I wasn’t long after starting my job as a full-time faculty member that I began to miss “my kids.” In this case “my kids” meant all of the children I treated working as a school-based and private practice occupational therapist in Baltimore, Maryland. Because taking on even part-time clinical work while finishing my dissertation seemed overwhelming, I decided to fill my “kid” void by volunteering to coach in a youth lacrosse league. As a young adult, playing lacrosse had been my primary means of developing the self-confidence, leadership skills, and teamwork skills that prepared me for success in my current occupations. I was excited about sharing these skills with the next generation.

CASE EXAMPLE: THE POWER OF PARTICIPATION IN CONTEXT

On the first official day of lacrosse team practice I met Brittany. My occupational therapy radar went off immediately during introductions because of Brittany’s poor eye contact, flattened affect, and mildly disheveled appearance. Doing what we too often do as practitioners, I said to myself, “she has Asperger’s.” And then I thought, “this should be interesting.”

Asperger syndrome is classified as a pervasive developmental disorder that is characterized by qualitative impairments in social interaction as well as restricted and stereotyped patterns of behavior, interests, and activities. I was unsure how these features, evident in Brittany, would affect her ability to participate on the team.

The team was a mix of fourth through sixth graders, many of whom had played lacrosse before and most of whom had played organized sports for several years. Brittany placed herself...
last in the line for the opening warm-up lap and had slowed to a walk by midfield. She did not seem to have any motivation to keep up with the group, and she did not seem at all concerned about her late finish when she joined the circle for stretches. Deciding to keep an eye on Brittany, I noticed that while the other teammates balanced on one foot with relative ease to stretch their quadriceps, she lost her balance twice before giving up. During drills I noticed how the fourth graders watched and modeled the older players to learn sequences or techniques. Brittany, a sixth grader, did not appear to use this strategy and tended to need more verbal reminders or physical prompts on where to go or what to do. Looking ahead to our first game I thought again, “this will be interesting.”

It turns out that interesting didn’t even begin to describe Brittany as a lacrosse player. Astonishing would be much more accurate. After Brittany had a stick in her hand and the whistle blew, something clicked. She knew exactly what position she wanted to play, where to go on the field, and who to mark, which was a step up from most of our players, who were still deciphering the left versus the right side of the playing field. Further, after play began, Brittany lit up; outrunning her opponents to loose balls, anticipating and intercepting passes, and finding the open teammate to pass to. Even more exciting for me was watching Brittany at halftime: smiling, huddled with the group, and engaging in talks about the game. I was pleasantly floored.

DISABILITY AND SPORTS
For almost 40 years, individuals with disabilities have been supported in their efforts to participate in various sporting activities. The Special Olympics, which started in 1968, has stayed committed to providing sports training and competitive opportunities for children and adults with cognitive disabilities. Other organizations, such as Disabled Sports USA and the National Disability Sports Alliance, have focused on providing opportunities for participants with neuromuscular or orthopedic conditions such as cerebral palsy, acquired brain injury, or amputation. Occupational therapy practitioners have been natural members of and coaches in these associations, sharing their backgrounds in physical and psychosocial intervention and promoting the value of participation.

SPORTS FOR INDIVIDUALS ON THE AUTISM SPECTRUM
Despite a wide spectrum of programs, there seems to be a missing link for sports participation for children with disabilities that are not purely cognitive or physical in nature; specifically for children with high-functioning autism or Asperger syndrome (HFA/AS). Rogers grouped behavioral characteristics of autism into four subclusters of disturbance based on the criteria established by the American Psychiatric Association; any or all of these areas might limit participation in various sporting activities (see Table 1).

As occupational therapy practitioners, we view individuals as complex beings, acknowledging that disturbances in one area of functioning do not negate the possibility that meaningful occupations can be performed optimally when systems integrate and interact. Systems theory further emphasizes this need to consider the context and the environment in which occupations are done. Brittany, for example, did not appear to have the motor or process skills to play lacrosse (i.e., good balance, endurance, motor planning), yet after she was placed in the context of a real game, with the challenge to play and win, she performed well above expectations.

