ENHANCED LISTENING

# Loud Music will Cause Hearing Loss

It is not uncommon among concertgoers to leave a concert unable to hear or constant ringing, in most cases their hearing returns shortly afterwards, but the problems are only just beginning. Unfortunately, permanent hearing loss from loud concerts or nightclubs is becoming increasingly common. The situation is even more serious for music professionals, because they will have to undergo more frequent and prolonged exposure to loud music than most people. It can also be more devastating for a musician to suffer hearing loss, because their livelihood and original passion can often leave them with hearing problems in lots of cases Tinnitus and Noise Induced Hearing Loss.

Sound levels at concerts can be in the range of 120 to 140 db, well beyond the 100 db normally recognized as the threshold at which short-duration exposure can cause hearing loss. The loss is caused by damage to fragile tissue strands within the cochlea. These strands are called hair cells and resemble tiny hairs. They move with the fluid in the cochlea to stimulate the electrical impulses in the auditory nerve. The hair cells become damaged in the presence of loud noise.

The ear is a sensitive instrument. The outer ear gathers sounds and ships them into the middle ear, which converts them to impulses and sends them to the inner ear. Then a set of fine hairs interprets the impulses and sends them to the nerve endings which subsequently transfer the stimuli to the brain.

The hairs that respond to high-frequency sounds are most vulnerable to loud sounds, simply because they're at the front end of the inner-ear area called the cochlea and take the brunt of loud noises.

If they're damaged, the person starts losing the ability to hear the range of sounds that makes up the noises of life. Sounds will become muffled to them, because they only hear the low frequencies. The damage can be immediate or it can occur over years.

The mechanism of damage is much like the mechanism by which constant walking on grass can damage it. A person walking on a lawn occasionally doesn't damage the lawn, because the grass has a chance to recover between tramplings. But if the grass is subjected to frequent traffic, it soon looses its ability to spring back and becomes

permanently damaged. Damage to the hair cells occurs the same way. The louder and more frequent the exposure to loud noise, the more damage the hair cells sustain.

Fortunately, our ears often warn us when we have subjected them to potentially damaging sound levels. Temporary hearing loss is one indication; ringing in the ears is another. If you experience either of these symptoms after exposure to loud sounds, it's an almost sure indication of temporary damage that could become permanent with repeated exposure.

For people who are unable or unwilling to remove themselves from noisy situations, earplugs can help preserve hearing. Earplugs are especially effective at reducing the intensity of high frequency sound, which is what does the most damage to the hair cells. A 15 or 20 db reduction in the intensity of high frequency sound can delay or prevent hair cell damage.

Look for earplugs with Acoustic filters designed to be used by music lovers, these will still allow you to hear the music you love but at a lower level. Just remember deafness is incurable, you only ever have one set of ears guard this precious sense.