

Music therapy helps stroke survivors regain lost speech by singing

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Credit: Wikimedia Commons

Ray Hart's vocabulary consisted of just one word after his August 2022 stroke.

"Yep" was all he could say, said Pamela Jenkins, his caregiver and

partner of 24 years.

Like many survivors, Hart, 62, can understand what's said to him almost as well as he could before the [stroke](#), but it's still hard for him to form complete sentences.

Now, though, a year after adding [music therapy](#) to his rehabilitation schedule, he can sing them.

"I've got sunshine on a cloudy day," he sang during a recent session at Sentara Fort Norfolk Plaza, relief and pride glowing on his face as the pent-up words escaped. "What can make me feel this way? My girl!"

Jenkins urged [medical professionals](#) to consider including music therapy in their rehabilitation recommendations as a panelist at the Stroke Symposium hosted by Sentara in Williamsburg.

"That therapy, we have found, has helped him more than anything else," she said.

Hart sees Tracy Bowdish, the only music therapist Sentara employs. Bowdish had worked with a task force to help pass music therapy licensure legislation in Virginia in 2020.

Despite its effectiveness for [stroke survivors](#), Parkinson's and Alzheimer's patients and others with various types of cognitive deficit, music therapy is generally not covered by insurance, Bowdish said.

To make it accessible, Sentara takes a loss on the program and charges patients a \$40 fee for each session. That amount hasn't increased in Bowdish's 12 years with the hospital system.

"I'm inherently skeptical by nature, so I know people look at music

therapy and think it looks all fluffy," Bowdish said.

But neurologic music therapy engages various parts of the brain, involving emotion, rhythm, memory and language, she said. When [functional magnetic resonance](#) imaging emerged, she added, practitioners thought they'd be able to find where music lives in the brain. It turned out, though, that unlike speech, which is controlled from the brain's left hemisphere, music shows up all over the place.

"We use more of our brain when we sing than we do when we speak," she said.

Dr. Alexander Grunsfeld, Sentara's medical director for neuroscience and the director of the conference, said the power of music has always fascinated him.

"Everything else that moves you as a human being, you can correlate that with some value for survival," Grunsfeld said. From love to fear, there's a clear relationship, he said, but music doesn't seem to have the same obvious correlation.

"I've always been really curious about that," he said. "Why is music so powerful?"

The neurological reasons music therapy helps after a stroke are a bit easier to understand, he said. A stroke is caused by an interruption of [blood flow](#) to the brain, usually caused by a blood clot. Those clots, in turn, are often caused by damaged blood vessels, Grunsfeld said, adding that significant increases in stroke rates over the past several decades are associated with metabolic syndrome in a Western diet and sedentary lifestyles.

"It's very difficult to change lifestyle," he said. "But for people who

really don't want to have a stroke, the best option for them is to eat healthy and to engage in physical activity."

Since clots usually occur in a limited area, they also cut off blood flow to the brain in a limited area.

"The brain is unlike any other organ in that it cannot last for more than a few minutes without oxygen," Grunsfeld said. "If the blood was interrupted long enough, the neuron cells will die, and then that part of the brain will no longer be able to function normally."

Recovery or improvement after a stroke typically depends on other neurons growing new connections to take over the functions of the brain cells that died, he said, but overall understanding of recovery has changed dramatically over the past decade—especially the assumption that recovery is only possible for the first six months after a stroke.

"What we found out is that is not true, and it was a bit of a self-fulfilling prophecy," Grunsfeld said. "People should know that if anyone tells them that 'you're just never going to get better than this,' that isn't accurate."

"The more you use your brain, even as you get older and even after a stroke, your brain has the ability to adapt and to improve," he said. "And so I would say that recovery or improvement is possible at any stage. You just have to do the hard work."

Music therapy can make that work a little less hard, Grunsfeld and Bowdish both said, simply because it's fun.

"Obviously, we know what we should do," Bowdish said. "We know we should exercise more. We know we should put down the cigarettes. We know we should do things, but that doesn't mean we do them."

The same is true for therapy, she said, which requires both efficacy, meaning the therapy really works, and compliance, meaning the patient actually completes it. It's hard for someone to keep a frown on their face and sing along glumly with their favorite songs, she said.

Bowdish, who has been completely blind since birth, said the occasional patronizing attitudes she encounters have affected how she treats her patients.

"I don't ever want to be condescending or have low expectations for people," she said. "Just because somebody had a stroke, that doesn't automatically define who they are now."

"Yeah!" Hart interjected emphatically, paying close attention to Bowdish's passionate comments.

"Yeah, say it!" Bowdish responded, laughing. "That's just one day that one thing happened. It definitely changes the rest of your life, but it's not necessarily a major part of somebody's identity unless they choose for it to be."

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