

## A cure for the rhythm blues

By LISA GREENE, Times Staff Writer Published October 4, 2004 A computerized metronome helps speed healing for brain-injury patients who have difficulty focusing, memory trouble or poor balance.

ST. PETERSBURG - Six months after surgery to remove a benign brain tumor, Lois Kelly was still suffering from the trauma it caused her brain.

With her shaky balance, just navigating a curb or step was difficult. Even focusing on a conversation was hard, especially in a crowd.

But these days, Kelly walks with ease. The St. Petersburg resident talks about her treatment intently, pauses to greet a neighbor, and returns to her topic without missing a beat. She jokes about never revealing her age. She feels like her old self again.

"It's like a new life," she said. "I have never, never been so excited about anything."

Kelly's exuberance is the result of a treatment that may sound a little odd. She says her improvement comes from working with a metronome, a high-tech computerized version of the same tool that has kept generations of children's fingers on beat while they pounded out piano tunes.

Kelly was one of the first patients treated with the Interactive Metronome at Bayfront Rehabilitation Center. Treatment has been so successful there that Bayfront plans to get another for the rehab center and one for its hospital. "Since we started providing this, progress is so much faster," said Amy Vega, a Bayfront speech and language pathologist. "Some had already received the traditional therapies. Nothing was really able to help them bridge the gap."

Metronome treatment isn't for everyone. Patients must be able to think clearly enough to follow directions. Studies show improvement in patients using it, including one with more than 1,200 middle and high-school students. But most of the studies have been relatively small. The technology has been used for about 10 years and on the market for about five, but it has not been proved in large studies or tested on many patients over many years.

Still, it is winning fans. More than 1,700 clinics, hospitals and universities now provide metronome treatment, according to Interactive Metronome Inc., based in Weston. Other Tampa Bay facilities using the device include All Children's Hospital in St. Petersburg and HealthSouth rehabilitation centers in Largo and Tampa.

"I was a doubting Thomas," said Dr. Karen Williams, medical director of rehabilitation services for Bayfront Medical Center. "I had talked to therapists ... but thought it was ... a little bit of snake oil. But I have seen a benefit that seems to be real."



[Times photo: Bob Croslin]

Lois Kelly, who had a brain tumor removed, trains with the Interactive Metronome system at Bayfront Outpatient Rehabilitation Center on Friday. The metronome therapy helps improve a person's rhythm and timing and also stimulates new parts of the brain to take over jobs from injured areas

Patients using the metronome stand in a small room wearing headphones with a sensor attached to their hand. The computer sounds a bell tone, and the patient is expected to clap in rhythm. The computer records how close they come to clapping on the beat.

The therapist also can put sensors on the floor while the patient taps his foot, or does some combination of clapping and tapping.

The therapist can set the metronome faster or slower. It also can be set with "guide sounds," extra tones that signal when the patient is off-beat. Too fast or too slow, and a dull blat sounds instead of the pleasant clink.

The computer tracks patients' progress over time and shows whether they are becoming more in sync.

You might expect that practice to In fact, the Interactive Metronome a conversation with a therapist and help the patient's music skills. But was first used for children. Thera- be quizzed to remember it. They the effect is much broader, propo- pists treat children with attention- also are taught ways to compensate nents said. Therapists believe the deficit, sensory-integrative and for their injuries. For example, brain has its own timing mecha- other disorders using the metro- Vega gave Kelly a planner and ennism, and that when injured, it af- nome. That's how All Children's couraged her to write down every fects the brain's ability to process Hospital's therapists have been us- appointment. Kelly carries it with information.

Dr. Neal Alpiner, medical director tional and physical therapy there. of rehabilitation at Hurley Medical Center in Michigan, became inter- "We're getting some good results," Williams said, Kelly was still hav-ested in the metronome and did Maynard said. "For the right kid, it ing trouble talking and walking. MRI scans of people's brains while organizes the central nervous sysusing it. The MRIs showed certain tem." areas of the brain become active while using the metronome - areas It doesn't work for every child, through her head and out her that help control motor and cogni- Maynard said. Children have to be mouth," Williams said. tive skills. Alpiner compared them older than 3 and able to follow dito the importance of Grand Central rections. It also requires a substan- Williams would send Kelly to walk Station along the subway line - tial time commitment - usually down the hallway and watch her "waystations ... that feed to other three hourly sessions per week. But hesitate at the end every time, unkey areas of the brain."

ciently, or helps them stimulate About two years ago, therapists bejobs from injured areas.

"We're going back to the basic wiring of the brain and retiming it," At Bayfront, these patients come to Kelly is talking about getting re-Alpiner said. "The brain starts to the metronome with a variety of tested for her driver's license. One resynchronize itself."

active Metronome.

surprising if you look at how chil- drop it off. dren have learned for centuries, Alpiner said - through games and Such problems can develop from a songs that combine rhythm and variety of brain injuries - stroke, repetition.

"Hopscotch, jump rope, skipping," of rhythm, beat, movement."

ing it for about 18 months, said her and scans it often. Laura Maynard, director of occupa-

All Children's recently brought certain whether she could manage back some children treated earlier, to turn around. And when she The belief is that the metronome and therapists were pleased to see walked, the timing of her right and helps those areas operate more effi- they had kept the gains they made. left strides didn't quite match. new parts of the brain to take over gan trying to expand the uses of the Those problems are no longer evimetronome to brain-injury patients. dent. She and her husband, Ken, are

problems: difficulty focusing, trou- night last week, they went out to ble with math or reading, or poor dinner - not impossible before, but Alpiner did those initial studies in- balance. They might have trouble easier now. dependently. He now is medical controlling aggression or they act director of rehabilitation for Inter- impulsively. They could have prob- "I felt like my progress was never lems remembering a conversation fast enough," she said. But the metthey've just had, or leave the dry ronome, "it's fast progression. All The impact of the metronome isn't cleaning at home when they go to of this has come back ... I get better

> aneurysm, accidents, or, as in Kelly's case, a brain tumor.

he said. "What is it? It's the strength Traditional therapy would treat the problems more directly. Patients might work math problems or have

Kelly was Williams' first patient to try the metronome. Before that,

"She never stuttered, but you could see she was trying to run something

making plans to travel again. Lois

every day."