

## Sound Decision

After years of tolerating a hearing disability, a ground-breaking surgery grants one Denverite the tuned-in life she never knew she always wanted.



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Imagine you're 16, sitting in class, trying to follow the lesson on the board. Only you can't hear what the teacher is saying, so you suffer through the semester in a fog, too self-conscious to speak up and call attention to the fact that you're different.

Imagine your child is crying in his bedroom, burning up with a fever. Only you can't hear him from your own bedroom, so he spends the night in misery.

Imagine you stop at an intersection in your car and reach down to adjust a tipped-over shopping bag. When you glance up, the light is green, so you step on the gas. What you don't see is the fire truck barreling toward you—because you never heard the wail of the siren as the truck sped through the light.

Lori Frisher never had to imagine any of this, because this was the life the 38-year-old Denverite always assumed she had to live. There was no escaping it. This was her reality.

**Frisher's family first pinpointed** her “invisible disability” when her development and speech stalled as a toddler. Her parents noticed little things, like the way she turned her father's face toward her when he spoke. Though she could have attended a special school and communicated with sign language, Frisher relied almost exclusively on hearing aids. She and her family decided she should be mainstreamed, and she worked on overcoming the challenges: writing down homework assignments correctly, playing team sports, and picking up social cues at parties.

Even so, her struggles continued. “I became guarded because I didn't want to have to explain myself,” Frisher says. “I didn't want it to be a problem. I was afraid that people would have to slow down for me. I needed sensitivity from some people, but I didn't allow it. Maybe I expected too much, thinking they could read my mind. It was really hard for me to say I was different.”

Frisher attended the University of Hartford, where she played Division I tennis as a walk-on—without ever hearing the sound of the racket hitting the ball. She later became the school's first student-elected commencement speaker with a disability, and after graduation she used her learned creativity to work around her disability and launch an advertising, sales, and marketing career, including a stint with Disaboom, an online information resource for people with disabilities. “I always worked extra hard to hear,” Frisher says, “and, yes, missed out on things and got frustrated. But I did my best and compensated in other areas.”

Despite her professional success, Frisher was still socially insecure. She never put her hair up; instead she wore it down around her face to cover the hearing aids. Her voice sounded different; people who weren't aware of her disability asked if she wore a retainer. And because having conversations in busy group settings like bars or restaurants was difficult, dating intimidated her.

“I always felt ashamed,” she says, “like men wouldn’t accept me. I’ve spent my entire adult life feeling like this in social environments.”

If that weren’t enough, Frisher suffered two bouts of cancer. After fighting off stage-three melanoma in 1999, she relapsed in 2005. Complications from her high-dose treatment of the cancer drug Interferon reduced her hearing by another 30 percent, making her nearly deaf and qualifying her for a cochlear implant on one side, which requires external hardware to be worn above the ear. Together with the traditional hearing aid she already wore, the implant helped restore some of her auditory abilities, but Frisher’s hearing was still incomplete. Noises like a bell on a bicycle, a whisper, boiling water, or the sound of a kiss remained alien to her. “How many people take sound for granted?” Frisher says. “Or being able to speak, hear, and understand at the same time?”

**Up to 200 babies are born** with significant hearing loss each year in Colorado, making it the most common congenital defect in the state. More than 400,000 Coloradans are hard of hearing—meaning they have some degree of auditory capability with or without a hearing aid—while 42,000 have profound hearing loss. About 10 percent of the population nationwide, almost 31 million people, has some difficulty hearing, and 65 percent of these people are under the age of 65. Studies have linked significant untreated hearing loss with mental-health problems such as depression and anxiety. Those with untreated mild hearing loss have twice the chance of developing Alzheimer’s or dementia as normally hearing people, and the untreated moderately hard-of-hearing have five times the chance.

Recent advancements in amplification technology, however, have begun to provide a remedy for people with all degrees of hearing loss. Cochlear implants, aka the “bionic ear,” have significantly improved the quality of sound (and of life) for those who are profoundly hard of hearing. And as Frisher would learn, a newly FDA-approved, revolutionary hearing device was about to put the challenges she faced, along with a lifetime of second-guessing herself, in the past.

While she navigated her illness and her hearing condition, a Minnesota-based company called Envoy Medical was perfecting the Esteem implant. Unlike external hearing aids, Envoy’s technology, implanted in the ear, is invisible. It uses the eardrum itself as the microphone,

creating the closest thing possible to natural sound. A tiny iPod-like controller lets the user personalize frequencies depending on the ambient setting and even turn it on and off, which helps prolong the five- to nine-year life of the nonrechargeable battery. “We are to hearing what Lasik is to vision,” says Envoy CEO Patrick Spearman. “The difference is, glasses and contacts work well; [typical] hearing aids don’t.” In spring of 2010, a friend of Frisher’s who worked for Envoy introduced her to Spearman, who pegged her as an ideal candidate for a trial of the Esteem device, which would replace her hearing aid but work in conjunction with the irreversible cochlear implant.

Frisher initially resisted the change; she’d lived her whole life with little hope of major improvement, and she’d gotten somewhat comfortable with her personalized brand of blending in. Finally, no longer able to pretend her hearing aid was effective, she relented. In November 2010, Frisher became the first person in the world with a cochlear implant to receive the Esteem device. She flew to California for the four-hour surgery, which required a nine-week recovery period before doctors activated the device.

The results were stunning and instantaneous. “When I said ‘hello,’” Frisher says, “I could hear the sound of my own voice as well as feel it. The other day, I heard the keyboard while I was typing on my computer. To be sitting in the back seat of the car and hear the conversation in the front seat...when I was a child in the back seat of the family car, I wasn’t part of the family conversation.” Perhaps the most emotionally overwhelming revelation came the first time she heard her one-year-old niece crying from a different room. “I’d always wondered about having children,” Frisher says, because she worried about sleeping through a fire alarm or not hearing a cry for help. “This is a miracle for me.”

Come January, local patients will be able to find the procedure closer to home, as Envoy plans to bring the Esteem implant to Colorado surgical centers. Already,\* corporations such as AT&T are offering the procedure as a benefit. The cost is daunting—an estimated \$30,000 that most insurance plans won’t currently cover—although the long-term maintenance expenses of traditional hearing aids can also add up. Some argue that the superior sound quality Esteem users experience is worth a financing plan. “Patient results have been very, very good,” says Denver otolaryngologist Randy Taylor, one of the Colorado surgeons who has been trained in the

procedure. “The implant performs very nicely. It’s a very cool way to sense sound input and deliver it to the ear. It’s the most natural way to do it.”

Sitting in a bustling LoDo cafe eight months after her device was switched on, Frisher, clad in a chic black dress, stylish flats, and oversize gold bangles, tucks her thick auburn hair behind her ear as if she’s been doing it her whole life. She chats easily, unfazed by the midday bustle, about her recent dating exploits and career choices. Although she maintains her successful sales career—she reps voice and data services for Integra Telecom, a position that relies heavily on telephone sales—she’s exploring the idea of work that’s more cause-related. “The biggest thing is not feeling as stuck-on- the-outside as I used to feel,” Frisher says. “It’s about connection; I’ve never felt part of something the way I have [since the implant]. For me to stand here today and say I don’t even feel like I have hearing loss.... Never in my lifetime did I think I could say that.”

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*—Image courtesy of Impact Images*

\* A previous version of this article stated that the Denver Veterans Affairs Medical Center is encouraging veterans nationwide to consider Esteem as a solution to hearing loss. However, the Denver VA does not formally endorse the Esteem device or any product or commercial entity, and encourages veterans to work with their VA provider to determine the best treatment for their individual situations.

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