Family Ties

By Stefanie Carter

For two PTs, the profession got personal when their daughter was born with cerebral palsy

Izabela Koscielny, MSPT, helps a young patient stand at the Pediatric Fitness Center in Keego Harbor, MI.

Fifteen years ago, Izabela Koscielny, MSPT, was in her final year of studies at Academy of Physical Education in her home country of Poland and expecting her first child with her husband, Richard. She was planning to start working as an athletic physical therapist upon graduation and her husband was already coaching disabled athletes training for the Paralympics. The couple was jumping into their new life together with fervor.

But fate dealt them a challenge when their daughter, Kaya, was born prematurely and was diagnosed with cerebral palsy. Suddenly, these new parents and new graduates had a whole other challenge on their hands.

"I was a gymnast for 18 years and Richard was a swimmer so we were both in a totally different world when Kaya was born," said Koscielny. "Richard was still actively competing and I was starting to coach in gymnastics. It totally changed our goals."

The couple began working toward finding ways to help their daughter. Richard, who had worked as an assistant professor, utilized his research experience to investigate every new study he could find regarding his daughter's condition. "Every year he was able to bring some more information about new research to the table," said Koscielny.

Seeking a Cure

After a few years, the Koscielnys decided to come to the United States in search of a cure for their daughter. "We received a lot of information about the technology and about how handicap accessible this country is," said Koscielny. "I have to admit this, as much as I miss Europe sometimes with all the beautiful architectural structures; it is totally not handicap accessible."

Not long after arriving in the United States, the Koscielnys came to the realization that there is no known cure for Kaya's condition. Their efforts turned exclusively to improving Kaya's functionality.

As Kaya got stronger, the Koscielnys began to pursue more aggressive measures to help her with functionality. "We really didn't know how we could help her. So we tried various training and anything we ever would apply seemed like it worked, but after a short time we would see a plateau. It was very frustrating," said Koscielny.

"One of the more groundbreaking studies [Richard] found in one of the physiological exercise magazines stated that an individual with cerebral palsy responds exactly the same to physical training as you or I. The training can improve strength and flexibility. The trick was that peak physiological response was 50 percent lower in the disabled population," said Koscielny.

Based on the research study Richard had found, the Koscielnys decided to develop a program for Kaya. "So for the typical patient, if the goal is to lose weight, the optimal training would be an hour and a half. But because our children have much lower physiological response, it means they can achieve the same benefits, it just takes twice as long. That is why our program is structured on a three-hour schedule," she explained.

In the meantime, Koscielny was corresponding with her mother in Poland who insisted Koscielny look into a new "suit" technology she'd been reading about. "My mother was sending clips from newspapers of this technology that can help my daughter. Of course being a skeptic, it was not easy to believe something could help my child so drastically," said Koscielny. "When Kaya was 6 years old, my father got sick so I had to fly back home and my mother took me to a clinic. When I saw the kids in the suit and talked to the parents I thought it was worth giving it a shot."

> '[In terms of therapy], I had all the knowledge I needed, but with that suit Kaya was able to walk so much more efficiently and so much longer.'
>
> —Izabela Koscielny, MSPT

Expanding Treatment

"The suit consists of different systems of elastic bands which are virtually responsible for mirroring the attachments of the muscle groups," explained Koscielny. "For instance, if you have a child who is tippy-toe walking then I will give the child dorsiflexion with the bands to correct that."

The suit, which Koscielny emphasized only facilitates alignment, is a technology derived from a Russian space suit design. "It does not give you alignment but gently guides you to alignment," said Koscielny.

Koscielny watched her daughter make significant progress using the suit combined with intensive physical therapy. "[In terms of therapy], I had all the knowledge I needed, but with that suit

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