can take some time to establish a pattern where your child wears their hearing technology as part of their daily routine. However, consistency and perseverance will pay off! Wearing hearing technology for ten to 12 hours a day will reap rewards in terms of your child's language development. You know your own child best and will learn from practice what is going to work.

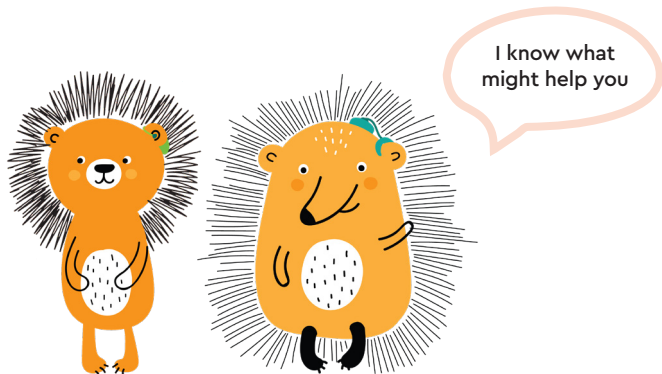
Tips to help your child to wear hearing technology

SOME IDEAS THAT MAY HELP

Make putting on the hearing technology part of your child's morning routine. When your child is ready you can support them to complete this task independently (under supervision). Some children might like to have a special decorated box to keep their hearing technology in.

A useful strategy can be introducing the hearing technology when your child is engaged in their favourite activity and then stopping the activity when the technology is taken off. Give your child a chance to settle and to engage in another activity they enjoy and then re-introduce the technology and follow the pattern as above. The aim is that the length of time they are wearing their technology will start to build up (even if it starts with small blocks of time as short as five to ten minutes).

As hard as it can be at times, it does help to try and remain calm and to maintain a positive attitude towards the hearing technology; it's also important to give praise to your child for keeping their hearing technology on. Star charts can work very well with some young children if they are at a level where they can understand the concept.



An older child might be curious about how the hearing technology works and may like to try to take it apart. In such a scenario it might be helpful to explain the different parts and how they work to help satisfy curiosity, then reinforce the message that the hearing technology needs to be worn.

When your child is wearing their hearing technology it might be beneficial to highlight the noticeable benefits of being able to hear better in different situations. This can potentially motivate your child to wear their technology more if they start to recognise the benefits.

The hearing aid may produce a whistling sound when your baby is lying down or leaning. This is called acoustic feedback and is a common problem for newborns. It happens because the ears are small and soft and your baby spends a lot of time with their ear pressed against a surface, such as when sleeping or feeding.

If your child is experiencing feedback (whistling sound) from their hearing aids it is important to liaise with your audiologist to check the ear mould fitting, as this may cause discomfort that will make your child reluctant to put them on.



How to check your child's technology is working

The Ling Sounds are different sounds from low to high pitch. You can use them to check that your child is hearing the range of speech sounds needed to learn language. When your child is using a cochlear implant, BAHA or hearing aid, the following process can be used to check that the equipment is working properly.



1. Verify the child's equipment is on and set at the appropriate settings.
2. Younger children can be seated in a high chair. Initially you can sit in front of the child so they can see and hear you until they understand the concept of the game. Once they understand you can sit to the side or behind the child.
3. Hold a book about four inches in front of your face so your mouth is completely covered.
4. Using a normal speaking level, say each of the sounds so that they can be perceived through listening alone.
5. Make sure you are not providing any visual cues such as raising your eyebrows or other facial movements and that the child cannot lip-read.
6. Each of the sounds should be presented for the same length of time without rising or falling pitch.
7. After presenting each sound, wait for the child to respond in a manner that is appropriate for their age. Young children may react but older children can repeat the sound or point to the relevant picture.
8. Present all six sounds at least three times in random order. Vary the length of your pauses. If your child has two hearing aids it can be helpful to check them separately at intervals as well.

