

# Hearing impairment

**Wendy Fidler** looks at learning issues for children with hearing impairments and the implications for Montessori settings.

## What is hearing impairment?

A hearing impairment is a degree of deafness. Ninety per cent of deaf babies are born into families with no history of deafness and the majority of parents of these babies have no experience of deafness. About eighty per cent of UK children with mild to profound deafness are educated in mainstream schools; other are educated in specialist units or special schools for hearing impaired children. Roughly thirty per cent of children with hearing impairments also have learning, emotional or behavioural difficulties.

## What causes hearing impairment?

There are many known reasons why children are born deaf or become deaf early in life, but sometimes it is not possible to identify the cause:

### ● Causes before birth (pre-natal causes)

Many children are born deaf because of a genetic reason. Deafness can be



PHOTOS: CUEED SPEECH ASSOCIATION UK

*A student teacher cueing a story.*

passed down in families even though there appears to be no family history of deafness. Sometimes the gene involved may cause additional disabilities or health problems.

Deafness can also be caused by complications during pregnancy. Illnesses such as rubella, cytomegalovirus (CMV), toxoplasmosis and herpes can cause a child to be born deaf. There is also a range of medicines, known as ototoxic drugs, including some antibiotics and diuretics, which can damage the hearing system of a baby before birth.

### ● Causes in infancy (post-natal causes)

Being born prematurely can increase a baby's risk of being deaf or becoming deaf. Premature babies are often more prone to infections that can cause

deafness. They may also be born with severe jaundice or experience a lack of oxygen at some point. Both of these can cause deafness.

In early childhood infections such as meningitis, measles and mumps can cause deafness. Ototoxic drugs, used to treat other types of infections in babies, can also be a cause.

Occasionally deafness is caused by an injury to the head or exposure to loud noise. These can cause damage to the hearing system.

## Early identification of hearing impairment

All babies in the UK are screened for hearing impairment within their first week. Early identification, followed by a good early intervention programme can make the process easier for the

## Types of hearing impairment

The main types of deafness in children are **conductive and sensorineural**. Some children have **mixed deafness**, i.e. a combination of both **conductive and sensorineural deafness**:

- **Conductive deafness** or otitis media is the most common hearing impairment. Sounds cannot pass efficiently through the outer and middle ear to the cochlea and auditory nerve. Sometimes this is caused by fluid build-up in the middle ear; this is known as otitis media with effusion (OME) and can also be referred to as 'glue ear'. Most conductive deafness is temporary but it can also be permanent.
- **Sensorineural deafness** is caused by a fault in the inner ear or auditory nerve. Most sensorineural deafness is caused by a problem in the cochlea. Commonly, this is because the hair cells of the cochlea are not working properly. Sensorineural deafness is permanent.
- **Mixed deafness** is a combination of both conductive and sensorineural deafness. For example a child may have glue ear and at the same time have a problem in their cochlea.

## Incidence of Deafness in Babies and Children in the UK

- 840 babies are born each year in UK with significant deafness.
- One in 1,000 children is deaf at 3 years old.
- 20,000 children aged 0 to 15 years old are moderately to profoundly deaf.
- 12,000 children aged 0 to 15 years old were born deaf.

Royal National Institute for the Deaf (RNID)

### What are the implications for hearing impaired children in Montessori settings?

**Issue:** Children with hearing impairments have language and communication difficulties.

**Action:** Many schools use British Sign Language or Makaton, however, whole-school Cued Speech can enable deaf children to develop more than just vocabulary – they can develop an understanding of the English language which mirrors that of hearing children. Additionally, Cued Speech can be used with any language.

**Issue:** Why is lip reading so hard?

**Action:** Lip-reading involves a lot of guess-work and is very tiring. A child who sees spoken language with the accompaniment of Cued Speech can understand the whole of the spoken language without the guess work.

family and lead to better outcomes for the child. The early intervention can involve a range of professionals, including pediatric audiologists, teachers of the deaf, and speech and language therapists. It can also include contact with other parents and deaf adults.

Cued Speech is an increasingly effective intervention. It clarifies the lip patterns of normal speech by using eight hand shapes and four positions together with the lip patterns of normal speech. It allows parents and teachers to use their own language in a visual form and in its entirety, thus giving hearing impaired children full access to the English language from a very early age.

#### Resources:

Morpurgo, Michael, 'Why the Whales Came' Gracie and Daniel discover the Birdman isn't dangerous or mad as the adults say, but deaf. He may be right when he says Samson Island is cursed.

Forest Books: [www.forestbooks.com](http://www.forestbooks.com)  
Books, videos and CD-ROMs about deafness and deaf issues.

Cued Speech Association UK - Learning support and information: Phone: (voice and text) 01803 83 27 84 Fax: 01803 83 53 11 [www.cuedspeech.co.uk](http://www.cuedspeech.co.uk)  
[www.learn tocue.co.uk](http://www.learn tocue.co.uk)

Royal National Institute for the Deaf (RNID) Information Line Free phone: Telephone 0808 808 0123, Text phone 0808 808 9000  
[informationline@rnid.org.uk](mailto:informationline@rnid.org.uk)

National Deaf Children's Society (NDCS)  
[www.ndcs.org.uk](http://www.ndcs.org.uk)

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*Cued Speech can be used with any language*

### "Regarding your two current students and recent graduate with cochlear implants and hearing aids:

**Q** Were the hearing impairments identified before the students arrived at your school or after?

Before, in all three cases.

**Q** What modifications/adaptations do you put in place to support your hearing impaired students?

For one of the children, we used a microphone and receiver. The teacher would wear the microphone when she was giving a lesson to that particular child or a group that included that child. For all three, the only other modification is that the teacher is particularly careful to ensure that the child has understood what has been said in the lesson.

**Q** Are the cochlear implants and hearing aids sufficient to enable the students to work alongside their able-hearing peers?

Yes.

**Q** What are the advantages of including hearing-impaired children in your school?

All of the children benefit from the experience of having a hearing-impaired friend. They have the opportunity to learn and practice sensitivity and acceptance towards others, and they also learn that a hearing-impaired child is really no different than any other child. For the hearing-impaired children themselves, they are able to learn and interact socially in a safe and friendly environment where their impairment typically becomes a non-issue. They also have the benefit of one-on-one lessons with the teachers given at close physical proximity. They can ask for missed material to be repeated without any social embarrassment.

**Q** Why do the parents choose Montessori for their hearing-impaired children?

They choose our school so that their child can learn like every other child in the room without being singled out as different or disabled. They also know that the Montessori classroom is a safe and accepting environment where any teasing or shunning is virtually non-existent. They like the individual and small-group lessons where they know their child will not miss what is being said. And of course they like the high academic standards.

**Q** Have the hearing-impaired students achieved as well as their peers with regard to language, socialisation and academic skills?

Yes, as long as the hearing is the only impairment. The hearing-impaired child who graduated went on to the private secondary school with the highest academic reputation in the area. She gave a beautiful speech at her graduation and has since come back to speak at events at our school. One of our current hearing-impaired children is quite comparable to his peers in language, socialisation, and academics. The other current child has other severe disabilities, but she is able to work in the classroom both independently and with a teacher at her own level and pace."

