

# Shattered lives, saved

High tech helps disabled reach independence



Staff photo/Michael DeChilo

Willie Cofield, a quadriplegic undergoing rehabilitation at the Helen Hayes Hospital, uses a device clipped to his shirt to make a phone call. Touching the device with the side of his face gets him a telephone operator that assists with the call.

By Deborah Porterfield  
 Staff Writer

Willie Cofield shouldn't have been in that taxi. But a favor for a friend put him in the driver's seat. Two hours later, a robber's bullet shattered his spine.

Ask Cofield when it happened and he doesn't hesitate. "October 1, 1991." "I was like, wow, what am I going to do?" said Cofield. "I was always active. I was always involved in social things and schools for my children. I managed a football team. I was a total sponsor for a softball team... I thought, Oh God, I won't be able to do it."

But advances in technology are helping Cofield, and others like him, do more. He still can't move his arms or legs, but he can write letters, read stories and phone home.

## People using wheelchairs



Source: Vital and Health Statistics of the Centers for Disease Control and Prevention.

Staff graphic

Who to call for more information about advances in technology. 4A

"I know that my mother doesn't like to hear me say this, but I've got to say it. There's life after death. That's the way I used to describe it," he said.

Cofield, 43, is at Helen Hayes Hospital in West Haverstraw, getting control of his life with the help of a computer that hooks up to a high-tech wheelchair.

He's one of a growing number of disabled people whose rehabilitation includes techno-therapy. High-tech specialists work with patients to create personalized systems that fill in the gaps.

### The new systems include:

► Computers that use artificial intelligence to speed up ward processes.

Please see TECHNOLOGY, 4A

## Technology: Devices help disabled

Continued from page 1A

ing. As a computer learns someone's speech patterns, it can predict what he will say or type next. Another prototype monitors a disabled person's motor control. As he loses control, the computer makes sure his equipment makes up the difference. Or, as someone grows stronger, the system eases up, letting the disabled person do more.

► Devices that follow oral commands. A new bed at Burke Rehabilitation Hospital in White Plains, for example, lets a patient use his voice to adjust the mattress, turn on the lights or change the TV channel.

► Portable devices that let people zap on the stereo, the lamp or the TV with infrared signals. These new devices replace clunky boxes that had to be plugged in. They're faster, smaller and often work with computers.

### A fast-moving technology

Such a system freed Liz Jimenez from life in front of a TV channel that she could not get up to change.

Thanks to a computer program developed by former Yonkers resident Lon Safko, she is now in charge of her day. Jimenez turns on the lights, opens the door and changes TV channels with an infrared headset that feeds instructions to a computer.

To type, she nods at a letter on the keyboard. If she wants to turn on the ceiling fan, she tilts her head toward a picture on the computer screen.

"Before I was like a houseplant," said Jimenez, a quadriplegic with multiple sclerosis. "I couldn't do too much. I could just sit around and watch."

"It's hard to believe how much it's made me feel safe in my environment," she said.

Safko, based now in Phoenix with his company, Safko International Inc., has put together other packages that feature everything from speed dialing to a computerized library. Prices start at \$1,495 and go up to about \$13,000.

This is just one of many new options now available for the disabled.

"Almost every day in my mail, there's something new," said Lisa Rosano, a technology resource coordinator for the New York State Office of Advocate for the Disabled, which collects and shares information on new technology, funding and services.

The technology keeps changing. That is why Burke's 35 therapists in the Occupational Therapy and Speech Language Audiology departments attend lectures on the subject almost every month.

"There's a lot of technology out there, but not enough people know

## For more information

If you'd like more information about advances in technology, available services and funding for disabled people, you can call the New York state Office of Advocate for the Disabled in Albany at (800) 522-4369. This office oversees six regional technology centers, including one at the Westchester Institute for Human Development at Westchester County Medical Center in Valhalla. Or you can call the local center directly at 285-1317. The TDD number is 285-1204.

about it," said Bruce Mahaffey, a product planner in IBM's special needs department.

That may improve as more medical professionals and companies take interest. Membership in RESNA, a national organization for people and groups interested in rehab technology, jumped from 690 in 1984 to 1,742 last year.

The passage of federal legislation, including the Americans With Disabilities Act in 1990, spurred some of the interest, membership coordinator Terry Reamer said.

For example, only three institutions belonged to RESNA in 1984. Today, 69 universities, hospitals and government agencies are members. And corporate membership has jumped from one to 19.

### Money is a problem

For many disabled people, finding money to pay for the new technology is the biggest problem. Health insurance pays for some. Private donations, government programs and employers sometimes pitch in.

But that is not always enough. Three-fifths of the disabled people polled in a recent federal survey said they could not afford to buy the high-tech devices they need.

"The technology is there. Money's the only thing that holds you back," said Greg Blanchard, a commercial rehab consultant.

Willie Cofield is one of the lucky ones. His employer will set him up with an experimental computer that will let him live and work at home in Brooklyn. The main computer stays on a desk. A smaller version can be attached to his wheelchair. And a computerized conveyor belt will let him get outside without anyone's help.

Jimenez split the cost of Safko's system. She paid about \$2,000 for a computer. Her church in Phoenix pitched in about \$4,500 for the infrared headset and environmental software.

Mahaffey expects prices to drop as the general public gets interested in the new technology. For example, IBM makes a software package called VoiceType2 that responds to a person's speech. Its price tag — about \$1,000 — is expected to go down as more non-disabled people use it, he said.

"A lot of what's developed for disabled people ends up being a general purpose type of program," Mahaffey said. "There are a lot of people who'd like to use speech recognition because it's easier for them than typing."

Sometimes it is the small things that mean the most.

Jean Minkel, a seating and mobility specialist at Helen Hayes, tells the story of a man who was injured in a rugby accident.

She recently set him up in a high-tech wheelchair, much like Cofield's. When she asked how he was doing, his response stuck with her.

"He said, 'I accomplished two things today I haven't done in a year. I went out and chased my kids around the back yard, and that felt great. But I also could turn from the TV to look out the window by myself, and I didn't have to ask anybody.'"

## Need for devices grows

The number of people who use assistive technology devices continues to grow. These devices can be as simple as a walking cane or as high-tech as a voice-activated commuter.

1980: 720,000  
 1990: 1,411,000  
 Change: 96.1 percent increase

The older someone is, the

more likely that person will need devices. About 1 percent of those under 25 use such devices while nearly 35 percent of those 75 and older rely on them. As people live longer, the need for these devices will continue to grow.

Source: Vital and Health Statistics of the Centers for Disease Control.