

# Hi-fidelity earplugs aim to preserve both hearing, sound quality

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For a long time, music lovers have been forced to make a choice: Go to concerts and fully hear the music while probably incurring permanent hearing damage, or wear earplugs that protect their hearing while distorting the sound of the music.

Enter high-fidelity [earplugs](#), which are designed to preserve both [sound quality](#) and a listener's hearing by electronically adjusting sound.

Typical foam earplugs disproportionately muffle some pitches more than others, so the music gets garbled. High-fidelity earplugs, on the other hand, lower the decibels evenly across all pitches.

Catherine Palmer, director of the Center for Audiology and Hearing Aids at University of Pittsburgh Medical Center's Eye and Ear Institute, believes the earplugs should be viewed like seat belts: a necessary precaution to minimize the risk of a potentially harmful, but ultimately valuable, activity.

Jay Clark offers another analogy: sunscreen. The CEO and founder of Earpeace, a company that manufactures high-fidelity earplugs and markets them to young people, said that beachgoers understand that overexposure to the sun is harmful and put on sunscreen to ensure their experiences don't cost them their health. Likewise, people go to concerts to feel the music, but they should still protect their hearing. Once the hearing is gone, it's gone forever.

"Any time you're at a nightclub and your ears are ringing, and you can hear a difference in the ways your ears are performing, you have incurred a small amount of hearing loss, and that's permanent," he said.

Palmer said the need for [hearing protection](#) is especially great in 12- to 19-year-olds, the fastest growing population of individuals with noise-induced hearing loss. But she is optimistic about how open [young people](#) are to preserving their health.

"They don't mind having things in their ears," she said, referring to the earbuds that are popular with a generation that has grown up with iPods. "And this is a group of people looking at their health a little differently. They don't want to compromise their hearing."

Clark said people who resist earplugs do so for three reasons: concerns about the sound quality, comfort and aesthetic. He hopes to overcome those objections by creating a product that's high-tech, comfortable and unobtrusive. His company's earplugs retail for between \$13 and \$18 for standard high-fidelity earplugs and \$185 for custom fit earplugs.

The custom-fit model is popular with musicians, said Palmer, who works with many of them at the Center for Audiology and Hearing Aids. She received her doctorate in audiology and hearing impairment at Northwestern University.

"If you're a musician, you need sensitivity and pitch perception for tuning, for playing with other people ... their ear is part of their livelihood, and the only way to protect that is actually to wear [hearing protection](#)," she said.

Brian Zitelli, a 29-year-old pharmacist who plays guitar for fun, has worn high-fidelity earplugs since he was in a band in college. His wife, an audiologist who works with Palmer, encouraged him to use the

earplugs, and eventually he capitulated. He wears them when he attends concerts and when he plays.

"I love them and would never go back to regular earplugs," he said.  
"With (high-fidelity earplugs), things sound the way they should sound."

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