Communication

Some children will learn to use speech, some will learn to use sign language and some will use a mixture of both



Communication

There are lots of different ways in which Deaf and Hard of Hearing children can learn to communicate. Some children will learn to use speech, some will learn to use sign language and some will use a mixture of both, also known as 'total communication'. The decision as to how your child learns to communicate is primarily down to what you feel works for you, with guidance from professionals actively involved with your child's hearing loss. Sometimes the mode of communication may change depending on your child's development, as your child's needs may change as they grow older. It is important to choose a method of communication that is going to work best for your child and your family, as the need of every family is different.

Here are some things to consider.

- Choose an option that feels right for your family as no two children or families are alike. Every communication option requires a commitment from your family to help your child learn language. Many people may tell you their method is best. Keep in mind that no one option is best for all children.
- Become knowledgeable about each option so you can make an informed decision. Talk to all of the professionals actively involved with your child's hearing loss. It may also be helpful to talk to other families with children who have a hearing loss who have used a variety of approaches to get different perspectives.
- Monitor your child's progress and remember that alternative communication strategies can be adapted if needed to best suit your child.
- The communication option(s) you choose should allow your child to: communicate with the entire family (siblings and extended family), enjoy meaningful, two-way conversations, know what is going on, express their feelings clearly, join in the world of imagination and play and develop a positive self-identity and healthy self-esteem.

It can be useful to use visual cues when communicating with a child with a hearing loss, such as picture cards, photographs etc. but this system should be used in conjunction with your method of communication and not as a substitute for speech or sign. You should encourage your child to verbalise and/or sign the word in conjunction with showing you the picture.

GOOD LISTENING ENVIRONMENTS

It is important to be mindful of creating a good listening environment when communicating with your child, while also remembering it is natural to have background noise in any home. Children may enjoy listening to music and some everyday sounds; this is a normal part of everyday life and it is important that you don't feel you should avoid noise totally. However at the times you are focused on supporting your child with optimal listening conditions, ways of supporting this include:

- keeping background noise to a minimum when possible
- good lighting conditions
- maintaining eye contact
- speaking clearly without covering your mouth
- highlighting any changes of topic during conversation
- one person speaking at a time.

Chime can give you
guidance on different
communication methods



What we do for good communication



Do

Be brief
Speak one at a time
Make your point clear
Speak clearly
Stick to one point at a time

Keep still
Illuminate your face
Maintain eye contact
Place yourself at an easy distance

Write if you are stuck
Ask if you are communicating okay
Take your time
Persevere

Don't

Shout
Talk too fast
Rattle on and on
Mutter
Change the subject without warning

Place yourself too far away
Smoke or eat while talking
Cover your mouth
Look down or away

Be in a hurry
Be embarrassed
Give up



Education

THE NATIONAL COUNCIL FOR SPECIAL EDUCATION (NCSE)

The NCSE is an independent statutory body established under the Education for Persons with Special Educational Needs Act 2004 with a wide range of statutory functions. The NCSE promotes a continuum of educational provision that is inclusive and responsive, and provides an appropriate education for children and adults with special educational needs. The NCSE does this by providing supports to schools; professional learning and support to school personnel; advice to educators, parents and guardians; undertaking and disseminating research into special education; and by providing policy advice to the Minister for Education and Skills on special education issues.

NCSE's organisational structure comprises five regions: Dublin, North, South East, South West and West. Each region is managed by a Regional Manager, with the support of two Team Managers. Each team within a region comprises Advisors, Special Education Needs Organisers (SENOs) and Visiting Teachers.



VISITING TEACHER SERVICE (VTS)

The Visiting Teacher offers longitudinal support to children, their families and schools from the time of referral through to the end of secondary education. The work of the visiting teacher involves supporting the child, parents, guardian, teachers and other professionals involved with the child. Support may include home visits and school visits, and includes providing information on the development of the child's communication skills, strategies for encouraging language development, supporting teachers and special needs assistants, making recommendations on assistive technologies and contributing to the child's individual education plan.

For further information, and to check the referral process please visit:

www.ncse.ie/visiting-teachers

THE SPECIAL EDUCATION NEEDS ORGANISER (SENO)

Special Education Needs Organisers (SENOs) are appointed by the NCSE to provide direct service to the parents and schools of children with special educational needs.

