

Hearing can be permanently damaged, expert warns

June 26 2012, By Stasia Thompson and Anne Dillon

(Medical Xpress) -- Summer can be really fun, but also quite noisy. And with 4th of July coming up, the fireworks can reach 150 decibels. While the pyrotechnic displays are exhilarating to watch, hearing experts hope you'll keep some hearing guidelines in mind.

“Fireworks, ‘el’ trains, concerts and road construction can be harmful to your hearing. And once hearing is damaged, it cannot be repaired,” said Jyoti Bhayani, a certified audiologist at Gottlieb Memorial Hospital, part of the Loyola University Health System.

One in 10 Americans has hearing loss that affects their ability to understand normal speech. Aging is the most common cause of this condition. However, exposure to excessive noise also can damage hearing in higher pitches.

“Hearing loss due to excessive noise is totally preventable, unlike old age or a medical condition,” Dr. Bhayani said.

Here are the registered levels for common sounds in Chicago, according to the American Academy of Otolaryngology - Head and Neck Surgery:

30 decibels - soft whisper

50 decibels - rain

60 decibels - normal conversation/computer typing

70 decibels - expressway traffic

85 decibels - earplugs recommended for prolonged exposure at this level

90 decibels - subway/“el” train, lawn mower, some shop tools

100 decibels - chainsaw, snowmobile, drill

110 decibels - power saw

115 decibels - loud rock concert, sandblasting, car horn

130 decibels - race car

150 decibels - [fireworks](#)/jet engine takeoff

170 [decibels](#) - shotgun

Music to my Ears, or Just Plain Noise?

“It is important to know the intensity of the sounds around you,” said Dr. Bhayani, who regularly cares for construction and factory workers, frequent air travelers and seniors in her practice at Gottlieb Memorial Hospital.

“I recommend using hearing protection devices for those who are exposed to excessive, loud noises and musician’s earplugs, which simply attenuate the intensity and loudness without altering frequency response,” Dr. Bhayani said.

Loud Noise Permanently Kills Ear Nerve Endings

Three small bones in the middle ear help transfer sound vibrations to the inner ear, where they become nerve impulses that the brain interprets as sound.

“When noise is too loud, it begins to kill the hair cells and nerve endings in the inner ear,” Dr. Bhayani said. “The louder a noise, the longer the exposure, and the closer you are to the noise source, the more damaging it is to your nerve endings, or your hearing.”

As the number of nerve endings decreases due to damage, so does your hearing. [Nerve endings](#) cannot be healed or regenerated and the damage

is permanent, Dr. Bhayani said.

Ear Bud Warning

When youngsters use ear buds, it may save your own [ears](#) from the noise of their music. However, it also may be damaging your child's hearing. "Three in 5 Americans, especially youth, are prone to develop [hearing](#) loss due to loud music being delivered via ear buds," Dr. Bhayani said.

Here are a few summertime tips from Dr. Bhayani:

- Cover your ears: "Generic, over-the-counter earplugs are inexpensive and can be found at any drugstore," Dr. Bhayani said. "However, they can be custom-made for comfort and durability. Buy earplugs now and keep them handy in wallets, backpacks, briefcases and purses so you can pop them in when noise is loud and continuous." Dr. Bhayani also suggests using a scarf or even covering your ears with your hands to muffle sound.
- Swimmer's ear and cotton swabs: "Swimmer's ear is caused by painful membrane swelling due to trapped moisture in the outer ear," Dr. Bhayani said. "Multicolor customized plugs for swimming are available and a good investment to avoid painful, or costly, ear infections." After swimming, Dr. Bhayani recommends tilting the head to drain water from each ear and gently wiping the outer ear with a towel. Do not use cotton-tipped swabs to clean ears. "Swabs can actually push wax or harmful material farther into ears, and many people use them improperly or too forcefully, which can cause pain or damage."
- The plane truth: Many air travelers complain about ear discomfort when the plane is taking off or landing. "Yawning, swallowing, chewing gum and sucking on hard candy also are effective in unplugging the ears," Dr. Bhayani said. If yawning and swallowing are not effective,

pinch the nostrils shut, take a mouthful of air, and direct the air into the back of the nose as if trying to blow the nose gently. This may have to be repeated several times during the plane's descent.

Provided by Loyola University Health System

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