

hearing & hearing loss



Hearing well is important to your baby's development. If there are any problems in hearing, you need to find them early so that your child can get the help he needs. If children who are born with a hearing loss receive help by six months of age, they have a good chance of learning to talk and communicate as well as children who hear normally.

A baby or child is never too young to have a hearing test. Babies can be tested when they are less than one day old.

ALERT

If a child or adult has a hearing loss that comes on suddenly, he should be seen urgently by a doctor.

Is your baby hearing noises?

Here are some of the ways that you can check whether your baby reacts normally to sounds.

Shortly after birth:

A baby can be startled by a sudden noise such as a hand clap or door slamming, and blink or open his eyes widely.

By one month:

Your baby will begin noticing sudden long sounds, like the noise of a vacuum cleaner. He listens to these sounds when they begin, and notices when they stop.

By four months:

Your baby quietens or smiles at the sound of a voice, even when he cannot see you. A baby may turn his head or eyes towards you if you come up from behind and speak from the side.

By seven months:

Your baby should turn immediately to your voice across the room, or to very quiet noises made on each side of him, unless he is too busy with other things.

By nine months:

A baby listens to familiar everyday sounds, and looks in response to very quiet sounds made out of sight. Your baby should also show pleasure in babbling loudly and tunefully.

By twelve months:

Your baby should show some response to his own name and other familiar words, and may also respond when you say 'no', or 'bye-bye', even when he cannot see you wave.

Hearing loss should be considered in babies who do not do these things.

If you are not sure that your baby is hearing well, have your baby's hearing tested by an expert who has the right equipment.

Older children

Older children who are not hearing well may not talk clearly, they may ask 'what?' or may often need you to repeat what you have said. (Some children who can hear well do the same.)

Responding to speech

- Not responding to things said to her is the most common sign of hearing loss. The child often does not seem to notice that you have spoken to her.
- From about two and a half or three years, the child may ask you to say things again (**‘What?’ ‘Sorry?’ ‘Huh?’**).
- The child may work out what has been said from knowing the situation or because she is very keen to know. However, understanding what is said will require extra mental effort. She will grow tired of trying to listen, and you might think that **‘she can hear if she wants to!’**
- The lack of response may come and go. If the hearing loss is due to ear infections, the child may sometimes hear, but at other times may not hear. Hearing loss in just one ear may give a particularly confusing impression to parents.
- A child who is not yet old enough to understand what is said to her, will also say **‘What?’** and so will a child whose mind is on other things.
- Mild or moderate hearing loss is harder to notice in young children who are not old enough to say **‘What?’** However, a parent may notice that the child needs to search to right and left to find the voice or sound.

Delayed language development

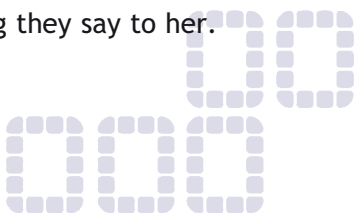
Children who do not hear well may start talking later than other children, use the wrong word, or have unclear speech.

- If the child does not hear a lot of what is said, she will not learn the right way to say words and sentences.
- The child may miss quick, quiet sounds and connecting words (like 'and' and 'the') and leave them out of her own speech.
- The child may leave out some sounds, particularly 's'.

Most children with delayed or unclear speech have normal hearing, but checking hearing is an important part of working out why a child's language skills are delayed.

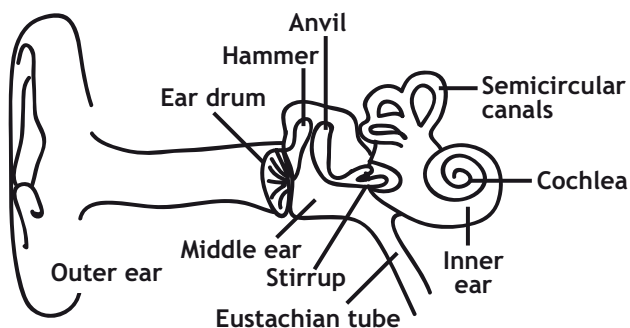
Behaviour problems

- The relationship between child and parents may be affected, because the child may understand what a parent is saying only when the parent speaks in a loud, angry voice.
- The child may be unhappy because she does not understand why people become angry with her.
- The child may become shy and withdrawn, particularly with people she does not know, because she knows she will not be able to understand everything they say to her.