The SENO provides a service to parents and children through the coordination of the delivery of services between the health sector and schools. This facilitates the inclusion of the child in the school system. The SENO supports parents to make informed decisions around placement options.

For further information visit www.ncse.ie/seno-support-service

Education

STUDENT SUPPORT PLAN

Many people can be involved and consulted in preparing a student support plan. These can include:

- parents
- the principal
- class teacher
- Special Education Teacher (SET)
- Visiting Teacher
- SENO
- student (where appropriate)
- other persons as recommended by the principal.

PRE-SCHOOLS

The Access and Inclusion Model (AIM) is a child-centred model, involving seven levels of progressive support, moving from universal to the targeted, based on the needs of the child and the pre-school provider. AIM is designed to enable children with disabilities to access and fully participate in the Early Childhood Care and Education (ECCE) Programme. The Visiting Teacher will offer a continuum of support to both the child and advice to pre-school staff.

Further information is available on the Access and Inclusion Model website and on www.earlychildhoodireland.ie

MAINSTREAM

Mainstream is a term used to describe regular schools and classes. Most Deaf and Hard of Hearing children attend mainstream schools. The Visiting Teacher is one of a number of professionals who support children in mainstream schools and provides advice and training to teachers and other staff members including special needs assistants (SNA) as appropriate.

The Visiting Teacher models appropriate teaching methodologies and approaches, and advises on the curriculum and social implications of the child's hearing loss. They also make recommendations regarding assistive technology in the classroom as required. Special education resource teaching is provided in line with Department of Education guidelines by a member of the school's special education team. This support may take place on a one-to-one basis, in small groups or as in-class support.

Special education teachers work with the mainstream class teacher and the Visiting Teacher to plan and implement an appropriate programme for the child.

Guides for parents/guardians and students are available at:

- Parental Information A New Model for Allocating Special Education Teaching Support to Mainstream Primary Schools
- Parental Information A New Model for Allocating Special Education Teaching Support to Mainstream Post Primary Schools

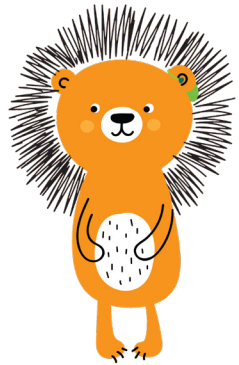
Education

SPECIAL CLASS FOR CHILDREN WITH A HEARING LOSS

The aim of a special class for Deaf children is to allow a child with hearing loss to access the full curriculum in a small class setting with additional supports; where appropriate, they can be included with their hearing peers in a mainstream class setting.

A special class typically consists of up to seven children and is usually facilitated by a teacher trained in working with children with a hearing loss and a level of special needs assistant support. The special class teacher follows the national curriculum in conjunction with the class teacher of your child's hearing peer group.

Special classes
for children with a
hearing loss feature
extra supports



SCHOOLS FOR DEAF CHILDREN

Schools for the Deaf enrol children with mild, moderate, severe or profound hearing loss, the parameters for which are defined in the HSE National Audiology Review 2011:

[www.hse.ie/eng/services/publications/corporate/audiologyre view.pdf](http://www.hse.ie/eng/services/publications/corporate/audiologyre%20view.pdf)

Familial deafness, progressive hearing loss, aphasia or central auditory processing disorders are also taken into consideration. In addition, Schools for the Deaf cater for students who may present with other disabilities in addition to their deafness. A recommendation from a Visiting Teacher for Deaf/ Hard of Hearing Children is required to support the application for school transport services and a recommendation from a Visiting Teacher for Deaf / Hard of Hearing is required to support the application for specialised placement. When special class / school placement is confirmed, an application may also be considered for special transport. This application is made by the school to the local SENO.

The teaching staff follows the national curriculum, delivering it within a small group setting through the form (mode) of communication that meets the needs of the individual student: oral/aural communication, Irish Sign Language (ISL) and Total Communication. Pupils are encouraged to become proficient in both English and ISL. The audiology needs of pupils are fully supported.

Education

SCHOOLS FOR DEAF CHILDREN

Holy Family School for the Deaf, Cabra, Dublin 7, enrolls day and residential students and caters for children from age three years at Early Intervention, Primary and on through the Post Primary school years.

