



Townshend has "severe" hearing loss  
Photo by Barry Brecheisen

## Music Making Fans Deaf?

*How the iPod generation may be losing its hearing without even knowing it*

Hearing loss is one of the dirty secrets of the music business, and everyone involved -- from musicians onstage to fans who crank MP3s through headphones -- is at risk. "We turn it up without realizing that we're doing damage," says Brian Fligor, an audiologist at Boston Children's Hospital. "Noise-induced hearing loss develops so slowly and insidiously that we don't know it's happened until it's too late."

In 1989, Pete Townshend admitted that he had sustained "very severe hearing damage." Since then, Neil Young, Beatles producer George Martin, Sting, Ted Nugent and Jeff Beck have all discussed their hearing problems. Fleetwood Mac drummer Mick Fleetwood first noticed that he was having trouble hearing conversations in crowded rooms about twelve years ago. "The world's worst is when you find yourself going like Mother Hubbard and cupping your hand behind your ear," says Fleetwood. "I was a major glutton for volume: 'Gotta feel it, gotta hear it.' Sooner or later you're going to pay the reaper."

More than 28 million Americans currently have some degree of hearing loss, according to the National Institute on Deafness, and as baby boomers age, the number is expected to climb to as high as 78 million by 2030. "Over the last twenty years, environmental noise has doubled each decade," says Marshall Chasin, director of auditory research at the Musicians' Clinic of Canada. "Everything is louder -- phones ring louder, movies are louder, construction noise is louder. And rock & roll is a big part of it." For the iPod generation, the trouble could be worse. Twenty-two million American adults own an iPod or other digital-music player, and studies show that sustained listening, even at moderate volume, can cause serious harm.

There's a limited amount of specific research on the effects of loud music on the ears -- which can result in hearing loss or the constant ringing in the ears called tinnitus. But evidence of the risks for fans and music-industry professionals is growing, as doctors, audiologists and researchers turn their attention to the problem. "When I was a doctoral student, the question of 'How loud can my kids turn up their headphones?' would come up, and there was no good answer," says Fligor. "A fifteen-year-old kid with noise-induced hearing loss came through the clinic, and we asked if he listened to loud music. When he pulled out his CD player, it was turned all the way up. The problem was we had no way of knowing if that was a problem."

In 2001, Fligor began a study to determine how loud -- and for how long -- you can safely listen to a portable music player through headphones. He found that the kind of headphones you use greatly affects the risk. "The closer to the eardrum, the higher the sound levels the system is capable of producing," Fligor says. On average, Fligor found that you can safely listen to over-the-ear headphones with a player set at level six (out of ten) for an hour a day. For most in-the-ear headphones, like the earbuds that come with most MP3 players, the acceptable time at that level is less -- around thirty minutes for some models before you've exceeded your safe daily dose.

Manufacturers of portable players recognize that their products are potentially hazardous -- Sony, for instance, includes a hearing-loss warning with all its players -- but they leave it to users to keep the volume at a safe level. Apple declined to specify how loud the iPod can go, but Fligor's preliminary



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findings indicate that the iPod is comparable to a Sony CD Walkman with earbuds, which can go as high as 130 decibels -- equivalent to a jackhammer. European iPods, in contrast, are capped at 100 decibels by law.

Young fans seem especially unaware of the risks associated with noise exposure. In 1999, Dr. Roland Eavey, Harvard Medical School professor of otolaryngology at Massachusetts Eye and Ear Infirmary, went to an R.E.M. show with his teenage daughter. "In the parking lot after, everyone was saying things like, 'Man, are your ears ringing?'" he says. "I suspected they didn't realize that they might be having trouble." Eavey conducted a study with the Harvard School of Public Health to determine how conscious concertgoers are that they might be damaging their hearing. Last year, Eavey's team posted a questionnaire on MTV's Web site. In three days, nearly 10,000 people (most under twenty-one) responded, answering twenty-eight questions about their attitudes toward issues including sexually transmitted diseases (fifty percent said it was "a very big problem"), alcohol/ drug use (forty-seven percent) and depression (forty-four percent). "Hearing loss was eight percent," Eavey says. "It was the last thing anybody's concerned about. But we asked later on in the survey, 'Have you ever had a hearing loss or ringing in your ears?' Two-thirds had."

The House Ear Institute in Los Angeles has been testing music-industry professionals since 1997. Rachel Cruz, an HEI researcher and audiologist, analyzed data collected from over 4,000 musicians, producers, engineers and nightclub DJs. "On average, the people we tested in their twenties and thirties showed clear noise-exposure damage, but their hearing was within normal limits," she says. "But once they hit their forties, there's a big, big shift. If you're not careful, in your forties you could really be struggling."