BENEFITS OF AND CHALLENGES TO PARTICIPATION
The benefits of any exercise program are bountiful and relatively undisputed. Among these benefits are improved

### Table 1. Potential Challenges to Participation

<table>
<thead>
<tr>
<th>Areas of Disturbance in Persons With Autism</th>
<th>Potential Challenges in Sports Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disturbances in Social Interactions</td>
<td>• Interacting with team members; grading touch, judging personal space, taking turns</td>
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<tr>
<td></td>
<td>• Predicting actions of others on the field</td>
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<tr>
<td></td>
<td>• Taking directions or criticism from coaches or referees</td>
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<tr>
<td>Disturbances in Communication</td>
<td>• Calling plays or talking with team members on the field</td>
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<tr>
<td></td>
<td>• Contributing to group discussions, making friends, or expressing pain or discomfort</td>
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<td></td>
<td>• Understanding verbal directions and nonverbal cues</td>
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<tr>
<td>Disturbances in Behaviors</td>
<td>• Dealing with unexpected changes in schedules or routines (i.e., game cancellations)</td>
</tr>
<tr>
<td></td>
<td>• Inhibiting stereotypic or preservative patterns to plan and coordinate the motions necessary to execute a motor task</td>
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<tr>
<td></td>
<td>• Following rules and engaging in teamwork and cooperation for play</td>
</tr>
<tr>
<td></td>
<td>• Imitating or modeling others’ actions</td>
</tr>
<tr>
<td>Disturbances of Sensory Processing and Perception</td>
<td>• Modulating responses to touch, sounds, smells, and visual stimuli in gymnasiums or on playing fields</td>
</tr>
<tr>
<td></td>
<td>• Synchronizing tactile, visual, vestibular, and proprioceptive systems to move the body through space</td>
</tr>
<tr>
<td></td>
<td>• Planning, sequencing, and initiating motor patterns</td>
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</tbody>
</table>
cardiac and respiratory functions, enhanced muscle tone, and reduction or maintenance of body fat—important health factors in a country with an ever-increasing occurrence of childhood obesity. Exercise can also help to relieve stress, modulate levels of arousal, and release energy and aggression in an appropriate manner. Sports can provide the added benefits of socialization, a sense of belonging, and development of new and complex skills. In addition, sports require constant engagement of the feedforward and feedback sensorimotor system to adapt to the dynamic changes in the physical and social environment. Research with animal models has shown that compared with repetitive exercise, motor learning tasks that were made progressively longer and more challenging resulted in a greater increase in the number of synapses and an increased quantity of blood vessels in the cerebellar cortex.5,6

CASE EXAMPLE: THE JUST-RIGHT FIT
Theresa Rogers has two children who have wrestled for Coach Sean Patterson’s boys wrestling team at a middle school in Northern Virginia. T.J., her oldest son, has been diagnosed with multiple learning disabilities including dyslexia, dysgraphia, and dysnomia. Rogers describes T.J. as being the type of kid who always wanted to be involved in various activities but was not always successful. She found that for T.J., wrestling was a “godsend.” Through wrestling, a sport offering intense somatosensory input, T.J.’s self-esteem improved immensely and the self-discipline and success he gained in the sport carried over into his academics. Once a child who hung his head for being a called a “sped [special education],” T.J. is now a high school honor roll student who walks with confidence. T.J.’s success prompted Rogers to suggest wrestling to her younger son, Thomas, who has been diagnosed with Asperger syndrome and dyslexia. “The Asperger’s is what affects our lives most because he lives in his own world and doesn’t really understand the whole concept of interpersonal relationships, or making or keeping friends,” Rogers says.

Coach Patterson was supportive of bringing Thomas onto the team. He stated, “If you’re working as hard as you can, the other kids respect that and they were there for [Thomas]. They recognized that he was different but, more than anything, they were protective of him.” Thomas acknowledges that being around the other kids on the team was “okay,” but he did not particularly like the aggressiveness involved in wrestling. When Thomas missed several practices because of illness, he opted to spend most of the later part of the season serving as the team’s manager—getting water and mopping up the mats. Thomas considered continuing to wrestle or manage the team the following year, but when he found out that he had to go to all the matches, including those on weekends, he changed his mind. His mother states, “With Thomas it is more of a social skills issue; he
would like to be a part of something, but on his own terms and on his own schedule. He doesn’t understand that there is a match today or a game today that he is expected to participate in whether he is in the mood or not...he is a child who has a routine in his head of when he will do what, and it is not always the same schedule as the rest of us.” Thomas has not given up on sports, however. He plans to join a bowling league next fall and will continue playing golf recreationally. In the meantime he will continue doing what he most enjoys: reading, playing the trumpet, and inventing.

Thomas demonstrates that the challenges of engaging children with HFA/AS in sports may not be very different from the challenges of engaging all children in sports. Factors such as accepting rules and consequences, honoring commitments, and feeling good about oneself while working with others are important skills for all children and adolescents to learn. Team sports are one arena in which these skills of social competency can be developed, and occupational therapy practitioners may be able to provide needed supports.

