NOISE INDUCED HEARING LOSS

NIHL EXPLAINED

NOVEMBER 2006

OHearing loss is the process of losing auditory sensitivity. It can occur both naturally with age and as the result of an external agent. The damaging effects of noise are a function of the level of noise, the duration of exposure and, to an extent, the susceptibility of the individual. Some studies have shown that exposure to vibration and certain chemicals may leave workers more vulnerable and susceptible to the effects of noise.

Hearing loss can be classified under two broad headings:

- **Conductive hearing loss** occurs due to a physical breakdown of the conducting mechanism of the ear resulting from acute acoustic trauma or high impact noise such as gunfire or explosion, or processes such as shot-firing & stamping. This can cause often irreparable damage to the eardrum, ossicles or cochlea. This is a rare occupational problem. Sufferers will often submit claims, erroneously relating this type of hearing loss to their occupational setting, but the genuine causative mechanism can normally be established by medical experts.

- **Sensory Neural hearing loss** (SNHL) occurs when the hair cells in the cochlea are damaged. In an occupational setting this occurs mainly from exposure to excessive noise resulting in varying levels of acoustic trauma. This type of hearing loss is normally associated with NIHL cited in civil claims and is the main problem Insureds' have to control.

Noise Induced Hearing Loss is always a form of SNHL and results from a failure of the hair cells in the cochlea to respond fully to sound intensities with frequencies in the speech range. The person does not necessarily lose the ability to hear sound, but finds it difficult to distinguish the spoken word clearly.

PRESBYACUSIS

Presbyacusis is a term which is used to describe hearing loss which occurs naturally with age, although excessive noise can accelerate the onset of natural hearing loss. Audiometry and competent interpretation of audiograms can normally differentiate between the various types of hearing loss by analysing frequency ranges where hearing loss is observed.

Tinnitus is a subjective condition where “noises in the head” or “ringing in the ear” are the descriptive symptoms. Symptoms are not observable externally, but suggest damage to the nerve structure of the cochlea and/or auditory nerve. Tinnitus, when severe, can attract an additional (add on) award of damages in civil claims. True tinnitus needs to be distinguished from the phenomenon known as Temporary Threshold Shift (TTS) where symptoms are short term and the sufferer will usually recover in a few hours.

OTHER EFFECTS OF NOISE

Apart from the often fairly obvious irritant effect noise can have on stress levels there is growing scientific evidence that exposure to noise has an effect on the cardiovascular system, resulting in the release of catecholamines and an increase in blood pressure. Catecholamines in the blood, including epinephrine (adrenaline) are associated with stress.