

Are You Noise Sensitive? Here's How to Tell

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As a mom of three boys, I can barely hear my thoughts against the cacophony of my brood plotting their next *Minecraft* moves, bartering Pokémon cards, or singing a Weird Al parody. They're not fighting or wreaking havoc, but life with three energetic school-aged kids is, well, noisy ... and I'm noise sensitive.

It turns out, I'm in good company. According to a 2023 PLOS One study conducted in the UK, nearly one in five adults have some level of noise sensitivity. And Richard J. Salvi, cofounder and director of the University at Buffalo's Center for Hearing and Deafness, tells me that at least 29 medical conditions are linked to noise sensitivity.

People with hyperacusis or misophonia, for example, find everyday sounds unbearable. Other people have a sensory sensitivity (often from sensory processing disorder, attention deficit hyperactivity disorder, or autism). Still others may suffer from chronic ailments like migraine, fibromyalgia, or mental health issues, where loud sounds exacerbate symptoms.

But even without a diagnosable "condition," repetitive exposure to loud sounds can impact your health. The good news: Once you get a full hearing evaluation to ensure your sensitivity to sound doesn't reflect early signs of a hearing disorder, myriad tools can make the noise level in your immediate environment more tolerable, or at least block your ability to hear it.

Turn Down the Volume

In the 1970s, the Environmental Protection Agency treated noise just like any other environmental pollutant. Society was conscientious of the effects of sound as a form of pollution, and the government regulated it as such. Unfortunately, since the Reagan Administration phased out funding for Noise Abatement and Control in 1981, our world has grown exponentially louder. Some of these noises are being piped directly into our ears (thank you, ear pods!), but others are a product of noise pollution.

"Everyone has a different threshold of sensitivity to sound. But we know that repeated exposure to sounds above 75 to 85 decibels for more than eight hours a day can damage your auditory system," says Deanna K. Meinke, an audiologist and audiology professor and researcher at the University of Northern Colorado and codirector of Dangerous Decibels. That's about the noise output your lawnmower or power tool produces. But the louder the sound, the greater the risk to your hearing—even at shorter durations. In fact, listening at 100 decibels for just 15 minutes (about the sound level of a bulldozer) delivers the same hit to your hearing as seven or eight hours at 85 decibels.

“Our ears distort sound when it’s loud,” Meinke says. “So whether you’re noise sensitive or not, turning the volume down is positive for everyone”—a point I tried to drive home when I introduced my boys to my newly downloaded NIOSH Sound Level Meter (SLM), a handy app that allows you to measure your “dose” so you can monitor your progress toward creating a quieter, calmer environment.

Salvi tells me that normal speech hovers around 70 decibels. During the first week, SLM measured our mealtime conversations at 80 decibels and the boys’ roughhousing typically hits 90. When the boys were out of school, SLM alerted me that I’d reached 100 percent of my daily dose of loud sounds before 1 pm “Too loud!” I yelled, far above the 90-decibel level. Clearly, I needed more than a meter to preserve my sanity ... and my hearing.

Do You Hear What I Hear?

Decades of research shows that excess noise creates a host of issues from the obvious (hearing loss and sleep problems) to the insidious (heart disease, metabolic disturbances, anxiety and depression). For the 20 to 40 percent of people who are noise sensitive, sounds above a certain decibel trigger the amygdala, the reptilian part of the brain designed to protect us, to fire on all cylinders.

“The brain interprets a sound as toxic, and the nervous system reacts with the fight/flight response,” says Jennifer Brout, cofounder of the Sensory Processing and Emotion Regulation Program at Duke University, who suffers from misophonia. It’s not a psychological disorder, but rather a multidisciplinary disorder that ultimately has psychological effects because the affected person is in a constant state of stress.

The sympathetic nervous system kicks in, boosting your heart rate, increasing your blood pressure, and triggering the body to produce inflammatory cells. Over time, these changes can lead to chronic inflammation, high blood pressure, and plaque buildup on your arterial walls.