The Mid West School for the Deaf is based on Rossbrien Road, Limerick and enrolls day students only. Students come from Limerick and the surrounding counties with the use of bus transfers. It caters for children from age three years at Early Intervention, Primary and on through the Post Primary school years.





Assistive technology for the classroom

Assistive technology for the classroom is designed to improve the signal to noise ratio, or in other words, to improve the quality of the teacher's voice over and above that of the surrounding background noise. Personal Communication Systems are most suitable for children with severe to profound hearing losses. For children with mild or unilateral hearing losses, Soundfield Systems may be most suitable, and they also have benefits for other students and the classroom teacher.

SOUNDFIELD SYSTEMS

A Soundfield System usually consists of four speakers placed strategically in the classroom, a base transmitter and a wireless microphone for the teacher. When the teacher speaks at a normal conversation level, their voice is amplified through the speakers to the whole class.

The teacher can move about the classroom while talking and this will not affect the level of sound produced by the speakers. It allows your child to have the opportunity to hear equally well wherever they are seated in the room.

When your child starts school you may find that they might have some difficulty hearing/listening in the classroom. This could be because they are in an environment that is prone to background noise such as the scraping of chairs on the floor, rustling of paper and children's voices. Soundfield Systems have been shown to reduce the disruption of background noise in the classroom and improve learning conditions for all pupils.

PERSONAL COMMUNICATION SYSTEMS

Personal Communication Systems, formerly known as FM Systems, provide a direct link between the voice of the teacher and your child's hearing aid or cochlear implant. It consists of a wireless microphone and a receiver attached to your child's aid or implant.

These systems are designed to improve the clarity of the teacher's voice for the child. There are various accessories and mics that can be integrated with the child's hearing aid and personal communication system. One such system is the Roger Touchscreen Mic.

This is a microphone for the teacher to wear around the neck or place on a table to pick up speech from a group of students. It is compatible with most hearing aids, CIs and Soundfield Systems. Other accessories compatible with the Roger Touchscreen Mic include:

- Roger Pass-Around Mic
- Roger Multimedia Hub
- Roger Pen (powerful microphone)

Assistive technology for the classroom

FUNDING FOR ASSISTIVE TECHNOLOGY

The Visiting Teacher makes recommendations for the appropriate assistive technology for the child, throughout their education.

Children in pre-school ECCE can access equipment through the Access and Inclusion model (AIM).

The Access and Inclusion Model (AIM) is a model of supports designed to ensure that children with disabilities can access the Early Childhood Care and Education (ECCE) Programme. Its goal is to empower pre-school providers to deliver an inclusive experience, ensuring that every eligible child can meaningfully participate in ECCE and reap the benefits of quality early years care and education. When formal schooling commences, the school submits an application for the relevant Assistive Technology to the local NCSE SENO.

Often parents seek to use this equipment at home and on school holidays but as the equipment remains the property of the Department of Education this it is often not possible. Sometimes parents choose to privately fund FM systems for use in the home and extra curricular activities.

Assistive technology for the home

Lifetech describes assistive technology used to allow Deaf or Hard of Hearing people to be alerted to smoke alarms, clocks or doorbells. The main adaptation with this equipment is to alert the person with a vibration, a flashing light or a louder sound. Products include:

- smoke and carbon monoxide alarms
- alarm clocks
- doorbells
- TV streamer
- bluetooth mobile phone streamer.

All this equipment is on display and available for purchase from the Chime shop.



Entitlements for families caring for a child with a hearing loss

There are certain payments and schemes that families may be entitled to depending on their situation and the level of the child's hearing loss. These are listed below but for further information or indeed help with completing any of the application forms, contact your local Chime office or go to www.gov.ie

DOMICILIARY CARE ALLOWANCE

This is a monthly payment to the carer of a child with a severe disability whereby the child requires care, attention or supervision substantially in excess of another child of the same age.

Parents in receipt of domiciliary care allowance will also receive a medical card for their child and also the Carer's Support Grant. This grant is payable annually in June.

