

MEMPHIS HEALTHCARE PROFILES

What Parents Should Know About Noise-Induced Hearing Loss

Rande Lazar, M.D., of ENT Memphis guides parents in understanding the causes and prevention of hearing loss caused by chronic or one-time noise exposure.

The American Academy of Pediatrics estimates that as many as 17% of adolescents ages 12-19 have aspects of noise-induced hearing loss (NIHL) in one or both ears. "This can be the result of a single loud incident, such as a blast, or ongoing exposure to loud sounds," says Rande Lazar, M.D., of ENT Memphis. "Common culprits include excessive noise at concerts or through headphones, earbuds, or even instruments."

Summer, especially, is a heightened time for intense sound exposure, with fireworks, sirens, motorcycles, and concerts being prevalent at higher rates. To combat NIHL, awareness and prevention are key.

How Loud Is Too Loud?

Sounds are generally considered safe at 85 decibels (dB) and below, according to the Centers for Disease Control and Prevention. Adult workers are permitted to endure sounds of this level for eight hours at a time, according to the National Institute for Occupational Safety and Health.

However, for every three dBs above 85, the recommended exposure time should be divided

in half. An exposure of 100 dB, for example, is only safely tolerated for 15 minutes.

For context, a typical rock concert produces dB levels between 90 and 120, regardless of the viewer's distance from the stage. Cell phones are capable of producing sounds at 115 dB. Fireworks produce dBs between 150-175.

"Earplugs can reduce sound energy by 25 dB, and even earmuffs can lessen the impact of loud noises on young ears," says Dr. Lazar. "If your child is frequently exposed to loud environments, it's a good idea to help them choose quieter activities in their leisure time."

Being cognizant of children's and adolescents' listening levels through earphones, gaming consoles, televisions, car radios, and televisions can reduce the impact of sound exposure over time.

Symptoms of NIHL

The hearing part of the inner ear is called the cochlea, which is covered in tiny sensory hair cells. These cells convert sound energy into electrical signals to the brain, where they are converted into meaningful sounds. Once damaged, these cells cannot regrow.

"NIHL can be hard to detect in early stages



because hearing loss tends to occur first for only high-pitched sounds," says Dr. Lazar. "In some cases, the volume of the hearing may not change, but the quality and clarity may diminish." Children may also experience ringing or buzzing, known as tinnitus.

As NIHL progresses, it may be more difficult to understand speech, particularly with the presence of background noise.

"To gauge the noise danger of a particular environment, it's helpful to remember that if you have to shout to hear yourself or someone else, the level of

noise has a risk of causing damage," says Dr. Lazar. "In these situations, limit your child's exposure and provide sound protection whenever possible."



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