

Noise and Apps

Is the world getting louder?

The world is becoming a noisier place, and more people have hearing loss because of it. Noise is one of the most common causes of hearing loss. The Centers for Disease Control and Prevention (CDC) estimates that 6%–24% of adults (10–40 million) and up to 17% of teens have hearing test results that suggest some exposure to or damage from noise. Every day, we hear sounds that may damage our hearing. We are exposed to noise from machines, traffic, sporting events, music, concerts, and more. Audiologists agree that continued exposure to sounds louder than 70 dBA can cause a permanent hearing loss over a long duration.

How do I know if I have a hearing loss?

Signs of hearing loss may include these scenarios:

- having a hard time understanding conversations, especially in loud places
- turning up the television or radio louder than you used to
- not wanting to talk to other people
- experiencing “ringing” in your ears
- having “fullness” in your ears
- your speech sounding “muffled” at times

What loud sounds may cause hearing loss?

Sound is measured in decibels (dB). When referring to noise levels, sound is listed in dBA; the “A” refers to sound levels being weighted to how the human ear receives noise. Damage to hearing occurs when the decibels are too high—or when you listen to loud sounds or noise for too long. The National Institute for Occupational Safety and Health (NIOSH), which is part of the CDC, states that for every 3 dB over 85 dB, the permissible exposure time before hearing damage can occur is cut in half.

Below are examples of decibel levels and length of time permissible. For reference, whispered speech is approximately 30 dBA; normal conversation is approximately 60 dBA. The information below is adapted from [Dangerous Decibels » How Loud is Too Loud?](#)*

For This Decibel

Level (dBA) . . .	Do Not Exceed . . .
85	8 hours
88	4 hours
91 (e.g., lawnmower)	2 hours
94	1 hour
97	30 minutes
100 (e.g., chainsaw)	15 minutes
103	7.5 minutes
106	3.75 minutes
109	< 2 minutes
112	< 1 minute
115 (e.g., rock concert)	30 seconds

Is there an app to measure how loud a sound is?

We can use our cell phones or other portable devices to measure loudness levels of various sounds using special applications (apps). You can find out how loud some everyday sounds are—like the noise made by your car, dog, television, or stereo. And you can measure sound in different places under different circumstances—like a sports arena when your team scores, a movie theater when the previews are on, or a classroom when the teacher is talking to students.

Sound-level meter apps allow you to be more involved in your hearing health. Some can even alert you on your smartwatch or smartphone when the noise around you is too loud. Sound-level meter apps can range in price from “free” to about \$100.

Just because one app is more expensive than another does not mean that it is better. You should read reviews of sound-level meter apps to see which one is best for you. Most of these apps do not meet the same standards

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as the equipment that audiologists use in their offices.

Some sound-level meter apps may grossly under- or over-estimate actual loudness levels. Use these apps only to help you make better decisions about your hearing and your hearing safety—to better protect yourself from noise that can damage your hearing.

What else can I do to protect my hearing?

- Be aware of the noise around you.
- Know what noises are dangerous.
- Avoid being around loud sounds. If you cannot avoid exposure, wear earplugs, earmuffs, or other devices that reduce sound volume.
- Limit your time exposed to noise—do not listen to music at a high volume for long periods of time.
- Turn down the volume on your personal listening devices. The World Health Organization (WHO) recommends volume levels no higher than 80 dBA for adults and 75 dBA for children.
- Move as far away as you can from the noise source.

Notes:

For more information and to view the entire Audiology Information Series library, visit www.asha.org/aud/pei/.

You can prevent noise-induced hearing loss by wearing hearing protection devices and resting your ears after noise exposure. You cannot restore your hearing once it has been damaged. Hearing aids can help many people, but a hearing aid cannot bring your hearing back to normal. Even if you are not worried about your hearing, take advantage of hearing screenings offered in schools, doctors' offices, or the community. A hearing screening can alert you to early signs of hearing loss.

If you think you have a hearing loss, or if you are concerned about hazardous levels of noise, get your hearing checked by an audiologist. Ask an audiologist for additional tips for hearing protection in noisy environments. [Find a certified audiologist on the ASHA ProFind online directory.](#)

Content contributed by ASHA member Tina Childress, AuD, CCC-A.

* Website: [Dangerous Decibels](#). The Dangerous Decibels project is a public health campaign designed to reduce the incidence and prevalence of Noise Induced Hearing Loss (NIHL) and tinnitus (ringing in the ear) by changing knowledge, attitudes, and behaviors of school-aged children.

For more information about balance problems, preventing falls, hearing loss, hearing aids, or referral to an ASHA-certified audiologist, contact:



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