CARER'S ALLOWANCE

This is a means tested payment for people on low incomes who are looking after a person who needs support because of age, physical/learning disability or illness.

CARER'S BENEFIT

Carer's Benefit is a payment made to insured people who leave the workforce to care for a person(s) in need of full-time care and attention.

In order to apply for either Carer's Benefit or Carer's Allowance for a child under 16 years of age, parents must first be in receipt of domiciliary care allowance.

Entitlements for families caring for a child with a hearing loss

INCAPACITATED CHILD TAX CREDIT

This is a tax credit that can be claimed by a parent/guardian of a child who is permanently incapacitated either physically or mentally. Deafness is one of the qualifying conditions mentioned, however, this does depend on the severity.

HOUSEHOLD BENEFITS

Carers qualifying for Carer's Allowance may be entitled to Household Benefits Package if no one else in the household is in employment.

IRISH SIGN LANGUAGE HOME TUITION SCHEME

The Irish Sign Language (ISL) Scheme is made available to provide funding for a weekly tuition service whereby a tutor visits the home of a Deaf/Hard of Hearing pre-school child or school-going pupil to provide training in ISL for the child, their sibling(s) and parent(s)/guardian(s). The application form is to be completed and submitted to Special Education Section by the parent but sections of the form are for completion by the school principal, Visiting Teacher for the Deaf/Hard of Hearing, and ISL tutor.

Entitlements for families





The importance of reading

Reading develops many skills like expressive language, word understanding, conceptual knowledge, narrative skills and print knowledge. As a parent your involvement in this is key. Interactive storybook reading is one of the most positive things that can be done to develop these skills.

When reading storybooks, we as adults generally use more formal language than the kind we use in daily conversations with children, and many more topics are covered beyond the conversational here and now. There is a strong link to music too, as we read using rhyme, rhythm and repetition which really engages babies and young children.

Through storybook reading, children learn skills on how to handle a book, like reading from left to right, front to back; it also helps you to engage with your child which is when it is most effective. The frequency of reading is also positively related to a child's vocabulary.

Here are some tips for reading with children, and book suggestions for different age groups.

- Be animated through use of mimicry, body posture, voice and signs.
- Follow your child's lead: give the child the opportunity to hold the book and turn the pages.
- Ask questions about the story to promote conversations.
- Introduce the book by discussing the cover.
- Use materials/and or toys: relate the book content to their personal experiences.
- Allow time to observe, process and respond.
- Praise and reinforce.
- Re-read the story again and again and reflect to encourage use of language.

Reading for all ages

BABIES TO ONE YEAR OLD:

For a great start to literacy, engage in play with a book. Choose books with bright colours and bold illustrations.

Ideas: 'Lift the Flap' books: e.g. *Dear Zoo* by Rod Campbell, *Where's Spot?* by Eric Hill, Fiona Watt and Rachel Well's *That's not my (unicorn, bunny, puppy, bat etc.)*

TWO YEARS OLD:

Work on stretching the story and encourage children to listen more carefully.

Ideas: Books by Julia Donaldson, e.g. *Monkey Puzzle*, The Pigeon book series by Mo Willems (e.g. *Don't Let the Pigeon Drive the Bus*, *The Pigeon Finds a Hot Dog*; *The Pigeon Needs a Bath*) and *Owl Babies* by Martin Waddell.

THREE TO FIVE YEARS:

Try longer stories and enjoy some simple chapter books.

Ideas: Books by Oliver Jeffers, e.g. *Stuck*, *The Day the Crayons Quit*, *How to Catch a Star*, *The Way Back Home*, *Lost and Found*; the Hairy Maclary series by Lynley Dodd and books by Dr Seuss.

Children's books referencing hearing loss

Books can be a great way to discuss the topic of hearing loss with your children and explore their feelings around their technology or how they explain their hearing loss to their peers. Here are some suggested books that may help.

