

Feature Story

- **Autism and Tennis...**Sixteen year old Akshay Damany, who is currently ranked #1 in Eastern PA Boys 18's, has been giving tennis lessons to Asa Frantz, an autistic boy. Following is the article, written by Akshay, which describes the improvement seen in Asa's autistic behavior and how tennis has helped him overcome certain fears.

My first exposure to autism was through an Indian TV show, which was trying to raise awareness about autism in India. Autism is not an illness, the show said; it is a "mental state". With therapeutic interventions, one can cause changes in this mental state. The TV show demonstrated the lack of knowledge of autism, and how children with autism are misunderstood in society. I started doing some research on autism. I found out that the odds of being diagnosed with autism are 1 in 150 (Reference 1). With these odds, autism is more common than pediatric cancer, diabetes, and AIDs combined. A new case of autism is diagnosed almost every 20 minutes. Autism is a complex neurobiological disorder that typically lasts throughout a person's lifetime. It is part of a group of disorders known as autism spectrum disorders (ASD). It occurs in all racial, ethnic, and social groups and is four times more likely to strike boys than girls. Autism impairs a person's ability to communicate and relate to others. Individuals with autism typically have difficulties in verbal and non-verbal communication, social interactions, and leisure or play activities (Reference 2). It is also associated with rigid routines and repetitive behaviors, such as obsessively arranging objects or following very specific routines. Symptoms can range from very mild to quite severe. Currently, there are no effective means to prevent autism, no fully effective treatments, and no cure (Reference 1). However, studies show that early diagnosis and intervention can lead to significantly improved outcomes. With the right services and supports, people with autism can live full, healthy and meaningful lives (Reference 3).

Since I have a keen interest in sports, especially in tennis, I was curious as to the benefit of sports in causing a change of behaviors in children with autism. More searching on-line showed that because autistic spectrum disorders may impair coordination, many assume that this rules out athletic achievement, but this is a faulty assumption. It is estimated that poor motor coordination is a characteristic in anywhere from 50%-90% of cases. Those who do have poor motor coordination can improve it by engaging in movement therapy or independent fitness routines that they choose themselves. Many athletic pursuits require strength and endurance, and some, like tennis, require motor coordination as well. The intense focus and adherence to routines common to those with ASD ensures that some individuals are well-suited to certain athletic pursuits. Those on the autistic spectrum are uncomfortable making eye contact and have difficulty interpreting social rules and facial expressions. Most prefer to spend time alone or with a close friend or two, and usually find noisy, chaotic environments extremely stressful. Such traits can make team sports difficult, but do not necessarily interfere with solitary sports. In fact, those with autism tend to prefer individual sports to team sports (Reference 4).

Sports play a role in treating autism by emphasizing coordination and body awareness. Dedication to improving a particular athletic skill will also increase confidence and support other therapies. Team sports are generally not recommended because participation relies so heavily on communication with teammates (Reference 5). One can find mention of track and field, swimming and horseback riding as possible beneficial sports for children with autism. I did not find any literature about tennis and autism. Yet, tennis is an individual sport. It also requires discipline and has clear rules and regulations. It involves large body movements, and coordination. It seemed to me that tennis would be a sport that may result in benefiting the behaviors exhibited by people with autism.

Asa Frantz is a 7 year old boy with high functioning autism. He is not uncommunicative, but he is restrictive with the people he communicates with, and also with the amount he communicates. I have been teaching him to play tennis for 5 months now. Our typical routine involves a 1 hr tennis lesson

once a week. It includes a running warm-up, hitting warm-up for ground strokes (I toss the balls to him and he hits them from the service line), volleys, a couple drills, a game, some running at the end, and stretching. Drink breaks are included as needed.

Over 5 months, both Asa and I have learned a lot, I think. I have also noted some behavioral changes with Asa. Below are the autism characteristics exhibited by Asa and the responses that I have noted in the 5 months of tennis lessons.

