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health

MEDICAL DEVICE RESTORES NORMAL GAIT

By BEN CALLOWAY

Sharon Marron of Goodview has walked with a limp for 26 years and experienced foot drop, due in part to having multiple sclerosis that affected her entire left side. Marron, 60, is a stay-at-home mom who worked part-time farming, most days wearing heavy boots.

"I saw an ad in an MS magazine and the lady was wearing a small heeled shoe; that really got my attention," Marron says. She asked her neurologist about the device but he hadn't heard of it. Later, while going for treatment, she mentioned the device to physical therapist Leah Smiley, who told Marron that her husband Doug worked with the device at Roanoke's Virginia Prosthetics.

For Marron, WalkAide has been a godsend. Foot drop causes a person to either drag the foot and toes, or engage in a high-stepping walk which causes fatigue.

"You have no idea how wonderful it felt to be able to walk again normally," Marron says. "I bought heels two days before Thanksgiving and walked into the kitchen where my son Matthew and daughter Melanie were preparing food. I danced the Lindy with Matthew, and they were in total shock. They saw how it had helped and soon started laughing, too."

"With the WalkAide, I can walk without a limp - it's been wonderful," Marron says. "Simply being able to take my dogs out onto the uneven terrain of the backyard, once a significant obstacle, is a joy."

Quite a skilled bowler in her youth, Marron says her improvement led her to make plans to join a bowling league this spring because the hesitation in her stride is no longer there. How does she know she can bowl?

"I tried it out in the long hall in our home," Marron says. "I needed to know if I could do the four-step approach to the line before releasing a ball."

Marron's clinician at Virginia Prosthetics, Doug Smiley, at age 40 has worked as a prosthetist and orthotist for 24 years. He is a certified clinician but his work also is informed by his own life experience: Smiley is a below-the-left-knee amputee since the age of 6 due to a bus accident.

The WalkAide device is just one example of "functional electrical stimulation" technology, also termed FES. Smiley says that much more in the way of patient assistance can be expected to come from FES research now underway. "It does away with the traditional bracing, which can interfere with improvement of the



Sharon Marron, who suffers from MS, walks better with new device

muscles involved, and it helps the muscle fire normally in cases of foot drop," Smiley says.

The device is programmed by computer to stimulate muscle in the anterior (front) portion of the calf. Because each device is programmed specifically for its user, it cannot be returned if a patient decides not to use it.

To counter that risk, Smiley offers free testing and evaluation to see if the device is appropriate. The testing takes about 30 minutes and includes locating nerve sites, as well as a test with an working unit to see if the device is a viable solution for an individual's condition.

"That way they don't end up buying something they won't use," Smiley said. "The patients I have worked with are elated that they don't have to wear the traditional 'leaf-spring' plastic brace that reaches from up on the calf to

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down under the foot. They also are pleased that they can choose more diverse footwear once they have the device."

WalkAide is a small, battery-operated device that attaches directly to the leg just below the knee with a Velcro cuff. It can be worn under clothing and is easy to take on and off. WalkAide uses advanced tilt sensor technology to analyze movement of the leg and foot then sends electrical signals to the nerve that controls foot and ankle movement, Smiley says. Mild electrical impulses activate the muscles to raise the foot at the appropriate time.

The device does not require external wires, special shoes or surgery. Because it encourages proper movement, it may improve circulation and increase voluntary movement over time.

WalkAide must be prescribed by a doctor and may be covered by some health insurance. It is not currently paid for by Medicare, but the distributor is working to bring it under Medicare coverage. The device costs about \$4,500 and can be reprogrammed to account for muscle improvement as the device is used over time, Smiley says. The device is credited with being able to help rehabilitate a patient months after the traditional rehabilitation period has ended.

Virginia Prosthetics Inc. says it is the only Roanoke-area provider certified to dispense the FDA-approved WalkAide System. Prior to the development of the device, the only treatment for foot drop was surgery or an orthotic bracing device, and surgery wasn't recommended for many people, said J. Douglas

Call, president of Virginia Prosthetics.

"In addition to being easy to use, patients benefit because they're probably going to walk more often and resume a healthier level of activity and exercise compared to when they were suffering from foot drop," Call says.

Virginia Prosthetics, founded in 1966 and headquartered in Roanoke, custom designs and fabricates orthotic and prosthetic devices at its Roanoke facility. For more information, including questions about WalkAide, visit www.VirginiaProsthetics.com or call 888-366-8287.

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Clinician Doug Smiley