To complicate matters, when you begin to lose your ability to hear at a particular frequency due to aging, illness, or injury, the auditory system goes into overdrive and overrecruits at another frequency. This over-recruitment is helpful in terms of allowing you to hear softer sounds, but it can also amplify unwanted noise.

Noise-Quieting Tools

You can close your eyes, avoid being touched, and even deprive your taste buds, but you can’t turn off your ears. They’re working all the time, even, or maybe especially when you’re sleeping. That’s one reason there aren’t great therapies for noise sensitivity disorders, Brout

tells me. “In the face of sound that is either painful or that the brain is misinterpreting as dangerous, it’s really difficult to dampen the nervous system reactivity,” she says.

So it’s no surprise that Brout is a big believer in identifying tools and devices that can help quiet the sounds in your environment. The most obvious, of course, are earplugs, which dramatically reduce environmental noise by preventing sound waves from reaching your inner ear, the place that triggers your body to react to noise in the first place. Protective earmuffs operate the same way, and they’re typically more comfortable and user-friendly than earplugs. Though, depending on your environment, they may not be as practical as their smaller, less noticeable peers.

“Typical foam earplugs attenuate high frequencies like the upper keys on a piano. But there are specially designed earplugs called high-fidelity or “musicians’ earplugs” that attenuate (weaken) sound equally across all frequencies,” says Meinke, who uses myriad protective devices to protect her ears in different environments—regular earmuffs or foam earplugs when she mows the lawn, high fidelity filtered earplugs when she goes to noisy live music events or restaurants, and electronic shooter’s earplugs or earmuffs when she does firearm impulse noise research.

A more sophisticated solution—and my birthday gift from my boys last year—are Bluetooth-enabled noise-canceling headphones, which emit sound waves that complement and cancel surrounding noise. The technology allows me to listen to the latest true crime podcast or immerse myself in Spotify’s Feel Happy playlist while blocking the sound of my boys sparring in the same room.

“These tools not only minimize the physical effects of noise pollution, but they also give you a sense of control over the sounds in your environment,” Brout says. “Just make sure to do your homework before you purchase. Some of these devices are legit, and they can be a boon for people who are sound sensitive, but others are essentially useless.”

Worried about inadvertently drowning out the sound of an approaching car during your run, your crying baby, or your pooch who needs an open door to pee? Meinke says if you fit the earplugs to match the amount of attenuation you need for the listening environment, you’ll never be in a position where you don’t hear anything.

Environmental Controls

Whether you use high-tech tools or creative furnishings, Meinke tells me it’s better to spend money upfront on effective prevention efforts than paying downstream for hearing aids and rehabilitation. “You can modify your space to plan for the sound level you want to achieve,” she says. “Soft window coverings, fabric art on the walls, absorbent floorings, acoustic ceiling tiles and wall treatments. All of these things can help mute sounds.”

I don't have heavy draperies or sound-absorbent flooring, but I now use an air purifier and white noise machine in my home office to drown out disruptive sounds during working hours. I choose meditative soundscapes on YouTube. I also asked my husband and sons for thoughts on how we could collectively turn down the volume. My youngest had an idea from school. His teacher uses a web-based tool called Bouncy Balls, to bring awareness to rising noise levels (other options include Too Noisy Lite and Calm Counter).

I pulled up Bouncy Balls on Google Chrome and watched, mesmerized, as a plethora of brightly colored circles bounced in concert with the ambient noise level in our kitchen. When the noise got too loud, based on my chosen sensitivity level, a noise alert from the site (not me) told the boys to quiet down. Soon I began placing my laptop in the center of the table at mealtimes. Yes, I know screens at mealtimes are not ideal, but neither is deafening conversation, and it did reduce the cacophony to a mere buzz most nights.

While there's no surefire solution to quieting the mind-numbing decibel level in our home, I've discovered that when I use tech tools in tandem with self-care—getting enough sleep, taking breaks, removing myself from the chaos—the stressful sounds my beloved boys produce becomes more manageable.