

## Sounds Of Silence

Although my hearing loss often makes me feel alone, the rapidly growing number of hard-of-hearing Americans suggests that's not really the case. BY JOE LINDSEY

MY BEDTIME ROUTINE is probably much like yours: I brush my teeth, change into pajamas, and pour a glass of water. But there is one difference. Just before going to bed, I remove my hearing aids—and the audible world drops away.

In those few minutes before my eyes adjust to the darkened room, I am a sensory shut-in. There, in the quiet blackness, the fears creep in. Is my hearing getting worse? Will my career, my marriage, even my sanity, fade along with my hearing? Will it abandon me completely one day?

But even in that inky void of dread, there is hope. And I am thankful to be able to grab hold of it. Hearing loss is unlike many disabilities in one important respect: new research, spurred by a growing number of Americans

with hearing loss, suggests that at some point in my lifetime the disorder may be reversible. At night, in bed, as I say "I love you" to my wife and strain to hear her reply, that knowledge gives me hope.

BY ALL APPEARANCES, I'm a healthy 40-year-old man. I don't smoke. I weigh almost exactly what I did in college. And I've never had a major health scare. Mine is an invisible disability; there's no obvious sign, but the clues are there if you pay attention. I say "What?" a lot. Also: "I'm sorry?" "Come again?" and "I didn't catch that." In noisy settings, I sometimes retreat from the conversation because I can't follow it. I can seem a bit slow or, alternately, aloof, when what's really happening is that I'm furiously searching for situational context to fill in what I didn't hear. And if a friend asks me a question while standing directly behind me, I may not respond.

That's what hearing loss looks like. Many people equate hearing loss with being deaf, but the two are very different. People who are deaf hear no sound at all, communicate via American Sign Language, and may be part of the capital-D Deaf culture, which holds that deafness isn't so much a disability as a different variety of the human experience.

But most of us with hearing loss aren't deaf, upper- or lowercase. We can hear; we just can't hear very well. You might even be one of us and not realize it. Hearing threshold defines the softest sound a person can hear. A normal-hearing person can detect sounds down



to about 10 decibels, like the soft, steady *whoosh* of someone breathing in a quiet room. Everyday conversation starts around 55 db. A baby in full-throated cry registers at 115 db. Mild hearing loss begins when a person can no longer detect sounds quieter than 25 db.

The leading cause of permanent hearing loss is noise exposure. Both extraordinarily loud intermittent sounds and prolonged exposure to consistent noise above 85 db can damage the delicate hair cells in the cochlea (inner ear), causing what's called sensorineural hearing loss. Unfortunately, the unavoidable din of modern life is a primary culprit. A 1995 Denver Department of Environmental Health survey of noise in Denver found ambient sound levels creeping up to 70 db; in major urban areas, the constant clamor can top 80 db. Even common household items emit dangerous levels of racket:



85

<u>55 > 15 </u>

Decibels that most public health organizations worldwide use as the threshold for causing hearing damage

Minutes to which the National Institute for Occupational Safety and Health recommends you limit your exposure to 100-decibel sounds each day A gas lawn mower growls at about 100 db to the person pushing it; Hasbro's Marvel The Avengers Iron Man Mission Mask cranks out 101 db, according to the Sight and Hearing Association's 2012 survey of noisy toys. And most MP3 players have a maximum volume of 100 db with the stock earbuds, according to a 2006 report researched, in part, by a University of Colorado graduate student.

Because noise-related hearing damage is cumulative, older people have higher rates of hearing loss (a third of those between 65 and 74 are affected, according to National Institute on Deafness and Other Communication Disorders statistics), which makes it easy to categorize the affliction as an age-related disorder only. In reality, a third of hearing loss cases in men and one-fifth in women begin between 20 and 39. But a 2010 study in the Journal of the American Medical Association found that our country's hearing problems may be beginning even earlier. According to that report, which cited noise as a potentially significant cause, nearly 20 percent of Americans ages 12 to 19 have mild to moderate hearing loss.

