BY **Mary Kay Windham**

WIRED FOR SOUND

New hearing research plugs a brother and sister back into the world.

MY BROTHER BOB AND I were only in our 40s when deafness came for us—as we had always dreaded it would. Every member of Mom's lineage has been haunted by this frustrating condition. I watched both Mom and then Bob withdraw from people, social gatherings, and conversations. Then I did it, too. It's easier than asking someone to repeat, and repeat, and repeat.

My patient spouse has been my ears for years—married me despite the fact I said "Huh?" a lot. Bob's wife is his interpreter. We are blessed to have such understanding helpmates and would be lost without them. We needed that kind of support to be successful at work, too.

Errors in the workplace are always bad, no matter how innocent. With hearing loss, there is a horrible stress level—straining to hear on the telephone or in meetings, and then there's the constant fear I might not get it right. The mistakes I found reinforced my need to worry.

Bob retired early from his job. So did I.

My brother is fluent in Spanish. His deteriorating hearing, along with the soft-spoken people and the difficult language components, made Bob almost give up on a language he loved.

Now he doesn't have to make the sacrifice. Because a miracle happened. A miracle of medical technology.

"Look at that!" I shouted at my husband, Bill, and leaped off the couch. It was the fall of 2004, and we were watching the news. A trailer across the bottom of the TV screen reported a research program for a "totally implantable hearing device," the first of its kind. Within five minutes, I'd sent an e-mail to volunteer.

I asked Bob to enter the clinical trial with me—scary stuff is always better faced in good company. Bob decided not to apply.

The revolutionary device is based on pacemaker technology. It senses vibrations within the middle ear and then delivers a customized dose of energy that the brain interprets as hearing. My first unit was implanted in May 2005. The surgery was a breeze and almost painless, although I resembled Yoda until the swelling subsided. After a two-month wait, the device was activated. It worked better than any conventional aid I've ever worn, not to mention the sensation of hearing naturally. There was no plug in my ear canal. The system was totally inside my head. I loved it.

I was happy, but the Envoy Esteem engineers were not yet satisfied. Offered a redo involving a new device and an opportunity to hear even better, I quickly said, "Yes." ➤

An experimental implant restored Bob's hearing—and his long-lost talent to mimic birdsongs.

When my second implant was activated at the two-month mark, my hearing was simply amazing. I was ecstatic. A year and a half later, I still am. "I kind of wish I had gone with you," Bob said. I wished he had, too.

On a follow-up visit, I learned that a second clinical trial with an improved version of the original device was accepting applicants. I flew home, and, two days later, my husband and I drove to visit Bob and his wife.

"Want me to see if I can get you in?" I asked, knowing the surgeries were already under way.

Myriad emotions flew across his face. I recognized each one; I'd experienced them all—hope, fear, the what-ifs.

Hope won.

"OK," burst out of him. "Yes. I want to do it."

Bob received his implant in April 2008. Two months after surgery, Bob called me. We spoke for half an hour—on ordinary cell phones. He heard every word I said, as I could with him. Those who are hearing-impaired understand exactly how precious is this gift of new technology.

"I heard birds sing for the first time in 30 years," Bob said.

One of my earliest memories of my big brother is his whistling. Bob's collection of birdcalls was extraordinary. Because he couldn't hear birdsongs, Bob lost his mimicry talent. "Envoy brought the whistle back into my life," he told me.

I now travel alone, without fear. Sleeping or showering—I know I'll hear everything if I don't turn off my device.

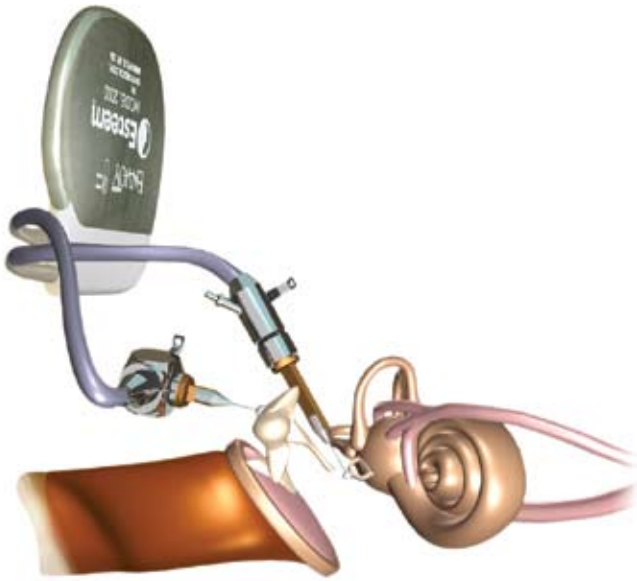
Pillow talk, absent for years, is back. I didn't realize how much I had missed it. Still, it is marvelous to turn off the duet of snoring husband and snoring cat if I wish to. Sometimes I don't—I just lie there and giggle.

Nothing external interferes with sunglasses or earrings.

Exercising? Perspiration? No problem! For those readers without hearing loss, let me explain that often when wearing conventional aids, it felt as if my head was immersed in a bucket—with or without water—depending on the situation. That's gone. The cacophony of a crowded restaurant—again, no problem. Hearing is sheer joy.

Bob and I ended our conversation with a mutual agreement. We each still wear a conventional hearing aid in our unimplanted ear. But just as soon as we can, we're going to get our second devices. We want to be binaural Envoyees.

"I'm playing music again," says Mary Kay. "All the tones are back."



About the Envoy

Who Benefits

The Envoy Esteem system (envoymedical.com) may be suitable for people with moderate to severe hearing loss that stems from damage to key sensory or nerve cells. Hearing loss occurs when the inner ear is unable to convert sound waves into electrical signals that travel to the hearing center of the brain.

How the Envoy Works

The device delivers a customized dose of energy to the middle ear in a way that allows the inner ear and brain to filter the sounds that comprise speech and those that are simply noise. This is an important difference. The artificial microphone of a conventional hearing aid makes no distinction between different kinds of sound and amplifies each one equally.

The Procedure

The hearing system, a bean-shaped device 1.5 inches in diameter and one-fourth-inch thick, is implanted in a hollowed-out portion of the skull behind the ear. Two wires run from the device to sensors in the middle ear. All is placed beneath the skin during a four to five hour surgery.

A two-month healing process follows, and then the device is activated. Replacing the battery requires minor surgery but is necessary only once every five to nine years.

More than 250 people worldwide have been implanted—the number increases daily. FDA approval in the United States is anticipated by February 1. At press time, insurance coverage is yet to be determined. Envoy offers financing for the device and surgery.

PHOTOS BY STEVEN HERPPICH; GRAPHIC COURTESY OF ENVOY