School problems

- If a child does not hear the teacher well, she may not follow instructions well, and be considered either a **'behaviour problem'** or a withdrawn student.
- If the classroom is quiet, the child may hear well enough, but she can have a lot of difficulty hearing one voice when several people are talking.
- If the loss is mild, the child will hear in some situations, or will understand with effort when she is very interested, but only for a short time, so it will seem as if **'she can hear if she wants to!'**



Middle ear problems

Middle ear problems such as infections and 'glue ear' are the most common causes of hearing loss. They affect how the sound is moved (transmitted) from the eardrum to the nerves of the inner ear. These problems usually cause temporary hearing loss.

Middle ear infections (otitis media)

- Middle ear infections in young children may occur when a child gets a 'cold', sinusitis or hay fever - any situation where the nose is blocked and there is lots of mucous.
- The Eustachian tube (a thin tube running from the back of the throat to the middle ear) gets blocked and fluid can build up in the middle ear, creating a feeling of pressure inside the ear. The eardrum and tiny bones which carry sound from the outer ear to the nerves in the inner ear cannot move as well, affecting hearing.
- Sometimes, bacteria get into the fluid that has built up in the ear, causing a middle ear infection. The eardrum can appear red and inflamed, and there might be a build-up of pus inside the ear. This can cause more pressure in the ear and pain for the child and he may be more unwell generally.
- About 10 percent of children who have a cold develop a middle ear infection. Most will clear up without treatment, but antibiotics may speed up recovery and have the child feeling better quicker.

- When a child has a middle ear infection, hearing is often affected for a few weeks until the fluid clears up.

(See the topic ‘Ear infections’)

Glue ear

- If a child has many middle ear infections, fluid may be in the middle ear most of the time. It can get very thick and sticky - this is called ‘glue ear’.
- Some children develop glue ears without having had many ear infections.
- Some children with this middle ear fluid may complain of earache (often at bedtime, when the child lies down) but many do not say that their ears hurt.
- This sticky fluid is slow to clear up and a child’s hearing may be affected for many months, with sounds seeming muffled.
- Glue ear can interfere with language and speech development while the fluid is there.
- Treatments may be offered, such as antibiotics (perhaps repeated courses) or surgery (cutting a hole in the ear drum, sucking out the fluid and putting a small tube (grommet) into the hole).

Wax blocking the ear canals

- Wax protects the lining of the ear canals. In most people, wax gradually works its way out of the ear naturally - it does not usually build up and block the ear canal.
- To keep ears clean, it is only necessary to clean the outer shell of the ear with a soapy finger or wash cloth.
- Poking a cotton bud into the ear canal is likely to push wax deeper into the canal. Do not poke cotton buds into ear canals.
- Wax may sometimes completely block a child's ear canal and cause a hearing loss.
- If wax blocks both ears, the child will not be able to hear very well at all. If just one ear is blocked, the child will still find listening difficult and may not know where your voice or other sounds are coming from.
- If wax is blocking one ear or both ears, it should only be removed by someone who has special equipment and is able to watch what is happening, such as your child's doctor.
- Your doctor may recommend ear drops to soften the wax before it is removed.
- If the child still cannot hear well after wax has been removed, there must be another cause of the hearing difficulty (such as fluid in the middle ear, a more common cause of hearing loss).



Permanent hearing loss

Only one or two children in every 1,000 have significant permanent hearing loss. It is very important for the child's development to identify it and do something about it as soon as possible.

- Permanent hearing loss in children is usually present at birth.
- Less often, it can occur later - e.g. arising from certain infections.
- Permanent hearing loss is usually due to damage to the sound-sensitive nerve endings in the inner ear (the cochlea). This is called '**sensori-neural hearing loss**'.
- Medicines cannot improve this, nor can grommets (tubes).

Causes of permanent hearing loss

- About 50% of permanent hearing loss in children is inherited:
 - this may be due to a 'dominant' gene inherited from one parent (where there is a history of deafness in previous generations)
 - or it may occur when there are two 'recessive' genes, one from each parent, (when there is no deafness in the parents or past generations, but there may be a brother or sister with hearing loss).

- Some permanent hearing losses occur in children who needed nursing in a special or intensive care unit for more than 48 hours after birth (maybe due to a difficult or very premature birth).
- It can occur following meningitis.
- Some are due to virus infections (e.g. cytomegalovirus or rubella) during the pregnancy.

