

Quantification of hearing loss for a deaf person.

For a deaf person to be diagnosed they need an audiologist conducting an audiometric hearing test in a sound-proof testing booth. The severity of a hearing impairment is ranked according to the additional intensity above a nominal threshold that a sound must be before being detected by an individual; it is (measured in decibels of hearing loss, or dB HL). Hearing impairment may be ranked as mild, moderate, moderately severe, severe or profound as defined below:

Mild:

for adults: between 26 and 40 dB HL

for children: between 20 and 40 dB HL

Moderate: between 41 and 55 dB HL

Moderately severe: between 56 and 70 dB HL

Severe: between 71 and 90 dB HL

Profound: 90 dB HL or greater

Hearing sensitivity varies according to the frequency of sounds. To take this into account, hearing sensitivity can be measured for a range of frequencies and plotted on an audiogram. For certain legal purposes such as insurance claims, hearing impairments are described in terms of percentages. Given that hearing impairments can vary by frequency and that audiograms are plotted with a logarithmic scale, the idea of a percentage of hearing loss is somewhat arbitrary, but where decibels of loss are converted via a recognized legal formula, it is possible to calculate a standardized "percentage of hearing loss" which is suitable for legal purposes only.

Another method for quantifying hearing impairments is a speech-in-noise test. As the name implies, a speech-in-noise test will give you an indication of how well you can understand speech in a noisy environment. A person with a hearing loss will often be less able to understand speech, especially in noisy conditions. A deaf person will not be able to distinguish one word from another. This is especially true for people who have a sensorineural loss – which is by far the most common type of hearing loss. As such, speech-in-noise tests can provide valuable information about a person's hearing ability, and can be used to detect the presence of a sensorineural hearing loss. A triple-digit speech-in-noise test was developed by RNID as part of a EU funded project Hearcom. The RNID version is free and is available over the phone (0844 800 3838, only available in the UK), on the web and as an app on the iPhone.