Audiogram

An audiogram is a graph that shows the audible threshold for standardized frequencies as measured by an audiometer. The Y axis represents intensity measured in decibels and the X axis represents frequency measured in Hertz.

The threshold of hearing is plotted relative to a standardised curve that represents 'normal' hearing, in dB(HL). They are not the same as equal-loudness contours, which are a set of curves representing equal loudness at different levels, as well as at the threshold of hearing, in absolute terms measured in dB SPL (sound pressure level).

Audiograms are set out with frequency in hertz (Hz) on the horizontal axis, most commonly on a logarithmic scale, and a linear dBHL scale on the vertical axis.

For humans, normal hearing is between −10 dB(HL) and 15 dB(HL)[citation needed], although 0 dB from 250 Hz to 8 kHz is deemed to be 'average' normal hearing.

Hearing thresholds of humans and other mammals can be found by using behavioural hearing tests or physiological tests. An audiogram can be obtained using a behavioural hearing test called Audiometry. For humans the test involves different tones being presented at a specific frequency (pitch) and intensity (loudness). When the person hears the sound they raise their hand or press a button so that the tester knows that they have heard it. The lowest intensity sound they can hear is recorded. The test varies for children, their response to the sound can be a head turn or using a toy. The child learns what they can do when they hear the sound, for example they are taught that when they heard the sound they can put a toy man in a boat. A similar technique can be used when testing some animals but instead of a toy, food can be used as a reward for responding to the sound. Physiological tests do not need the patient to respond (Katz 2002). For example when performing the brainstem auditory evoked potentials the patient’s brainstem responses are being measured when a sound is played into their ear. In the US, the NIOSH recommends that people who are regularly exposed to hazardous noise have their hearing tested once a year, or every three years otherwise.