

## Patients 'Flex'ing their muscles Device helps victims of stroke and brain injury

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With a look of intense determination in her big brown eyes, Jacqui McDaniel picks up a yellow ball with her left hand, pulls it out of a clear plastic container and drops it into another container. McDaniel may be 18, but she just completed a huge physical milestone.

On Aug. 9, 2004 — the first day of her senior year of high school — McDaniel and her little sister Lizzy, crashed their mo-ped into a Bradford pear tree. McDaniel suffered a brain injury that paralyzed the entire left side of her body.

The road to recovery has, of course, been an immense struggle for McDaniel and the rest of her family. But she says she is making good progress. McDaniel, who is left-handed, can now write a little better than before. She can sign her name and sometimes she says she writes "little bitty notes" to her dad, whom she credits most with encouraging her recovery.

"It has affected my whole family," says McDaniel. "But, as a whole, I have taken a huge leap (in my recovery)."

Recently, McDaniel was fitted with a glove-like contraption called the SaebFlex (pronounced SAY-bo-flex), designed to help her regain the use of her left hand, which she says was "balled up bad" after her accident.

The SaebFlex Functional Tone Management Program uses an orthopedic appliance to help people with hemiparesis — a slight paralysis or weakness affecting one side of the body — regain use of their hands. Without it, McDaniel could not pick up or drop the yellow ball when she began treatment.

The SaebFlex orthosis looks a bit like a bionic robot glove with brightly colored pieces that cover the hand and fingertips, and wires extending from the forearm to the fingers. This spring loaded finger extension system is what makes grasping and releasing objects possible. "I think I have released something like 30 balls now without (the SaebFlex)," says a proud McDaniel.

Diana Clarke, a certified occupational therapy assistant at the NHC Outpatient Rehabilitation Center in Murfreesboro, works closely with the patients in a small white room with colorful equipment that looks like games. Besides moving balls to different containers, Clarke also leads patients in exercises like the "Ring Tree," where patients must slide a ball and loop onto a horizontal pole.

Inventors of the SaebFlex also developed many of the exercises and equipment, however, Clarke has also developed some of her own.

Clarke is credited with bringing the SaebFlex to Murfreesboro. She received information about the program in the mail and decided to take a continuing education course on the SaebFlex because she was working with three stroke patients at the time.



DNJ photo by Jolie Simpkins

**Jacqui McDaniel, left, does a Crate Left workout using a SaebFlex glove at NHC Rehabilitation Clinic. The glove is specially designed to help those who have suffered from brain injury and stroke regain mobility in arms and hands. Last year Jacqui was injured in a mo-ped accident.**

"I thought, 'If this works, it would be the most wonderful thing for stroke patients,'" says Clarke.

After witnessing three stroke survivors — none of whom had ever seen the SaebFlex before — immediately able to grasp and release objects with their hands, she says she was "so excited because there was hope."

Clarke eagerly brought the information back to NHC. Allison Ward, a registered occupational therapist at NHC, was also asked to take the training. Next weekend, both Clarke and Ward will complete advanced training in North Carolina.

Vicki S. Watson, center director at NHC Rehabilitation Clinic, strongly believes that the SaebFlex will help stroke patients with paralysis of the arms and hands, as well as patients like McDaniel who've suffered severe head trauma.

"We've seen it work wonders for so many patients," says Watson. "But it's not for everybody."

Watson points out that in order for the SaebFlex to work, patients need to be able to elevate their shoulders and to be able to bend their elbow 15 degrees. Patients who meet this criteria may not be able to move their fingers at all, but once the SaebFlex is in place, they are immediately able to grasp and release.

The first time Larry Williams put his orthopedic glove on, he said it was "like climbing Mt. Everest."

"It was unbelievable," says Williams, an attorney in Nashville who has practiced law for 30 years. "It totally changed my life."

Williams suffered a stroke nearly five years ago that left one side of his body limp. After spending a month and a half in the hospital, Williams said it was extremely hard to "get things going" at his law practice again. He has never been the same physically and has been unable to return to work in full capacity, although he still goes in regularly.

He also attends rehabilitation on a regular basis, making the trek from Brentwood to the NHC Rehab Center twice a week to undergo physical therapy.

"They are really wonderful," says Williams of the physical therapists at NHC. "They really try to work with the patients. More so than any physical therapists I've ever seen."

So far, NHC has the only rehabilitation center in the Middle Tennessee area with therapists who are certified to use the SaebFlex program. Several patients, like Williams, travel from the Nashville area. Williams recommended the program to longtime friends and Nashvillians Connie Kimbro and her son, Brett Martin, who is recovering from a brain injury he sustained when he fell out of the bed of a moving truck.

Martin, just 20 years old, had to put his college education at Ole Miss on hold because of his injury. The right side of Martin's body is weak and he suffers from aphasia, which means he has difficulty articulating his speech. Ever since Martin was fitted for his SaebFlex, his progress has been "extremely remarkable," says his mother.

"A year ago he couldn't move," says Kimbro. "He had to learn how to walk, talk and write all over again."

Martin, a cheerful young man with a friendly smile, is very diligent in his therapy. He and his mother say that without his positive attitude, he would not have made it this far in his rehabilitation.

Martin does exercises with the SaebFlex twice a day at home in addition to coming to the NHC center. He enjoys going to the gym to keep his strength up and says he's ecstatic that now — after four months of the SaebFlex program — he can hold weights on his own, unassisted.

"The patients are now able to do movements we do everyday and take for granted," says Clarke. "Like giving ourselves a drink of water, for instance."

Clarke points out that it doesn't matter how long ago a person suffered a stroke or a brain injury. She says she met someone who had suffered a stroke 26 years ago and was just getting fitted for a SaebFlex orthosis.

"To see that first look on (patients') faces is an amazing experience," says Clarke. "Because they're skeptical, too. They haven't been able to use their hands."

Both Clarke and Ward agree they have seen a change, not only in their patients' physical abilities, but also in their emotional well-being.

"They are definitely in better spirits," says Ward.

"Their whole outlook on life seems to be different because they have hope that life is not over for them," says Clarke.

Williams hopes to help his youngest son take over the law firm.

Martin hopes to one day go back to college.

And McDaniel, who danced for 10 years, hopes to one day regain her posture, grace and balance on stage.

"I will definitely dance again," she says.

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