Suiting Up: A Look Inside the Pediatric Fitness Center and its Suit Therapy for Kids with CP

By Gabriella Burman
For most parents, the Magic Kingdom is at Walt Disney World in Orlando, Florida, a fantasyland populated by Mickey Mouse, Cinderella and the rest of the gang.

But for parents whose children have cerebral palsy, the true magic kingdom is a light-filled, one-story building in suburban Detroit, Michigan. Inside, their children may sit unassisted for the first time, transition from walking with walkers to canes, and eventually, to walking with no assistance at all.

Pediatric Fitness Center, the home base for a method of intensive physical therapy called “Suit Therapy”, has proven so effective that its owners, Richard and Izabela Koscielny, have now trained more than 2,000 physical therapists worldwide, including therapists in more than 75 facilities in the U.S.

The suit is a modification of an “astronaut suit” designed by Russian scientists in the 1970s that restored posture and supported weakened muscles in space in order to prevent atrophy and osteoporosis in cosmonauts.

In Poland, physical therapists used the Russian suit to treat adults with CP, and after the Koscielny’s daughter, Kaya, whose premature birth in Poland in 1991 resulted in cerebral palsy, took her first steps while wearing it, the Koscielnys, who are certified physical therapists, knew they had found the way to facilitate movement in children with CP.

In 2002, the couple, who had moved to the U.S. in 1994, left their jobs running a physical therapy clinic at a local Detroit hospital, and set out to patent and manufacture their own suit, and open their own facility.
They opened the doors to their bright and cheerfully decorated center in 2003, with an office manager and themselves working as the physical therapists. In just three years, they have added six other physical therapists to accommodate the growing demand of patients who come from around the world, while also growing the business, which includes a quarterly magazine, Cerebral Palsy, and a catalogue of pediatric fitness equipment.

“I never dreamt that we’d achieve all this,” says Izabela, who as the mother of a child with cerebral palsy learned early on to “take one day at a time.”

“But our method caught fire because people see results in a short time and it makes parents want to take advantage of suit therapy, and makes therapists want to open a similar facility. It’s not that they were bad therapists beforehand, they just didn’t have the right tools.”

Children who participate in suit therapy at Pediatric Fitness Center can sign on for a three-week intensive session that lasts three hours a day, five days a week. They work individually with the same physical therapist for the duration so that a trusting relationship can be established, and progress accurately measured. Each program is tailored to the child’s specific needs and abilities, with the major goal being range of motion and strength.

“Once you have strength, you can learn function,” Izabela says. “Function is the ultimate goal.”

The rationale for a three-week program, Izabela explains, “is that it takes a week to stimulate the nervous system, and then two weeks to refine motor skills.”

The first hour of therapy prepares the patient for the exercises that will follow. Because it is well known that the muscles of children with CP can be less vascularized, and can contain more lactic acid - which can prevent conduction between synapses and therefore prevent learning - each session begins with laying heat packs on the child’s limbs and massaging them to increase circulation and remove lactic acid.

“Once we soften the tissue, and make it more flexible, we can start range of motion and strengthening, and produce movement,” Izabela says.
Simon Maciejewski with patient during walking exercises.
The next stage includes strengthening exercises. Infants work on global movements while older children work on problem muscle groups such as elbow flexors and hamstrings, often using the center’s universal exercise unit, where various weights can be attached to provide resistance.

In a study of the suit, it was determined that children who received therapy five days a week wearing the suit patented by the Koscielnys achieved gains faster than those who received therapy five days a week without it. The couple recently established a non-profit entity to raise funds for further research in the hopes that a research protocol will make insurance companies more amenable to covering the cost of suit therapy. At present, the Koscielnys do not accept any insurance; parents must submit invoices to their insurance carriers for reimbursement.

In some ways, the therapy can be likened to a personal training session, as the children perform squats, lunges, sit-ups, and other exercises that strengthen their muscles for sitting, standing and walking. Often, the first day of a session passes rather easily; as the muscles waken, however, days two and three of training can be taxing on the kids, even as the trainers remain firm and encouraging throughout the session. Parents are invited to encourage and support their children, or can retreat to a quiet parents’ room away from the action to read a magazine or watch a movie. There is also a small waiting area filled with toys and books where siblings can play or do homework while their brothers and sisters “work out”.

The overall environment takes into account not only the needs of children and parents, but also those of the therapists who work there.

Simon Maciejewski, who primarily works with older children, received training at Central Michigan University. He says working with the CP population is “more challenging” than working with patients who have other injuries, and that it is also “more rewarding.”

Furthermore, he adds, he prefers dedicated work with one child to rotating through several clients a day, as he did when he worked at larger, general physical therapy clinics.

“Here you get to focus on a child, and all the therapists have a true interest in what the others are doing. It’s like a family.”
Mariola Vanderest obtained a master’s degree in physical therapy from the Academy of Physical Education in Warsaw. She also received neurodevelopmental training on how children typically develop, enabling her to correctly align patients and stimulate proper muscle tone to help them achieve free movements.

Christopher Collins is a recent graduate of Mott Community College in Flint, Michigan, and a certified physical therapy assistant who also works with older, heavier children.

“At first I expected working with kids as playtime,” he says. “But it’s really intense, hard work, and the length of treatment on a daily basis is ideal in order to see results. And unlike most of my classmates, I’m not juggling patients on an hourly basis.”

Dorota Jankowski is a physical therapy assistant who trained at Oakland Community College and plans to pursue a physical therapy degree at the University of Michigan. She says that unlike hospital settings, where the focus can be on the bottom line, the Pediatric Fitness Center always caters to patients’ needs.

“There is demand from adults who want to come here, but they don’t necessarily want to work in the same space as children,” Izabela explains.

Office manager Jeanne Wallace, a former physical therapist, looks forward to the additional space.

“We’re outgrowing ourselves here,” she says. “Some days it’s wall to wall kids, therapists and parents.”

But the volume of patients - and the accompanying hard work - is a blessing, she adds.

“It’s nice to see that Richard and Izabela are realizing their dream of helping as many parents and children as possible who are affected by neuromuscular disorders.

“Most physical therapy programs teach the importance of strength training, but it’s this level of intensity,” she says, “that makes the difference.”

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