

Play Like a Champion Today Educational Initiative

ASD Assistance



What is Autism Spectrum Disorder (ASD)?

- Persistent deficits in social communication and interaction across multiple settings
- Restricted, repetitive patterns of behavior, interests, or activities
- May or may not include intellectual or language impairment
- Deficits in developing, sustaining, and understanding relationships
- Symptoms cause significant impairment in social, academic, and/or occupational realms

NOTE: The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) has eliminated the previous diagnoses of Autistic Disorder, Asperger's Disorder, Childhood Disintegrative Disorder, and Pervasive Developmental Disorder. ASD is now the catch-all diagnosis for individuals meeting the criteria for any of the aforementioned conditions.

Severity Levels:

- Level 1, "Requiring Support"
- Level 2, "Requiring substantial support"
- Level 3, "Requiring very substantial support"

What does "spectrum" mean?

The appearance of ASD varies according to severity, developmental level, age, and current support

Development of ASD

- Up to 15% of cases seem to be associated with a genetic mutation; heritability estimates range from 37% to over 90%
- Genetic predisposition, advanced parental age, birth complications (especially those involving lack of oxygen to the baby's brain), low birth weight, and fetal exposure to valproate may increase risk of developing ASD
- Symptoms are typically identified around 12-24 months of age
- Characterized by early developmental delays; losses of social or language skills; disinterest in social interaction during the first year of life; unusual social interactions; odd play patterns; unusual communication patterns; repetitious behaviors
 - The stage at which deficits become apparent varies according to each individual and environmental factors

Prevalence:

- Approximately 1% of the population – for both U.S. and non-U.S. countries (same rate reported for both children and adults)
- According to the Center for Disease Control and Prevention (CDC), ASD occurs in up to 1 in 88 children (ages 3-17) in the U.S. This is ten times as many instances as were identified 40 years ago.
- In 2006, autism was identified as the fastest growing developmental disability in the U.S.
 - Frequency of ASD appears to have risen significantly in recent years; however, it is unclear whether this is due to broadened diagnostic criteria, increased awareness, or a true increase in prevalence

- Diagnosed approximately 4-5x more often in males than females
 - Approximately 1 in 54 boys and 1 in 252 girls are diagnosed with ASD in the U.S.
- Females more likely than males to show accompanying intellectual impairments
- There are conflicting reports when it comes to prevalence rates of ASD across cultures. In 2007, a phone survey in the U.S. showed differences in prevalence based on racial or ethnic background. Odds of having ASD were 57% lower for African American children (non-Hispanic) than for Caucasian children (non-Hispanic); odds were 42% lower for multi-racial (non-Hispanic) other single race (non-Hispanic) children in comparison to non-Hispanic Caucasian children. Differences in prevalence were attributed to age of diagnosis, availability of services, and socioeconomic status (SES). There appeared to be a greater occurrence of ASD among families of higher SES, but these rates were likely linked to a greater accessibility to services. However, a 7-year study of births in California did not reflect any significant differences in prevalence rates between racial and ethnic groups.
- Symptoms typically persist into adulthood, including social deficits, difficulties organizing practical demands, and stress that results from the exertion of trying to mask one's impairments.
 - Treatment and support can improve functioning, but symptoms tend to continue creating impairment in social, occupational, and other areas of functioning

What are some potential advantages for a child with ASD who plays sports?

- Motor skills can be further developed through physical activity
- Opportunity for social integration which can assist language development
- Immersion in a supportive environment and being part of a team can build confidence and self-esteem
- Potential enhancement of overall quality of life
- Helps to alleviate stress
- May become overfocused when it can benefit the team the most! (e.g., pitcher full count pitch, goalie shootout)
- Greater capacity to stay calm due to having less emotional access
- Enhanced self-evaluation
- Proactive attitude and increased motivation towards physical activities and group settings

Diagnostic Features:

- Language skills are limited and may be used primarily to label or request
- Impaired ability to initiate conversation, engage with others, and share thoughts and feelings
 - May have difficulty understanding slang, idioms, irony, sarcasm
- Deficits in nonverbal communication skills can include the following:
 - Reduced, absent or unusual use of eye contact, gestures, facial expressions, posture, vocal intonation
- Motor difficulties
- May prefer to engage in solitary activities
- Tendency to develop friendships with a misunderstanding of what friendship entails.
 - Limited capacity for empathy can result in a tendency to be "brutally honest" with others and an unintentional disregard for others' feelings. The personality of someone with ASD can be interpreted as being somewhat inflexible. One can seem rude and aggressive, which can also result in hurt feelings, even though that was not the desired intention.
- May appear noncompliant or oppositional
- Preoccupation with taste, smell, texture, or appearance of food is common
- Adolescents (and adults) with ASD are prone to anxiety and depression

Self-Injurious Behavior

Individuals with ASD can have an altered sense of pain and fear. This atypical sensory processing is one of the greatest risk factors for self-destructive behavior among children and adolescents with ASD, according to research. Additional risk factors include impaired cognitive ability, abnormal social functioning, age, mood, and rituals and compulsions.

- Can occur when a child with ASD is annoyed, anxious, or wants to avoid a task / escape demands
- Self-injury can be slight or can lead to hospitalization and, in severe cases, be life-threatening

- Examples: Biting, hair pulling, hitting self, head banging, skin picking, hitting self with object

Be sure to inquire with parents whether or not their child with ASD has ever displayed self-injurious behavior. If yes, ask about frequency and how it was handled. Because an immediate response may be necessary to ensure the safety of the individual, evaluate your comfort level with the circumstances and your ability to intervene. Keep in mind that some responses, such as personal restraint (e.g., basket hold), may require special training/education, and the permission of a parent or legal guardian.