**OCCUPATIONAL THERAPY’S ROLE**

Occupational therapy practitioners work with children and adolescents diagnosed with HFA/AS in various settings, including schools, the home, and private practice clinics. Regardless of setting, practitioners should begin by exploring the interests, priorities, and goals of the child and family. Many parents with a strong interest in sports and a history of participating will be best at sports that are more demanding, and inventing.

With all interventions, it is important to build a team and have a plan. Practitioners can consult with coaches, athletic directors, and recreational program coordinators to discuss expectations, modifications, and strategies for success. Any behavioral strategies that are in place at home and at school should be carried over, if necessary, into after-school sports and recreational activities. The following strategies for coaches are also appropriate for children without HFA/AS:

- Repeat directions and use modeling to help the child learn new skills.
- Give choices (i.e., “Do you want to wrestle today or keep score?”)
- Provide opportunities outside of scheduled practices for the child to refine skills or give advance notice of when new skills will be taught.
- Do not yell. Yelling may not be motivational and could lead to a child shutting down; emphasize important points in alternate ways instead. Wait for the child to come off of the field before giving new directions, speak slowly and clearly, and emphasize not only what needs improvement, but what was done well.
- Set the child up with a peer pal on the team who is supportive; during drills, assign pairs instead of having players find their own partners.
- Review the practice schedule for the day with all the players at the beginning of practice, and give warnings when there will be changes in the routine.
- Ask parents to have their children practice donning sports safety equipment (e.g., goggles, helmets, shin guards) at home before the first day of practice. Children with tactile sensitivities may need to wear Under Armor or another layer of clothing on their body, or a hat, to provide extra proprioceptive input. Children with motor planning difficulties may just need extra practice to quickly get other equipment, such as shoulder pads, on and off efficiently.

Parents should be encouraged to advocate for their child. They can communicate with the coaches, as they would teachers, about their child’s strengths, weaknesses, and learning styles. Carryover of skills at home, coupled with encouragement and praise from the family, will also help boost the child’s self-esteem and enhance performance.

Occupational therapy practitioners should find a way to observe the child participating in a realistic setting. Going to a game will provide a true appreciation of the environmental and task demands, as well as support the child’s real-world occupations. If attending a game is not possible, many parents are willing to videotape their child’s practices or matches.

Lastly, practitioners can help support children’s success in sports by evaluating and helping to develop those performance skills (motor, process, and communication/interaction) that may be lacking. When possible, skills should be incorporated into or related to the actual occupation they will transfer into. For example, an obstacle course may be set up to look like baseball bases, proximal strengthening goals could be turned into a crab soccer match, or a social skills group may discuss rules of a game and how to resolve team conflict.

**FINAL THOUGHT:**

**TEAM VERSUS INDIVIDUAL SPORTS**

As practitioners, we focus on the strengths of our clients and encourage parents to play to those strengths when enrolling their child in any extracurricular activities. Generally, we look for ways to optimize that child’s chance for a successful experience. We may naturally assume that children with HFA/AS will be best at sports that are more

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**Occupational therapy practitioners** can facilitate participation through exploring the client’s interests and encouraging opportunities, consulting with coaches and team personnel, observing the child in context, and helping to develop performance skills.
solitary in nature (e.g., martial arts, swimming, gymnastics) because they can often be completed by memorizing and repeating certain strokes or maneuvers. It is important to consider that although these sports are challenging both physically and mentally, they do not necessarily offer the same social dynamics as team sports that require more interaction among participants. Sports such as soccer, basketball, and lacrosse offer advanced challenges that are variable and unpredictable. Participants must be aware of and responsive to others in the game who are working both with and against them. The multiple players on the field provide a significant increase in the degrees of freedom that must be processed and acted on by the players. Therefore, these sports provide the added challenge of requiring participants to be flexible, adaptive, and anticipatory in an environment that is constantly changing and presenting novel demands.

CONCLUSION
We should not rule out the ability of children with HFA/AS to participate in team sports just because their performance skills are deficient in other settings, especially if they have an interest and a drive to participate. Motivation to play and be part of a team may be the very thing that breaks through the barriers separating them from other children in so many contexts. Occupational therapy practitioners can facilitate participation through exploring the client’s interests and encouraging opportunities, consulting with coaches and team personnel, observing the child in context, and helping to develop performance skills.

References

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