

HOW TO PROTECT YOUR HEARING



PREVENTION IS BETTER THAN CURE

An estimated 10% of the world's population have some degree of hearing loss. Of these, one third damaged their hearing from excessive exposure to sound that could have been avoided. And the number of hearing-impaired people is growing - possibly because we are exposing ourselves to more and louder noise in the form of music, machinery, traffic, and so on.

This brochure will help you to understand the nature of noise, the risks of exposure to noise, and how to protect your hearing from noise.

WHAT IS NOISE?

When sound reaches a level that can damage your hearing we call it noise. It is one of the most pervasive occupational health problems and a by-product of many industrial processes.



HOW DOES NOISE DAMAGE HEARING?

When a person is over-exposed to excessive sound levels, sensitive structures of the inner ear can be damaged. This can result in permanent, noise-induced hearing loss. It can happen after a brief but intense sound such as an explosion, or from regular exposure to noise over time.

Hearing loss may be accompanied by tinnitus, a ringing, buzzing or roaring in the ears or head, which may subside over time or continue constantly or intermittently throughout a lifetime.



HOW DO WE MEASURE NOISE?

The technical term for sound pitch is 'frequency' and is measured in Hertz (Hz). Although the human ear collects sounds ranging from 100-20,000 Hz, the 2,000-5,000 Hz frequency range is where our ears are most sensitive. Much important speech information occurs in this range and this is also where continuous exposure to noise usually causes the most damage.

The intensity of sound is called sound pressure level, and is measured in decibels (dB). Normal conversation is measured at a moderate level of 50-70 dB.

EXAMPLES OF LOUD SOUNDS THAT CAN CAUSE NOISE-INDUCED HEARING LOSS ARE:

Motorcycle/hair dryer/lawn mower/leaf blower	85-90 dB
Wood shop/chainsaw/firecrackers	100-110 dB
Rock concerts/discos	110-125 dB
Ambulance siren/ pneumatic drill/jet engine at take-off	119-140 dB

WHAT'S THE LIMIT?

According to the American Occupational Safety and Health Administration (OSHA), the following ranges act as the guidelines for potential hearing damage:

SOUND PRESSURE LEVEL	EXPOSURE TIME
90 dB SPL	8 hours
95 dB SPL	4 hours
100 dB SPL	2 hours
105 dB SPL	1 hour
110 dB SPL	30 minutes
115 dB SPL	15 minutes



PROTECT YOUR HEARING

Hearing loss caused by exposure to recreational and occupational noise is virtually 100% preventable. Here are some general tips for diminishing potential damage to your hearing:

- > Avoid hazardous sound environments (if you have to raise your voice to be heard, your hearing is in potential danger)
- > Limit the amount of time you spend in loud environments.
- > Wear earplugs or other hearing protective devices when involved in a loud activity.
- > Protect children who are too young to protect themselves
- > Be careful not to turn up the volume of personal stereos too high. The same applies to car stereos
- > Be alert to noise levels in your environment.
- > Give your ears a rest for 24 hours after exposure to dangerous levels of noise

HAS MY HEARING BEEN AFFECTED?



HEARING PROTECTION PLUGS

Ear protection plugs are available in foam, rubber, silicone or wax. Conventional foam earplugs are the most inexpensive and reduce the sound reaching your inner ear by up to 35 dB. The custom-fitted earplugs worn by many musicians offer the best protection - they also decrease all frequencies equally so that music won't distort. They are made from an impression of the ear canal, which makes them very comfortable to wear.

Earplugs are relatively comfortable and affordable, and provide important help in reducing the dangers of noise exposure.

Most hearing losses occur gradually over a number of years and therefore might not be easily noticed.

SOME OF THE SIGNS OF HEARING LOSS ARE:

- > Difficulty understanding certain words or parts of words.
- > Frequently asking others to repeat themselves.
- > Difficulty understanding others on the telephone.
- > Turning up the sound on the TV or radio to a level that is too loud for others in the room.
- > Difficulty hearing conversations in noisy surroundings.
- > Perceiving sounds as muffled.

EVIDENCE OF OVER-EXPOSURE TO NOISE:

- > High-frequency hearing loss.
- > Temporary, reduced hearing ability.
- > Ear discomfort after exposure.
- > Ringing or buzzing sensation in the ears (tinnitus).

If you constantly work near high levels of sound, you should have your hearing tested by a licensed audiologist at least once a year.

WHAT IF I SUSPECT A HEARING LOSS?

First, have a medical examination by an ENT specialist (otolaryngologist), a physician who specializes in diseases of the ears, nose, throat, head and neck.

Next, get a hearing test by an audiologist, a health professional trained to identify and measure hearing loss and to rehabilitate persons with hearing impairments.

These healthcare professionals will be able to tell you to what degree your hearing has been damaged, and how you can protect and get the best out of the hearing you have left.



CAN HEARING IMPAIRMENT BE CURED?

No, when the tiny sensory cells in the inner ear are damaged, there is no treatment to heal or replace them. The consequence is that they are no longer able to pick up sounds normally. Hearing damage through exposure to noise is permanent. Hearing instruments, however, amplify the remainder of your hearing and can assist in understanding speech and improving the clarity of sound.