Risk factors

- Increased risk or likelihood of permanent hearing loss is linked to:
 - needing intensive care for two or more days after birth
 - having another member of the family or a near relative with life-long or permanent hearing loss (ever since childhood)
 - babies with unusual shape or features of the head, face, ears or neck.
- Any baby with these risk factors should have a hearing check carried out in the hospital, or as soon as possible after discharge, by a professional.
- Any child who has had meningitis is at risk of permanent hearing loss and should have a hearing test before leaving hospital and again during the next year.



Treatment of permanent hearing loss

If a child cannot hear quiet conversation, he will not learn to talk like other children unless sounds and voices are made louder for him.

How is a child's hearing tested?

Birth to four months:

- The surest way to check the hearing of a newborn baby is to use modern technology to check inner ear function. These tests do not hurt the baby and can be done in just a few minutes when the baby is asleep.
- Inner ear function is tested by the detection of 'otoacoustic emissions', which is sound energy produced when the nerve endings of the inner ear vibrate in response to incoming sound. This sound energy can be detected in the ear canal, which shows that the child has heard the sound. Sometimes it is necessary to wait a week or so for a good result, because of moisture in the ear canal or middle ear following birth.
- This testing is offered in some birthing hospitals in Western Australia.
- From birth, a baby can also be watched for movement around the eyes in response to sudden loud sound. This kind of response shows that there is not a severe hearing loss, but more moderate degrees of loss are still possible - including hearing loss that could affect language development.

Four months to three years:

- A baby starts to turn slowly to quiet voices and other interesting sounds and by seven months most babies turn quickly to very quiet sound.
- Delay of speech or unclear speech in a young child may indicate that he is not able to hear all sounds spoken to him.

From three years:

- A child may accept headphones, which allow each ear to be tested separately.
- The child can be trained to give some kind of sign whenever he hears faint sounds. The child's growing concentration allows hearing measurements to be made with greater accuracy and detail.

Speech tests:

- The child shows at what voice level (i.e. loudness) he can understand spoken words, by pointing to a named picture or toy from 18 months of age, or by repeating a spoken word from about three years.

A child is never too young for a hearing test. There are hearing tests suitable for a child of any age or stage of development. The tests become more subtle and precise as the child gets older.

How 'big' is a child's hearing loss?

Parents often ask 'What percentage has she lost?' Percentage hearing loss is a legal term. It is not a useful way of describing a child's hearing loss. The following ways of describing hearing loss are more useful.

Mild impairment - The child hears and can understand normal conversational voice, but will not follow all quiet speech that others can hear and may often say 'What?'

Moderate impairment - The child does not hear all of normal conversational speech and needs to hear a louder, stronger, aggressively toned response. Some effect on the child's speech development is likely unless the child receives some help.

Severe impairment - The child will not hear any normal conversation and only a few sounds of loud speech.

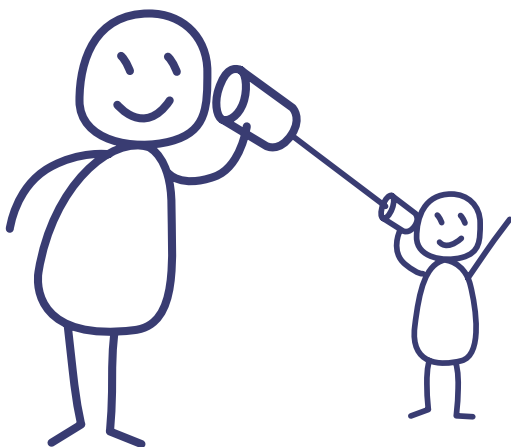
Profound impairment - The child will hear only the loudest noises and may not get sufficient help even from a hearing aid. Insertion of a cochlear implant ('bionic ear') may need to be considered.

Where can a child's hearing be tested?

Checking hearing of a child under five years of age is best done by a specialised children's audiologist.

It is best for a parent to discuss any worries about hearing with the family doctor or the nurse at the local Child Health Centre. The nurse can discuss with you what you have noticed and may be able to do a preliminary hearing check.

If you then decide to seek further hearing tests, talk to your nurse who can support you in getting a referral to an audiologist.



For more information contact:

- Local Community Child Health Nurse
- Local Family Doctor
- Ngala Family Resource Centre Helpline
8.00 a.m. - 8.00 p.m. 7 days a week
Telephone (08) 9368 9368
Outside metro area - Freecall 1800 111 546
www.ngala.com.au
- Parent Help Centre/Parenting Line
Telephone (08) 9272 1466 (24hr service)
Outside metro area - Freecall 1800 654 432

Internet sites:

- Australian Hearing - www.hearing.com.au
- H.E.A.R. (Hearing information service for musicians and music lovers)
www.hearnet.com

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