

Autism clinic helps teens thrive

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UW-Milwaukee alumna Katrina Fronberry (right) was part of the team that helped Noah Stone (left) and many other teens on the autism spectrum develop personalized plans to boost their physical development. Credit: UWM Photo/Troye Fox

By most measures, Noah Stone is a typical high school senior. He loves writing short stories and playing video games with friends, and he spent

last fall working on college applications.

You might not guess that at 3 1/2, Noah was diagnosed with nonverbal learning disability (NLD), a condition similar to the [autism spectrum disorder](#) once known as Asperger's syndrome. Children with NLD must be taught to read nonverbal social cues, like gestures and facial expressions. They also can have delays in physical development, poor muscle tone and coordination problems.

When Noah was a toddler, he received state-funded therapies. As he entered school, his age and academic success disqualified him from school-based therapies. His parents, both educators, paid for therapeutic horseback riding and other activities to address physical symptoms related to NLD. But they found fewer options as he approached his teens, and he still struggled physically, said his mother, Mary Stone. When he ran cross-country as a freshman, for example, he ended the season with crippling shin splints linked to weak muscles.

Stone reached out to Vickie Moerchen, an associate professor of kinesiology and physical therapy in UW-Milwaukee's College of Health Sciences. Frustrated, Stone described the lack of services for adolescents with autism spectrum and related disorders. But what Moerchen saw was an opportunity.

"I realized that there was a way that we could offer community service, teaching and research, all wrapped up in one project," Moerchen said. In 2011, she and instructor Maggie Dietrich launched the Coordination Clinic for Adolescents with Autism.

Innovative teaching and learning

The monthlong clinic takes place each April, near the end of a pediatrics course required for [students](#) working on a doctorate in [physical therapy](#).

The students split into two to four groups, with each group working with one client and his or her family. All services are free of charge.

Each week, the students devote one class session to discussing their client with their instructors and planning, and a second session to working with their client. The students take a systematic approach to getting to know their client, including that person's interests, strengths and challenges, Moerchen said.

In the first week, students might notice that a client has tight hamstrings and want to jump in and offer stretches to address that.

"They want to move very rapidly into treating," Moerchen said. "We work very hard to hold them back and force them to ask a series of questions, including, 'What do we know?' 'What do we need to know?' The richness of this is that over time, they keep adding to what they know and refining what they don't know."

She and Dietrich refer to this as "peeling back the layers of the onion." Students move beyond preconceived ideas and, after getting to know the client, can make carefully crafted recommendations.

At the end of the month, each client receives a detailed plan to address his or her needs. To help one boy who needed music to feel comfortable moving, the students choreographed and videotaped a dance routine for him to follow.

For Jarod Quigley, a horn player in competitive marching band, the students assembled a series of exercises to strengthen his upper back and ease the pain and fatigue he felt during the marching season. For Jarod's brother Trevor, a dog lover, the students found a recipe for homemade dog biscuits that he could make for the family pooch, developing fine motor skills in the process.

"This clinic is the epitome of a program tailored to your child," said their mother, Julie Quigley.

Noah wanted to run without pain. Students working with him noted that he needed orthotics designed for running, and they developed a core-strengthening routine and a summerlong training program to help him increase his distance gradually without reinjuring his shins. One student became his weekly running buddy, and they completed the 5K UWM Panther Prowl in October.

"The students and their teacher were very caring and communicative," Noah said. "You can tell they really care about what they're doing and give it their all. They were kind of a mini-family there, which I liked."

Moerchen and Dietrich have made multiple conference presentations about the class-clinic combination and are now working on journal articles.

A key experience for future physical therapists

In the clinic's early days, Moerchen was surprised by the complexity of some of the teens' physical challenges. She believes that difficulty with social skills, combined with coordination difficulties, can lead to a child experiencing less variability of movement and often less physical activity from early ages.

"This leads to musculoskeletal changes by adolescence and adulthood," Moerchen explained. "And we have seen this impact life goals and opportunities for social interaction, health and wellness, and even employment for the individuals this clinic serves."

Physical therapy students benefit from the chance to observe these types of physical challenges. But Emily Levine, executive director of the

Autism Society of Southeastern Wisconsin (ASSEW), believes they also benefit by interacting with young people on the autism spectrum.

"They're going to run into individuals on the spectrum when they graduate and are in practice," she said. "To have this exposure in a supported environment, and get parent input and Vickie's observations and support, all of that is going to make them better practitioners."

Levine has an adult son with autism who completed the clinic, and she often refers families from ASSEW to Moerchen.

Parents say this program is an oasis in a desert of options for their teens. "We need to create more programs like this that are really innovative," Stone said. "Vickie was thinking outside the box with this amazing opportunity that not only benefits the individuals with special needs, but also benefits students at the graduate level."

Noah continues to run and do the weight-training exercises he learned in the clinic.

"What Vickie and her students gave him was something that he will have with him for the rest of his life," Stone said. "How cool is that?"

Provided by University of Wisconsin - Milwaukee

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