Current National Institutes of Health statistics estimate that about 17 percent of Americans (or about 36 million people) over the age of 18 have reported some degree of hearing loss, but self-reported rates among adults are thought to be low. A 2011 study by a group of doctors at Johns Hopkins University puts the estimate at closer to 50 million, or about one in five Americans. There are no state-specific numbers, but if those trends and statistics are accurate, nearly one million Coloradans, much like me, may be finding themselves unable to join the conversation.

EVERYONE MUMBLES. At least, that's what I kept telling myself. I heard the words; they just didn't make sense. Vowels were dropping out, consonants were blending. At a busy restaurant, the hostess' question, "Table for how many?" would somehow morph into "We don't have any." High-pitched voices—kids' especially—blurred into a buzz of unintelligible sounds. That's how it started, anyway.

For a few years, I truly believed everyone else was at fault. I used a litany of

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excuses to shield myself from the truth. Despite my wife's gentle but insistent nudges that I get my hearing checked, I only faced my disability when, at a weeklong retreat in Moab with colleagues one year, I realized that my struggle to hear was noticeable to the outside world. As usual, I missed conversations, offered non sequitur answers to questions I thought someone had asked, and sometimes simply failed to respond at all. Late in the

week, an editor, a Boston Irishman with a

60-grit personality and a love of needling

people, looked at me and said, without a

trace of teasing, "You should really get

your hearing checked."

first person

Some people lose their hearing suddenly-via a single, loud blast of noise, a head injury, an illness, or even a medication (some chemotherapy drugs, for example) and they know right away. But for most of us, unexplainable sensorineural hearing loss is a creeping, insidious disability that we are always the last to notice, and the last to accept. Among people with hearing loss who get hearing aids, it takes an average of six years from the onset of hearing loss for them to do so. (Nearly 75 to 80 percent of those with hearing loss never do.) As frustrating as the denial is to our loved ones, it's a form of protection against hearing loss: it's an awful truth we don't want to accept. And for good reason: Just before her 75th birthday, Helen Keller wrote, "After a lifetime in silence and darkness, to be deaf is a greater affliction than to be blind."

To be hearing impaired is to constantly wonder what you're failing to notice and to endure the unending struggle of trying not to miss whatever you think that might be. It's the loneliness when everyone else laughs at a joke you didn't hear. It's the fatigue of concentration; the fear that the slightest lapse in vigilance will mean something crucial is lost. And it's the quiet withdrawal from society, the reflexive result of dozens, maybe hundreds, of awkward social exchanges that reinforce the seductive conclusion that maybe it's easier just not to engage.

The isolation is bad enough, but hearing impairment isn't a stand-alone disability. An oft-cited 2000 study by the National Council on Aging linked untreated hearing loss to mental health problems like depression and anxiety, in part because subjects weren't confident in social situations. As a result, they grew angry, irritable, and often withdrew from the world around them. More recent research also associ-

ates hearing loss with an increased risk of cognitive decline. A pair of studies out of Johns Hopkins in 2011 and 2013 found that participants with hearing loss were up to five times more likely to develop dementia and experienced a faster cognitive decline than people with normal hearing.

While the Hopkins research doesn't show that hearing aids help limit the problems, the authors did note social isolation (linked by other research to both dementia and depression) as a possible cause. If hearing aids would help me be more social, then that alone is reason enough to wear them.

FOUR MONTHS AFTER my gruff Boston friend outed my disability. I walked into one of those strip-mall audiology offices that advertise in the Denver Post, filled out a few forms, and thought it ironic that I could clearly hear the receptionist remark, "Oh, wow. You're the youngest person we've had here by 20 years."

After my hearing test was complete, the wide-eyed audiologist sat down with me to explain the results. "I never would have guessed how much hearing loss you have," he said. "You have developed some elegant coping mechanisms."

Indeed, I had. I could speechread. I scrutinized nonverbal cues for hints. And like a lot of people with hearing loss, I did most of the talking because it was easier than listening. But my survival systems were no substitute for hearing. I needed help, but it took time to break down the denial. I sought out second and third opinions, until Dr. Herman Jenkins at the Marion Downs Hearing Center at the University of Colorado Hospital (UCH) gave me a succinct diagnosis I had to accept. "You're missing a lot," he said.

