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## Hearing problems in children

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### Summary

- Causes of hearing problems in children include otitis media (infection of the middle ear), genetic disorders, exposure to loud noise, and certain diseases (such as meningitis).
  - If you have any doubt at all about your baby or child's hearing, have them tested.
  - The earlier a hearing loss is identified, the better for a child's language, learning and overall development.
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It has long been thought that noise-induced hearing loss is a problem for adults, not children. However, research by US Centres for Disease Control and Prevention suggests that over 12 per cent of American children aged between six and 19 years have hearing loss caused by noise, and that the loss is permanent for around five per cent of them.

Around one in five teenagers expose themselves regularly to high-decibel noise (such as rock concerts) and about three quarters of the people who go to nightclubs experience temporary tinnitus or ringing in the ears afterwards. Tinnitus is a known symptom of hearing damage.

Apart from noise, other causes of hearing problems in children include otitis media (infection of the middle ear), genetic disorders and certain diseases (such as meningitis). Around 12 in 10,000 children are born with a moderate or greater hearing loss in both ears, and at least another 20 in 10,000 will need aids for long-term hearing loss by the age of 17 years.

If you have any doubt at all about your baby or child's hearing, have them tested. The earlier hearing loss is identified, the better for the child's language, learning and overall development.

### Causes of temporary hearing loss in children

Some of the causes of temporary deafness in children include:

- build-up of wax in the ear canal
- a foreign object (such as a bead or the tip of a cotton bud) stuck in the ear canal
- excess mucus in the Eustachian tube, caused by a cold
- otitis media (infection of the middle ear).

### Causes of permanent hearing loss in children

Some of the conditions and events that may cause permanent hearing loss in children include:

- hereditary conditions that cause the inner ear to develop abnormally
- some genetic disorders, such as osteogenesis imperfecta and trisomy 13
- exposure of the unborn baby to disease – rubella (German measles) is one of the diseases that can affect the developing ears of the fetus
- loud noises, such as firecrackers, rock concerts or personal stereos
- injuries, such as concussion or skull fracture
- certain diseases, such as meningitis and mumps.

### Signs that your baby can hear

Indications that your baby can hear include:

- newborn to eight weeks of age – startles or widens their eyes at sudden noises nearby, and is woken or stirred from sleep by noise

- eight weeks to four months – looks towards direction of sound, and may quieten while listening
- six to 12 months – turns head towards known voices or sounds, starts to babble
- 12 to 18 months – knows the names of favourite toys, begins to imitate simple words and sounds
- 18 to 24 months – has a small vocabulary of single words, and can understand simple directions such as ‘Give mummy the ball’
- two-and-a-half to three-and-a-half years – has clear speech with a good vocabulary.

### Signs of hearing problems in older children

Some signs that your older child may have trouble hearing include that they:

- don't respond when called
- have a dip in school grades (because they can't hear the teacher)
- complain of a ringing sound in their ears (tinnitus)
- talk too loudly
- watch the television with the volume turned up too high
- pronounce words incorrectly
- appear inattentive and prone to daydreaming.

### Diagnosis of hearing problems in children

If you have any doubt at all about your baby or child's hearing, have them tested. The type of tests used to diagnose hearing loss depends on the age of the child, but can include:

- objective tests, such as auditory brainstem response testing, which measure the electrical activity in the brain in response to a sound
- simple tests such as shaking a rattle nearby and observing the child's response (behavioural observation audiometry)
- tests with an audiometer – a machine that produces sounds such as beeps and whistles. Whether or not the child can hear certain sounds helps to pinpoint their degree of hearing loss
- using Sound Scouts, an Australian-invented, online game app test for children.

### Treatment for hearing problems in children

Treatment depends on the cause and severity of hearing loss, but can include:

- antibiotics for otitis media
- removal of the foreign object or wax plug
- hearing aids to amplify sounds
- a cochlear implant may be considered in the case of severe or profound hearing loss
- vibrotactile aids, which translate sound into vibrations felt through the skin
- speech therapy
- assistance from a specialist teacher of the deaf to help the child make the most of their residual hearing.

### Where to get help

- Your doctor
- Audiologist
- Ear, nose and throat specialist
- **Australian Hearing**. Tel. 1300 412 512, TTY (02) 9412 6802, SMS 0427 366 205
- **Better Hearing Australia**, Victorian Branch. Tel. (03) 9510 1577 or 1300 BHA VIC (242 842), TTY (03) 9510 3499
- Australian Government – **Better Start for Children with Disability**. Tel. 1800 242 636

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