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HEALTH : Rehab that clicks *Interactive Metronome helping patients regain neurological, motor skills*

With headphones on to synchronize her actions with the sound of a cowbell, Jenny Walker tapped first one foot and then the other on the pad on the stool in front of her.

As part of therapy at HealthSouth Chattanooga Rehabilitation Hospital for her fourth surgery on her left knee, she was using a new computer-based training program called Interactive Metronome to improve her balance and coordination.

In use for three months at the rehabilitation hospital, the program — based on the instrument often used in music lessons to mark exact time by a regularly repeated tick — has been available nationally for five years.

It originally was developed to help improve learning and developmental disorders but is now being used for neurological and motor rehabilitation, too.

"We're excited about having this," said Karen Jonakin, director of clinical services at Chattanooga Rehabilitation Hospital. "It's a good adjunct to our neuro program. New technology always brings new opportunities."

According to company officials, Interactive Metronome may be used with patients who have ADHD/ADD, learning disabilities, traumatic brain injuries, neurological disorders, balance and vestibular disorders, sensory integration or motor planning disorders, stroke or amputation.

Ms. Walker, a former Chattanooga State Technical Community College softball player, lost her right leg below the knee after an automobile accident on Aug. 4, 2003. With a prosthetic leg, she returned to finish her studies at the school. But repeated surgeries on her left knee forced her to continue therapy, which has included Interac-

tive Metronome.

"It has helped with my balancing and walking," she said. "They have gotten better. It's also helped with my coordination. I don't have to look down like I did to do things."

Interactive Metronome comes with computer software, a paperback book-sized machine that plugs into a computer, headphones, and hand and foot triggers.

According to Chattanooga Rehabilitation Hospital physical therapist Erica Butler, the computer produces a rhythmic beat called a "reference tone" through headphones. The participant listens, anticipates the beat and then performs a specific exercise each time the sound is heard.

Contact-sensing triggers on the hand or sensors tapped by the foot relay information about the participant's performance during each task. The computer then provides both immediate feedback through guide sounds in the headphones or images on the screen.

A typical training program, according to Miss Butler, includes from 12 to 15 sessions lasting 15 to 60 minutes.

She said the program can be adjusted for tempo and number of repetitions and can be as creative as the therapist who administers it.

Ms. Walker, for example, went through exercises where she tapped on the foot trigger from a flat floor, from a several-inch thick pad and from a stool, and then each foot from the floor to the stool.

Al Guerra, vice president of Interactive Metronome Rehabilitation Technologies Division, said IM is not meant to replace traditional therapy.

"But it allows the gain you're working toward to happen much more quickly," he said. "And it allows you to get further than you would have gotten with traditional therapy."

Mr. Guerra said IM works on the two areas of the brain, motor planning and sequencing, which are critical in walking, language and most everything people do.

"We take a lot of those things for granted," he said.

Ms. Butler, who was certified to provide IM training, said she has used Interactive Metronome with three stroke patients and two amputees since HealthSouth purchased the program. She said all the patients have been able to sense improvement in their day-to-day activities such as putting on clothes and other actions involving mental processing.

"They've been able to think about what they need to do, and do it," Ms. Butler said.

Ms. Walker, 21, said she doesn't plan to play any more college softball but does want to stay active by playing recreational softball and taking up kayaking and golf.

In the meantime, she said, her Interactive Metronome training will help her sharpen her skills for her desired career as a veterinarian.

"It's also fun to do," Ms. Walker said.

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