

Noise Induced Hearing Loss (NIHL)

What is a Noise Induced Hearing Loss (NIHL)?

Noise damage to hearing can be divided into two types: gradual and increasing loss of hearing, and the more extreme acoustic trauma. Gradual and increasing loss of hearing comes from repeated exposure to loud noise, which can be with us throughout the day: a screeching train, a noisy office, listening to an MP3 player or frequently going to loud music gigs, nightclubs or pubs. At first, any hearing loss is temporary (a 'temporary threshold shift' of hearing). However, if the exposure continues or the ear is not given enough time to recover, the hearing loss becomes permanent and irreversible.

Acoustic trauma is an immediate loss of hearing after a sudden, exceptionally loud noise, such as an explosion.

Over the past ten years, scientists have made a lot of progress in understanding the exact process by which noise-induced hearing loss occurs. Very loud noises are thought to over-stimulate the sensory hair cells leading to the over-production of potentially damaging chemicals called free radicals. While cells can normally cope with a low level of free radicals, too high a level will damage the structure of the cell and eventually lead to its death. Exceptionally loud noise will burst the ear drum and cause extensive damage to the inner-ear.

How does noise damage hearing?

Repeated exposure to excessive noise can kill hair cells and damage the hearing nerve making them unable to work properly, resulting in a permanent hearing loss. This is called a 'sensorineural' hearing loss.

Someone with noise-induced hearing loss will first experience a difficulty hearing the high-pitched sounds that are important in being able to hear people talk. So although some sounds will remain reasonably clear - like people's actual voices - the words they are saying will be distorted. For example, you may be watching a TV programme and be able to hear that the characters are talking, but what they are saying will be hard to understand. Naturally, this makes trying to understand a single person speaking in a noisy environment or among a babble of other voices very difficult and frustrating.

However, it is possible to recognise signs of hearing damage quite early. If you have difficulty hearing people, or you suffer tinnitus (noises in the ear or head) on leaving a noisy environment, your hearing may well be damaged. Repeated exposure to noise at a high level can leave you with a permanent hearing loss or tinnitus.

Protect your hearing from exposure to loud noise, the damage can be permanent.