"Every other musician I know has some form of problem with their hearing," says Garbage singer Shirley Manson. "All the guys in my band have weird schisms that come from being around really loud music." Pearl Jam guitarist Stone Gossard says he isn't affected but that bassist Jeff Ament, guitarist Mike McCready and drummer Matt Cameron all have hearing loss or tinnitus. "It's hard for them to deal with it, so we've made adjustments," Gossard says. "We're trying to keep the volume at a level that allows everyone to keep playing music." It's a cruel irony: The people who rely most on their ears have the highest risk. "If your audiogram is wrong, it doesn't matter how good your mixing board or your speakers are," says Dr. Charles Limb, a surgeon at Johns Hopkins Hospital and the National Institutes of Health, who specializes in treating musicians. "You're not going to hear correctly."

That's what happened to Phil Collins, who, as a result of a viral infection, sustained loss in selected frequencies in his left ear around five years ago. Although his hearing loss wasn't caused by noise exposure, the drummer and producer has stepped away from the mixing board. "I figured if someone was going to pay me to produce an album, I'd better have two good ears," he says. "Also, I was putting too much bass on, because that's one of the things that's gone."

For the last fifteen years, an organization called Hearing Education and Awareness for Rockers has worked to raise awareness of music-related hearing problems. Its executive director and co-founder, Kathy Peck, started H.E.A.R. after she began to notice hearing loss when her band, the Contractions, opened for Duran Duran at Oakland Stadium in 1984. "First I had to find out what happened to me," she says. "I went to the hearing society, but they put me in a lip-reading class with eighty-year-olds. They didn't understand that I was in a band that was supposed to play with Santana in Golden Gate Park." Surprised by the lack of care geared toward musicians, Peck teamed up with a doctor at the Haight-Ashbury Free Clinic to set up a hearing center. Pete Townshend donated \$10,000 to help get H.E.A.R. off the ground. Over the years, the organization has evolved into an advocacy group, producing public-service announcements with Metallica's Lars Ulrich and helping pass a San Francisco ordinance that requires venues to distribute free earplugs.

"The earplugs you get at the drugstore knock off about twenty-five decibels," says Eavey. "That's the difference between some potential damage and not having damage." But distribution of earplugs isn't widespread, nor are fans very aware of their importance, at least according to Eavey's MTV study. "It's about educating people -- like you try to educate them to put on a condom," says Garbage's Manson. "If you don't start taking precautions, you'll be totally, unbelievably uncool by the time you're forty, because you won't be able to hear a damn thing."

And while most veteran musicians are getting the message, some younger acts are still resistant. "I only like it loud," says Killers singer Brandon Flowers. "Our live show would never be the same if I wore in-ear [protection]." Others are concerned, but not enough to change their behavior. "I've tried to play with earplugs before and just immediately taken them out and thought, 'I'm not enjoying this,'" says Futureheads frontman Barry Hyde. "I'll just have to suffer the consequences later on in life."

## Five Ways to Save Your Ears

1. Wear earplugs: Coldplay and Dave Matthews Band wear ear protection. You should too. A pair of cheap foam earplugs will do the trick, but it's better to invest in higher-fidelity Etymotic ER-20 plugs (\$12, etymotic.com),

which reduce volume without cutting out too much high end.

2. Turn it down: Don't crank up your portable music player too loud, especially to compensate for other noise around you. If you're on a subway, the ambient noise could be as high as 105 decibels. To hear your tunes, you might turn the music up to 110, a level that is safe only for thirty minutes.

3. Get better headphones: Those that shut out external noise allow you to turn down the tunes. In-ear phones like Etymotic's ER6 (\$139) and Shure's E4C (\$299) go deep into the ear canal to block pretty much all outside noise -- plus they sound great (a cheaper alternative is Sony's MDR-EX71, \$50). Bose's noise-canceling QuietComfort 2 (\$299) fits over the ears and removes a lot of low-end noise.

4. Give your ears a rest: "There's nothing wrong with going to a rock concert on Friday night," says Marshall Chasin. "Just don't mow your lawn on Saturday." Your ears need about eighteen hours after exposure to sustained high volumes before they return to normal.

5. Quit smoking: It doubles the risk of noise-induced hearing loss. "After a loud show, the way you get better is through blood supply to your inner-ear nerve cells," says Chicago audiologist Michael Santucci. "If you do something cardiovascularly restrictive, like smoking, your blood supply won't be as good. You're being exposed to two toxins, the cardiovascular toxin and the noise toxin."

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