1. Impaired eye to eye gaze: Initially, Asa would either not look at me at all, or only quickly glance at me, but look away when I looked at him. Gradually, he started making eye contact with me, and more recently, he can hold my gaze for a short conversation.
2. Limitation in spoken language/interaction: Asa is apparently very selective with the people he interacts with. Even then, communication may be inconsistent. He was very excited about playing “real” tennis (he had been playing Wii tennis), so maybe he was already welcoming to his tennis instructor. Yet, initially, he would talk to his parents about things that he wanted to communicate to me. Gradually, he started communicating directly with me.
3. Restricted pattern of interest (trying new things): Asa’s mom had mentioned that he was resistant to trying new things. One of the patterns he was restricted to was drinking only out of juice boxes. He would not try anything from bottles, and he would not even drink any orange juice because of this. Within weeks of his tennis lessons, he was willing to try Powerade out of the bottle, and gradually also orange juice. Initially, both of us had the same drink, but later he would sample a drink even if I wasn’t having the same thing.
4. Repetitive motor mannerisms: Asa’s anxiety with new instructions and introduction of new activities was demonstrated by nervous mannerisms, frequent touching of the face, and repetitive movements of his arms. As the tennis lessons progressed, he was less nervous about new instructions, and the repetitive movements reduced significantly.
5. Attention span: Initially, I had to keep changing activities within the tennis lesson, to keep Asa’s attention. In last week’s lesson, Asa was able to maintain attention for completion of hitting a full basket of tennis balls.
6. Atypical eating/drinking: According to Asa’s mom, this is one of the biggest issues that they face. We haven’t experimented much with this during tennis lessons, except for the drinks. After the introduction of Powerade and orange juice (as above), he continued to drink those at home.
7. Delay in stopping/changing movements: Change of strokes was difficult for Asa when we started tennis lessons. Also, he was resistant to switching strokes. Gradually, he was able to alternate between forehand and backhand (not always happily, but he was able to do it).
8. Endurance: Overall, Asa demonstrates increased endurance to tennis strokes, running and tennis games as well as stretching. He still seems to tire by the end of the lesson and does complain of fatigue, especially with running at the end of the lesson. He also resists use of his left arm (he is right dominant), but I’m not sure if that is weakness, fatigue, or just a habit pattern.
9. Coordination: I have noticed great improvement in Asa’s coordination. Initially, he had a difficult time making racquet contact with the ball. I had to keep changing activities, for fear of his getting frustrated. When he started making contact, he initially had difficulty hitting the ball over the net. Now, he makes ball contact more than he misses, and he is able to hit fairly consistently over the net. Asa’s mom reported that this was Asa’s first year of playing baseball, and he was able to make ball contact. She attributed this success to tennis lessons.
10. Conformance to discipline/rules: Overall, after tennis lessons, Asa conforms better to routines at home. This could be because he is forced to focus during his tennis lessons, which makes him calmer, or it could be because he is tired from his lessons, and ready to go to bed!

In my opinion, based on this experience and results, there should be more trials with the use of tennis as a therapeutic intervention for children with autism. As stated before, there is a whole spectrum of autism, with several different levels of involvement, and characteristics. Yet, the overall outcome to tennis lessons as well as the feedback (from Asa’s parents) has been positive. Based on my research, 5

months is a relatively short time for effecting a change in a child with autism, but we have noticed several changes already. That is very encouraging. This has been an enriching experience for me. I am learning to appreciate Asa's discomfort with certain situations and work through it. Watching him improve with his skills fills me with pride. And I am learning that I have to be consistent in my behavior, yet allow some flexibility. Sometimes it is very difficult to engage Asa, and he has "off" days. I think that in the future, the one thing I need to keep in mind is not to be as rigid with the schedule and techniques. Based on information that I accumulated, I thought that Asa would respond better to a rigid schedule and instructions. For the most part, that does seem to work (his mom thinks that this requires him to focus at the lesson, so that he is more focused when he returns home after the lesson). However, Asa has consistently reported that he does not like to use his left hand on top of his right to hit, and I have been insisting that he does, which sometimes causes a temper tantrum. I think that in order for him to continue getting benefit from tennis to change behaviors in the long term; I will have to be flexible. Also, as he gets stronger, he may be more willing to use his left arm.

For the future, I would like to introduce more coordination and strength activities in Asa's program. I also would like to expand the program to more children, to be able to assess if there is a change in interactive behavior with tennis lessons. I would also like to develop some more formal guidelines for measurement of the outcomes of the program.

In summary, it seems like an individual sport like tennis can certainly help with autism, and that it would really benefit children with autism if there were more opportunities for them to learn tennis (via one-on-ones, camps with limited number of kids, etc).

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References:

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