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Prevent noise-induced hearing loss

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Our hearing is one of our five senses and an essential part of communication. It allows us to be aware of the dangers and happenings in our surroundings.

Dr Ho Eu Chin, a consultant at Tan Tock Seng Hospital's ENT (Ear, Nose and Throat) Clinic, said he has seen patients who have been exposed to excessive occupational-related loud noises for years or even decades.

Some have permanent hearing loss by the time they consult doctors.

CAUSE OF NOISE-INDUCED HEARING LOSS

Hearing loss occurs when hair cells in the ears are damaged by prolonged noise exposure to high sound volumes.

Dr Ho said: "It is also possible to get permanent hearing loss after a single brief exposure if the noise is loud enough. For example, being exposed to an explosion, gun shot, and even close proximity to a fire cracker."

Often it is family members or friends who notice that the person may miss out on things said during conversations when there is background noise.

"Hearing loss is normally gradual and progressive. Many people will not notice it until it becomes moderate or severe. At this point, even one-to-one conversations in the absence of background noise may be difficult without raising one's voice," said Dr Ho.

IS IT REVERSIBLE?

With less severe and less prolonged loud noise exposure, recovery can be possible after resting the ear.

Dr Ho said that this recovery is known as "temporary hearing threshold shift" and can happen up to 48 hours following noise exposure.

But if you are constantly exposed to severe and prolonged noises, your hearing loss will eventually become permanent and non-reversible.

The volume of normal conversations is around 65 decibels. Dr Ho said that noise levels above 85 decibels are considered loud enough to induce hearing loss if the exposure is long enough. For a constant volume of 85 decibels, the safe exposure time is around eight hours.

Dr Ho also said that for every three decibels increased in the sound volume, the safe exposure time needs to be halved. For exposure at 88 decibels, the safe exposure time drops to four hours. At 100 decibels, this decreases to 15 minutes.

GETTING TREATMENT

Seek help early. People with milder hearing loss can benefit from hearing aids. Other options such as cochlear implants cater to more serious cases.

Do not delay the use of hearing aids if you need them.

Dr Ho said that people with normal hearing have good ability to understand speech in the presence of background noises. But they will also struggle to comprehend conversations once the background noise becomes too loud.

He said: "The more severe and the longer you have hearing loss, the higher the probability that your brain would have 'forgotten' what background noise is.

"When one starts wearing hearing aids, the brain has to learn to differentiate between background noise and the speech sounds you would want to hear and understand."

TAKING PREVENTIVE ACTION

Take action to prevent yourself from suffering noise-induced hearing loss.

Dr Ho said that workers in industries exposed to loud noises such as shipbuilding, manufacturing and at the airport tarmac must put on their ear defenders at all times. Ear defenders are worn to protect their ears from high noise volumes. These workers should also go for regular hearing tests.

Refrain from playing music loudly with your headphones or earphones. Dr Ho said that the loudness of music delivered via headsets or in-ear sets can easily exceed safe noise exposure limits, especially within the limited confined space of the ear canals.

To fully enjoy music, we need to play it at a volume higher than any background environmental noise.

For example, the noise level within an MRT carriage in motion can be between 80 decibels to 85 decibels, and may occasionally exceed 90 decibels. You may need to play music between 95 decibels and 100 decibels, which is considered dangerously loud.

Dr Ho recommends getting a high-quality headset with both passive and active noise reduction technology. These reduce high and low frequency ambient "environmental" noise levels inside one's ear canals. You can then play music at a much lower volume and still be able to fully enjoy it.

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