"What?" I replied.

Weeks later, I returned to get my hearing aids: top-of-the-line Widex Inteos with custom-fitted earbuds, which cost me \$6,000 because, as I learned, most insurance programs, including Medicare, don't cover hearing aids. The tiny gadgets are considered elective medical devices. Apparently, hearing is optional.

I put them in my ears, and the world rushed in. I brushed a hand on my jeans and heard something like ripping silk. I could hear the whir of the air conditioning vent. I listened to the phone ring in the office down the hall. After years of missing so much, the timbre of the world was almost disorienting.

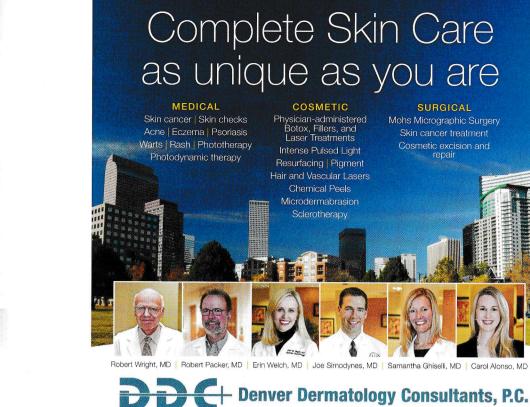
But here's the thing: Hearing aids are



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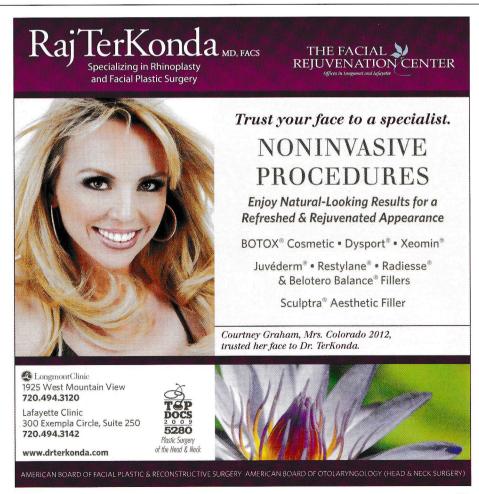
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not like eyeglasses. They do not restore natural human hearing as much as they provide a reasonable imitation of it. Voices and certain frequencies can still sound buzzily unintelligible. They rely, imperfectly, on directional microphones to locate sounds. Like most microphones, the static from a stiff breeze gives them fits. And unlike Mother Nature's original design, the devices don't filter background noise worth a damn. Still, they are a medical miracle, especially the modern digital technology that makes today's hearing aids as different from old analog models as that analog technology was from the ear trumpet.

Fortunately, even better technology may be on its way. UCH's Jenkins is participating in research on middle-ear implantable hearing aids—devices that use bone conduction, which picks up sound vibrations in the skull and transmits them deep into the inner ear, bypassing the faulty hair cells in the cochlea. One version, called Esteem, is already FDA approved.

Even more promising than that may be a consortium of Hearing Health Foundation researchers who are working on the Hearing Restoration Project, which has a goal of achieving a biological cure for hearing loss within a decade. A separate effort—using stem cell, gene, molecular, and neural therapies—is underway at Stanford. And at Harvard, researchers published extremely preliminary studies this past January reporting that a drug treatment called a gamma-secretase inhibitor had some effect in regrowing crucial cochlear hair cells in deaf mice.

Modest hearing regeneration in mice may be a far cry from a cure in humans, but from where I sit, it sounds promising. At 40, I already have moderate to severe hearing loss; with every annual audiogram, I pray my hearing threshold doesn't inch higher, but I know that sensorineural hearing loss is often progressive.

I am constantly reminded of my disability, but never more so than at night, when in the hush of a darkened bedroom, I sometimes feel diminished, as if my humanity slips away with each decibel I can no longer hear. But then I reach a hand out to my wife and say, "I love you." A moment later, her reply comes back. In the dark. I smile an invisible smile. I can still hear. I am still here.

Joe Lindsey is a Boulder-based freelance writer. Email him at letters@5280.com.