Facts about Decibels

deaf education through listening and talking

A common misconception about deaf people is that they cannot hear at all - 'stone deaf' to the man or woman in the street. In fact, nearly all deaf people can hear some sounds but these will be much quieter, fragmented and distorted.

There are different types of hearing loss and they are usually described in terms of the decibel level at different frequencies.

What are 'decibels'?

Decibels (dB) are used to measure the loudness of sound. A quiet whisper is about 30dB compared to normal conversation which is about 60 dB. The level of a shout close by would be about 80 or 90 dB as would that of a lorry passing you in the street. A jet engine at 50 metres emits a noise of about 120dB. The word decibel means a tenth of a Bel, named after Alexander Graham Bell, the inventor of the telephone, hence dB, not Db.

- 0dB is the average quietest sound heard by normally hearing young people. It is the international standard used all over the world.
- An audiogram plots the quietest sounds heard at different frequencies. These quietest sounds are termed THRESHOLDS.
- A hearing loss exists if thresholds are more that 20dB, though little difficulty might be noticed at this level.
- With 30dB loss, mostly people will experience difficulty in hearing and children's learning will be slowed. Hearing aids are beneficial.
- A 50dB loss will cause severe difficulty in hearing and hearing aids are necessary. Without aids, children will learn to talk but very slowly.
- A 70dB loss will prevent the individual from hearing speech, unless shouted. A child may learn a little speech, particularly of that which is loud! Hearing normal speech is only possible with hearing aids.
- Where a child's thresholds are at 100dB or greater, even though they appear at the bottom of the audiogram and are labeled 'profound', they still indicate an ability to hear. Good hearing aids, well managed, can easily reach these levels.

The Decibel Scale (dBHL)