BABY TO FIVE YEARS:

Ideas: *Helping a Little Hand to Grow* - Sign Workbook Level 1: Simply Signing; *First Animal Sign Book: Simply Signing*; *Elephant and the Lost Blanket* by Alex Naidoo; *Leo the Lion's Birthday Party* by Mark Mitchell; *Freddie and the Fairy* by Julia Donaldson & Karen George; *My Brother John* and *John Gets Ready for School* by Joanne Zellweger; *Elana's Ears* by Gloria Roth Lowell; *Cathal Can Sign* by Brendan Mooney; *Dachy's Deaf* by Jack Hughes; *Lukie and Harry, His Pet Snake* by Elizabeth Heffernan

FIVE TO TEN YEARS:

Ideas: *Lucky Lucy* Logan by Beng Ling Neoh & Colin Johnson; *A Birthday for Ben* by Kate T Gaynor; *Jake and Jasmine to the Rescue* by Karen Harlow; *What's My Superpower?* by Aviaq Johnston; *I Am Deaf* by Jennifer Moore Mallino

11 TO 15 YEARS:

Ideas: *Hello, Universe* by Erin Entrada Kelly; *El Deafo* by Cece Bell; *The Quest for the Cockle Implant* by Maya Wasserman

Useful contacts

CHIME

Email: info@chime.ie

Call: 1800 25 257

Text: 087 922 1046

CORK DEAF ASSOCIATION

Email: mail@corkdeaf.ie

Call: 021 450 5944

Text: 086 853 5574

OUR NEW EARS

Email:

ournewears@gmail.com

Facebook:

Our New Ears ONE

VISITING TEACHERS SERVICE

Visit: www.ncse.ie

NATIONAL PAEDIATRIC COCHLEAR IMPLANT PROGRAMME

Call: 01 809 2013

Email: cochlearimplant@beaumont.ie

Text: 087 953 5423

HSE AUDIOLOGY

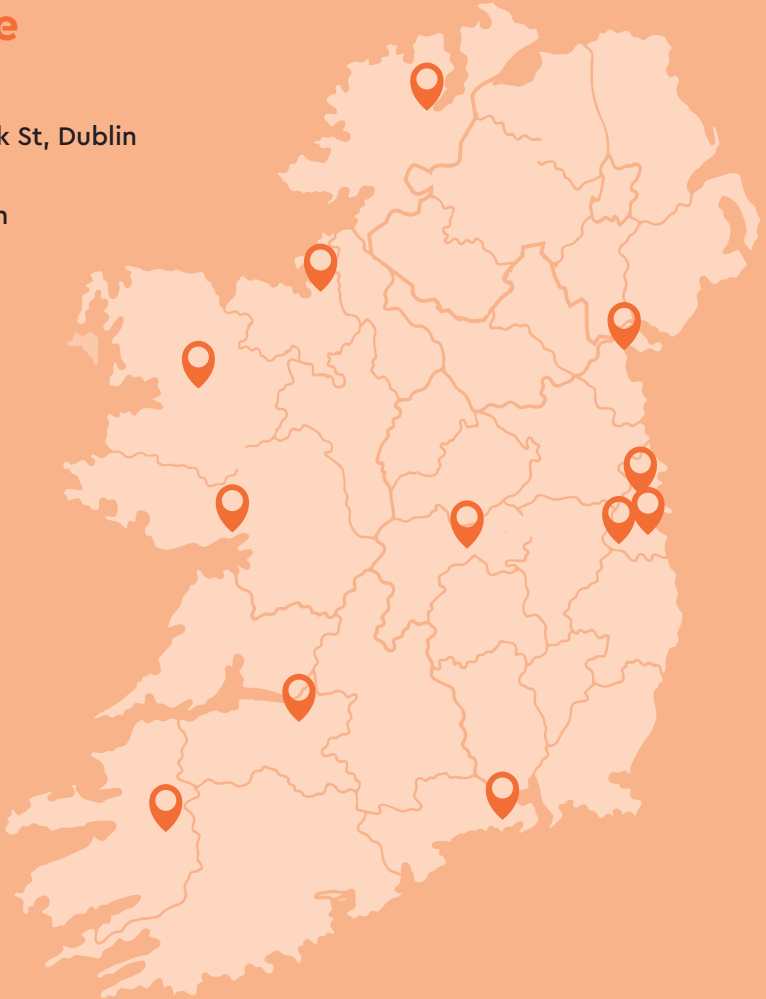
Email:

audiology@hse.ie

Where we are

Resource Centres

- North Frederick St, Dublin
- Cabra, Dublin
- Tallaght, Dublin
- Dundalk
- Tullamore
- Killarney
- Limerick
- Waterford
- Castlebar
- Galway
- Sligo
- Letterkenny



Chime offices can be found in **12 different locations** around Ireland. **Chime outreach clinics** (a free and confidential support service on all aspects of deafness and hearing loss) can be accessed in around 30 nationwide locations on a monthly basis.

