

Softback-style Bracing Complements NDT

A CASE STUDY OF A YOUNG CHILD WITH CEREBRAL PALSY *By Kathy Shapiro, PT*

I began working with Jacob in 2012, when he was 18 months old. He has a diagnosis of cerebral palsy, with spastic diplegia. In his initial assessment, I observed moderate-to-strong pronation and excessive plantar flexion (PF) in his ankles and feet. Working with Don Buethorn, CPO (certified prosthetist and orthotist) and owner of Cascade Dafo, we fit Jacob with Cascade's prefabricated JumpStart® Bunny® – supramalleolar orthosis (SMO) with a proximal posterior strap for PF resistance – and noted good improvement in his standing stability.

At Jacob's one-year assessment, Don and I decided that he would benefit from more support in his bracing. We wanted to give him better standing stability while still allowing for

in his hamstrings and hip adductors, and primarily crawls for mobility. The Wallaby's softback style works great for crawling, allowing him some plantar flexion while giving him some control of his feet and ankles. This is important for comfortable crawling. Jacob is also comfortable kneeling and sitting on the floor in his Wallabies.

I find them most helpful when doing any standing activities with him. They support his feet and ankles, and with some facilitation he can stand with his heels down at furniture and work on cruising side to side. They're also invaluable when he is in his walker; he is able to walk with his feet and ankles in a much better position.

Jacob's been wearing the Wallabies for three years now and

Every year we assess Jacob's specific needs and then decide on the best bracing option for him. It's good to start with something stable, and then add degrees of freedom as he can control it.

comfortable crawling. Don felt Jacob would be a good candidate for a new brace style he was developing at the time. He called it the "softback option." A little taller than the JumpStart Bunny, this ankle-foot orthosis (AFO) has a posterior proximal piece made of semi-dense foam with a Dacron strap. It's now coming out of the research-and-development stage and will soon be marketed as the JumpStart Wallaby™. I liked that we were able to stick with a prefabricated design that remained small and light while still adding a little more PF resistance.

The Wallaby works well for Jacob. He has a lot of tightness

they're a great fit for his needs. Like Don, I believe in trying to find the level of support that does the most good with the least amount of restriction. Every year we assess Jacob's specific needs and then decide on the best bracing option for him. Jacob has good range of motion in his ankles, and his position is easy to maintain. The Wallabies give him good foot position but are comfortable enough that he doesn't mind wearing them. His parents report that he wears them all day without complaint.

I have found the Wallaby brace design – and all the Dynamic Ankle Foot Orthoses (DAFO) braces – to be very helpful in

The JumpStart Wallaby's softback design allows Jacob freedom of movement for crawling and working on his kneeling-to-standing skills.



Without his braces, Jacob presents with excessive pronation and plantar flexion. His JumpStart Wallabies realign his foot position and encourage truer ankle dorsiflexion while allowing some plantar flexion for ease of movement.

conjunction with Neurodevelopmental Treatment (NDT). I've been an NDT-trained therapist since the 1980s and have always found that bracing complements the therapy that I do with kids. It helps to get good alignment in the feet so I can work on other skills and not worry about trying to hold the feet while working on more proximal control. Sitting and other stable positions tend to be improved with more support at the foot and ankle. Overall, I find that braces help with my patients' functional motor positions. Take their braces off and they're not as stable and don't have as much control in sitting or other positions.

Allowing as much freedom of movement as possible is important. The Wallabies give Jacob more range of movement when he's not blocked into 90 degrees at the ankle. They allow

him more freedom of movement without giving him so much that he loses function. It's good to start with something stable, and then add degrees of freedom as he can control it. I think that's what this brace does. The Wallaby is also quite comfortable, and when a kid is comfortable in a brace, he's not fighting it. I find using this DAFO brace a good adjunct to the therapy program for this child, and have found it works well for many children that I treat with neurological deficits. ■

Kathy Shapiro is a pediatric physical therapist in private practice in Mount Vernon, WA. She was NDT-trained in pediatrics in 1980 and has been using DAFOs for her clients through Cascade Dafo since they first started making them in the mid-1980s. She can be reached at ka.shapiro@comcast.net.