

STAY  
HEALTHY

SPOTLIGHT

30

Loud noises can unravel the connection between your ear and brain.



## NOW HEAR THIS!

Hearing loss is not just an old-person problem. Here's how to keep your ears at their peak.

**CHIRPY GOLDFINCHES.** The latest Drake song. Your son's voice as he mumbles about wanting to try out for the football team this year. Our ears bring us loads of good stuff, so why do we let them get so beat up?

One-fifth of all women between the ages of 20 and 69 have trouble hearing high-frequency sounds, research shows. And the problem starts early: A 2010 study showed that 17 percent of girls ages 12 to 19 had some degree of hearing loss (up from 12 percent just eight years before).

"Often, friends, family and co-workers notice the decline in our hearing before we do ourselves," says Sharon G. Curhan, M.D., an instructor of medicine at Brigham and Women's Hospital in Boston. "Since hearing loss is usually permanent and the factors that contribute to it are cumulative, the more we can do to protect our ears, the better," Curhan says.

### THE CONSEQUENCE OF SOUND

So how can you ensure your ears stay in perfect shape? The simplest answer is—duh—by keeping them safe from deafening sounds. Quick science lesson: "Loud noise pumps pressure into the ear, killing off tiny hairs and nerve endings in the cochlea," says Jyoti Bhayani, an audiologist at Gottlieb Memorial Hospital in Melrose Park, Ill. Those hairs and nerve endings are the tin can telephone that transmits sound to the brain. Without them, you

can literally lose the ability to hear. And few people realize how little noise it takes to cause permanent hearing loss. "In the last few years, I've seen an increase in awareness that loud noise is bad, but people still don't recognize everyday sources of noise as problematic," Bhayani says.

The American Academy of Audiology sets the safe-zone cutoff at 85 decibels (that's slightly quieter than a hair-dryer, blender or lawn mower) and recommends protecting your ears if you'll be subjected to 30 minutes or more. But noise exposure works like UV rays—its effects are cumulative, and you don't need a lobster-like sunburn to rack up serious damage. Bhayani suggests popping in earplugs before you dry your hair or buzz a smoothie (yes, really). Keep your iPhone volume at 50 percent, since cranking it up all the way is equal to aiming a 100-decibel cannon directly at your inner ear. She also favors speakers over headphones (and headphones over earbuds) if you're on the treadmill, listening to a podcast or cleaning the house to your favorite Beyoncé album.

What about the booming world out there? Stow earplugs in your purse for ball games, fireworks and other fun but deafening summer pursuits. An app that uses your phone's mic to determine noise levels (like TooLoud? for iPhone and deciBel for Android) can help keep your daily exposure in check.

### BLARE IN MIND

Besides earsplitting noise, scientists have uncovered another, more insidious hearing saboteur: stress. Thanks to the tight connections between the brain regions that process emotions and sounds, anxiety actually interferes with auditory processing. Recent research shows that

stress can tank a person's ability to pick up on human voices, and has linked stress with tinnitus, or chronic ringing in the ears, which affects 50 million Americans. More than half of all tinnitus sufferers also have mental disorders like depression and anxiety, and while it might seem like the former breeds the latter (that constant whine would bum anybody out), there are significant clues that stress may actually cause tinnitus—or at least make it worse.

See, tinnitus is associated with inflammation in the inner ear—often brought on by thunderous noise or old age, says Tony L. Sahley, Ph.D., a hearing scientist at Cleveland State University. But feeling tense or exhausted exacerbates that inflammation. “In the nervous system, there's a class of neuropeptides called dynorphins,” he says. “These chemicals contribute to inflammation and are very involved in how the body responds to stress.” Dynorphins are also

found (you guessed it) within the inner ear. A buildup of dynorphins—from stupid-loud noise, emotional stress or both—may play a role in the development of tinnitus, he says. But unlike the type of tinnitus brought on by noise, the kind that stems from frazzled feelings is reversible when attended to. In short: Managing stress better may help you hear your favorite tunes well into your senior years.

## SAFE AND SOUND

We bet you never imagined these gold-star health moves could protect your hearing.

### Eat right

- Antioxidants reduce inflammation in the body; inflammation hurts your hearing, so boom: Veggies are good for your ears *and* your waistline. Research links beta-carotene, vitamin C and magnesium consumption with a lower risk of hearing loss.

### Check your meds

- Women who take ibuprofen or acetaminophen (but not aspirin) two or more times per week are more likely to have hearing loss, research shows. Ibuprofen may reduce blood flow to the inner ear; acetaminophen may deplete antioxidants that protect the cochlea from damage. Your doctor can help you weigh the pros and cons of any meds that might affect your hearing.

### Catch your 40 winks

- Sleep deprivation interferes with the brain's ability to process auditory information, studies show. Aim for an eight-hour stretch.

### Get moving

- A recent study showed that walking for just two hours per week lowers the risk of hearing loss. “Physical activity may help maintain adequate blood flow to the cochlea,” says lead author Sharon G. Curhan, M.D., an instructor of medicine at Brigham and Women's Hospital.

### Chew gum

- Sounds nuts, but a study in the journal *PLoS ONE* suggests that chomping on gum buffers the impact of sound-related stress, possibly by distracting noise-activated areas of the brain. Pop a sugarless piece when you forget to bring your earplugs to the ballpark.

**Canning some stressful obligations may boost your ability to hear.**



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