See contact details for each on back of booklet.

Glossary

Some common abbreviations explained:

UNHS: Universal Newborn Hearing Screening

AABR: Automated Auditory Brainstem Response

AOAE: Automated Otoacoustic Emissions (this is part of UNHS)

NICU: Neonatal Intensive Care Unit

PCHI: Permanent Childhood Hearing Impairment

BAHA: Bone Anchored Hearing Aid

BTE: Behind the Ear Hearing Aid

ENT Consultant: Doctor specialising in ear, nose and throat

Mild hearing loss: unable to hear sounds below 25-40dB

Moderate hearing loss: Loss level of 41 to 70dB

Severe hearing loss: Hearing loss between 70 and 90dB

Profound hearing loss: a hearing loss greater than 90dB

VT: Visiting Teachers for students who are Deaf/Hard of Hearing

SENO: Special Education Needs Officer

Thank you

The creation of this guide was only possible thanks to the expertise and assistance of our own Chime teams and our invaluable partners — all of whom work tirelessly to provide essential services to children impacted by deafness and hearing loss.

- Our New Ears
- HSE Audiology Services
- National Council For Special Education
- Beaumont Hospital
- Cork Deaf Association
- Holy Family School for the Deaf, Cabra
- Mid West School for the Deaf, Limerick
- Rotunda Hospital
- Chime Social Work & Technology Teams



Your Support Team

CHIME SOCIAL WORK TEAM

Chime has a team of Social Workers based throughout our network of 12 national resource centres. We support families to cope with their diagnosis and adjust to having a child with a hearing loss in the family. We provide support with parenting, behavioral issues, entitlements, information and advice, emotional support, individual work and advocacy. Chime Resource Centres provide a range of activities including parent and toddler groups, family fun days (Easter, summer, Halloween and Christmas). These activities provide a great opportunity to meet other families with a child with a hearing loss.

Chime also provides an EduTech service which aims to ensure that all students have access to the most up-to-date technology in the classroom.

CHIME'S NEWLY DIAGNOSED WEEKEND

Chime holds this information weekend twice a year, typically in March and October. The weekend aims to bring families together from across the country, giving you the opportunity to gain information about supports available from professionals and peers, and incorporates a mixture of workshops, presentations and informal discussions. Childcare is provided while you attend the workshops/ presentations.

REFERRAL FORM

To avail of Chime family support services, please fill in and cut out the Chime Referral Form on the next page.

Referral form

CONTACT DETAILS

Child's name:
Gender:
Parent's name:
Mobile:
Email:
Mode of communication: <input type="checkbox"/> Call & Text <input type="checkbox"/> Text Only <input type="checkbox"/> Video Call

Child's DOB:
Address:
City:
County:
Eircode:

REFERRAL SOURCE

Name:
Telephone:
Email:
Please expand on the reason for referral:

Agency:
Address:
How did you hear about us?

CONSENT

I consent to Chime holding my child's personal information

Parent / Guardian Signature

Date

PLEASE RETURN COMPLETED FORM TO:

Chime, 35 North Frederick Street, Dublin 1, D01 W592

Chime is compliant with General Data Protection Regulations (GDPR). Full details of our Data Privacy Notice are available at www.chime.ie. Should you have any queries/issues please direct them to dataprotection@chime.ie

Notes

Notes



HEAD OFFICE

**THE NATIONAL
ASSOCIATION
FOR THE DEAF T/A CHIME**

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EMAIL: info@chime.ie

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chime

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Deafness and Hearing Loss

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