

Measuring Hearing

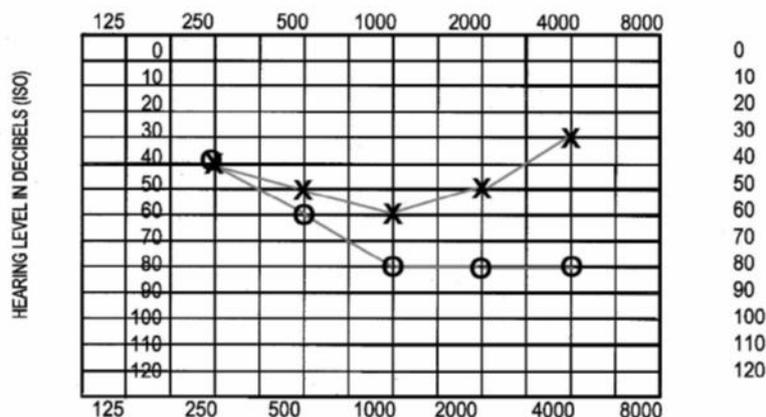
How is hearing measured?

An audiologist is a person who has qualifications in audiology plus one year of supervised practice in audiology, which enables them to work in the area of hearing management and measurement. They may work in hospitals or at hearing clinics such as Australian Hearing.

An audiologist measures the hearing loss and plots a graph called an audiogram. An audiogram is a simple graph which shows the audiologist how much a person can hear. The audiologist will use this information and possibly some other tests to understand what type of hearing aids will suit a person or if a cochlear implant may be suitable.

The person who is having their hearing tested listens to different sounds at different frequencies (pitch) and at different intensities (loudness.) Sound is measured in decibels (dB). 10dB to 20dB is about the same loudness as wind in the trees, 60dB is about the same loudness as everyday conversation, 90dB is about the loudness of a lawn mower and 120dB is as loud as a jet engine (and sometimes rock concerts!)

When a person hears the sound, the audiologist marks on the audiogram where the sound was heard and at what frequency. The right ear is indicated with an "X" and the left ear with an "O." Figure 1 shows a completed audiogram.



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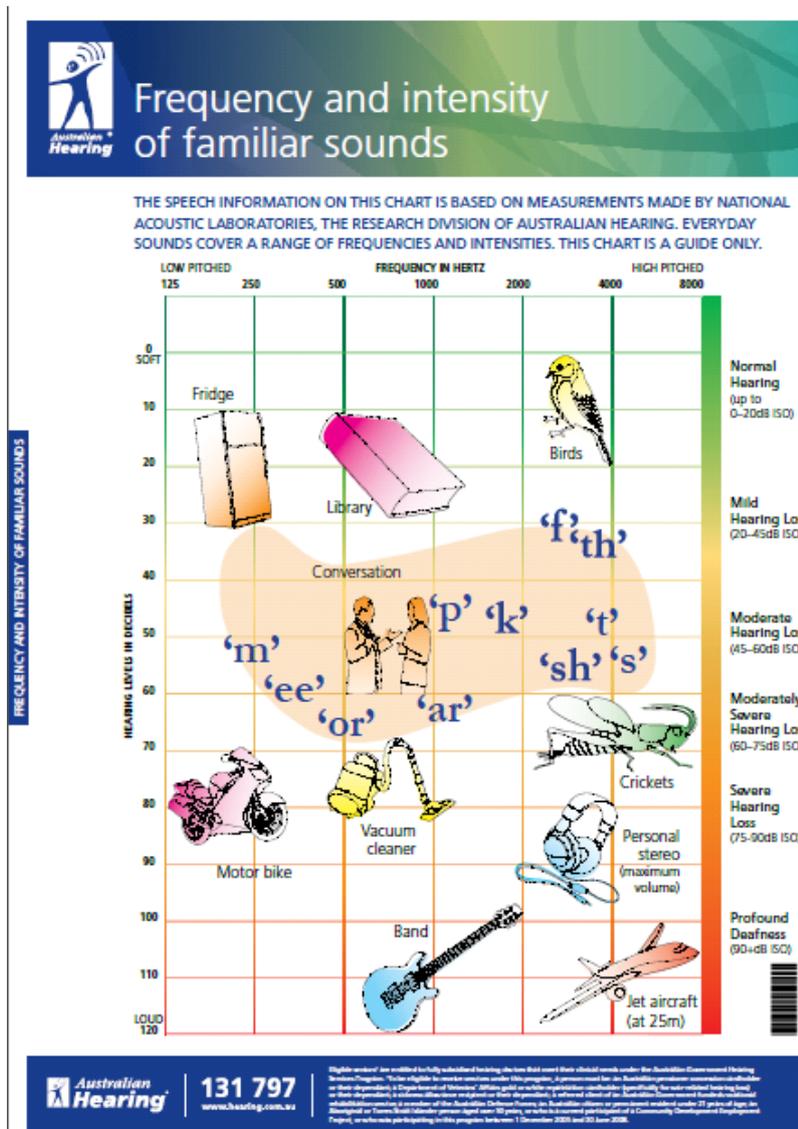
Deaf Children Australia uses the term 'deaf' to refer to all degrees and types of hearing loss.

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Figure 2

The audiogram in figure two shows where the sounds of speech are on the audiogram. Different sounds in our speech have different pitch and loudness. For example, the "s" sound in the word "cats" is high pitch and fairly soft. The "o" sound in the word "bow" is low in pitch and fairly loud. Sometimes deaf people say they can hear, but not understand the words. This is because they are hearing the louder, low frequency sounds, and not the softer high frequency sounds of each word. They only hear part of each word.

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What are the degrees of hearing loss?

Hearing level in dB	Degree of hearing loss	Implication for children
0 - 20	Normal hearing	
20 - 41	Mild	<p>The child may:</p> <ul style="list-style-type: none"> • Have difficulty in hearing faint speech and people may sound as if they are mumbling • Have difficulty hearing in noisy classrooms • Benefit from sitting near the front of the classroom • Use hearing aids
42 - 75	Moderate	<p>The child may:</p> <ul style="list-style-type: none"> • Have difficulty hearing group conversations, if the speaker's voice is faint, if the face is not visible or is in the presence of background noise • Benefit from speech and language support and seating near the front in a noisy classroom • Have limited vocabulary • Use hearing aids
76 - 90	Severe	<p>The child may:</p> <ul style="list-style-type: none"> • Have great difficulty following classroom discussions • Need special education assistance for deaf children • Need preferential seating in a quiet classroom • Benefit from hearing aids or cochlear implants and they will benefit from the use of Auslan
91+	Profound	<p>The child may:</p> <ul style="list-style-type: none"> • Not rely on hearing for communication • Need special education assistance for deaf children • Not benefit from hearing aids • Use Auslan • Receive cochlear implants (there are many factors involved here, not just degree of hearing loss)

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Can families have a copy of the child's audiogram?

Yes. The family can ask the audiologist for a copy. It is a good idea to do this after each hearing test so that families have a record of their child's hearing levels through the years.

How often should a child's hearing be tested?

The deaf child's audiologist will be able to advise on how often the child's hearing should be tested. Generally older children's hearing is tested once per year and younger children's hearing may be tested more often, but there is no hard and fast rule. If the loss is progressive, more frequent testing should be conducted.

What is a hearing loss like?

All deaf children hear differently, depending on the degree of their hearing loss and the difference in their ability to be able to detect different frequencies.

Deaf children who have been deaf from birth or from a very early age, have no concept of what it is like to have normal hearing. They don't know what normal hearing is and may never fully understand the difference between how they hear and how other people hear.

A video, Understanding Hearing Loss produced by Griffith University is available from Deaf Children Australia for borrowing or can be purchased from Deafness Resources Australia at www.aceinfo.net.au This video simulates what it is like to have a hearing loss.

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References

Books

Australian Hearing. 2001. "Choices"

This is a free, comprehensive book for parents and carers of children with a hearing loss which has been produced by Australian Hearing. This book is highly recommended and is available from your nearest Australian Hearing office.

www.hearing.com.au to go to the Australian Hearing website.

Websites

National Deaf Children's Society www.ndcs.org.au

This is a fantastic website with lots of information on childhood hearing loss. It has a wealth of topics for families to explore.

Understanding Audiograms www.audiology.org/consumer/guides/uya.php

This site gives a brief overview of an audiogram. It also has links to other information about hearing loss

Hearing Tests

Explained www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/

This site discusses the different types of hearing tests

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