NOTE: Individuals prone to self-injurious behavior may not be able to engage in athletic activities.

Potential Consequences:

- Impairment of social and communication skills can interfere with learning – especially learning through social interaction or with peers
- Problems with social skills can also obstruct the development of relationships with coaches and teammates, evoking negative evaluations.
- Sensory integration difficulties
 - Those with ASD can be either hyper (over) or hypo (under) sensitive to sensory experiences, or situations which trigger a response from the senses.
 - Ex: Hypersensitivity to sound may result in an inability to block out sounds – such as background noise (e.g., crowd yelling), which can lead to difficulty concentrating.
 - Ex: Someone hyposensitive to touch may have a high threshold for pain and not realize the severity of an injury, or may self-harm.
 - Try to learn what athletes with ASD are vulnerable to – a high five may turn out to be painful for them, despite the positive intention!
 - According to previous research, children with an ASD are 2-3x more likely than typically developing children to endure a severe injury that requires emergency medical attention.

Challenges for athletes with ASD within athletic settings:

- Significant challenges with planning, organization, and coping with change can inhibit capacity for FLOW.
- Difficulty processing unfair or incorrect calls made by the official
- Trouble coping with changes to structure/routine and dealing with the unexpected (e.g., overtime; substitutions)
- Difficulty building cohesive relationships – often play positions that are considered “odd/different” (e.g., relief pitcher)
- May get hung up on “mechanics” and technique (e.g., curve ball; 3-point shot)
- Motor skills are often less well-developed
- Parents may be hesitant to confide in coaches that their child has ASD
 - Coaches are encouraged to promote open communication with parents, especially regarding exceptionalities issues
 - Address in preseason parent meeting and in letter sent home

...Remember to embrace parents as partners!

- A good coach will consider it a gift when informed of a child’s special needs. Coaches have the opportunity to make a huge impact on students’ lives and can help each player feel like an important member of the team.

Individuals with ASD are often bullied and/or isolated from peers

- A 10-year study (2001-2011) revealed that almost half (46.3%) of adolescents with ASD are victims of bullying, while 14.8% are perpetrators themselves. 8.9% fall into both categories (“victimization/perpetration”).
- Appears to be worse for children with ASD in grades 5 through 8

- Adolescents with an ASD as well as ADHD were found to be victimized more often than non-ADHD peers on the spectrum (55.6% vs. 41.4%). They were also more likely to perpetrate bullying behavior (20.9% vs. 11.5%) and to experience the “victimization/ perpetration” combination.
- Just as “mainstreaming” children with ASD into general education classes (vs. special) is not always the best solution for a bullying problem, enrolling children with ASD into an athletic environment where they are repeatedly the subject of bullying can actually make the problem worse.
- Of children with ASD who have difficulty making friends but want to interact with others, 57% are bullied, compared to only 25% of children who prefer to play alone and 34% of children who will play only if approached
- This finding suggests that participation in sports can actually increase a child with ASD’s susceptibility to bullying.

Suggestions for Coaching Athletes with ASD:

Establish Goals

- Goals are motivational!
- Realistic, challenging, specific goals are more effective than “do your best” goals
- Establish mastery criteria to better enable the learning of specific skills
 - Identify a quantity, level, or standard of performance, such as:
 - Golf: make two 4-foot putts in a row
 - Tennis: hit 3 backhands down the line in a row
 - Basketball: make 2 foul shots in a row
 - Baseball: hit 2 curveballs in a row out of the infield

Praise. Provide praise whenever a step is mastered or a desired behavior is achieved. Don’t forget to praise effort along the way, too! Build upon strengths. Assess child’s strengths and capitalize on them. For example, if an athlete’s soccer coach sees that she is determined to block the ball, he might make her the goalie.

Go one-on-one. Due to relational difficulties and limited eye contact, children with ASD can get lost in group instructions. Without drawing too much attention to the exceptional child, a coach could talk with him or her individually to explain/review directions.

Evaluate self-talk and self-feedback. Try to redirect an individual who begins to get disheartened. Self-evaluations have been shown to improve over time among children with ASD whose participation in physical activities was guided by behavioral coaching and prompts. Model a positive attitude. If you believe in your athletes, they will draw from that as they learn to believe in themselves.

Establish social “rules.” Help athletes learn to acknowledge and process social cues and decide on specific social skills they will use as they engage in an activity

“SODA” technique implements self-talk and planning (based on a study by Bock, 2000)

- *STOP*
 - Where should I go to stretch?
 - What is today’s routine/schedule?
- *OBSERVE*
 - What are the coaches saying?
 - What are my teammates doing?
- *DELIBERATE*
 - What do I want to do/say?
 - How will ___ feel when I do and say these things?
- *ACT*
 - When I... [go to practice; enter the game; get the ball, etc.]..., I plan to: A, B, C...

Tell “stories” of real or imagined scenarios to teach SODA and jointly examine consequences of decisions and behaviors.

Visual Prompting

Children with ASD have strong visual perception; visual/external prompts are shown to be easily understood & effective

- Picture prompt displays
 - Use photos to display target behavior in each phase (see below); can include written explanations
- Post rules, goals, schedules, scores, etc.
- Draw on white boards and clipboards
- Video technology
 - Show a video clip of one step of a task or behavior, then allow the athlete to execute that step before showing the next one
- Example of breaking a target behavior into steps: Teaching ball-throwing skills to a right-handed child (based on a 2010 study by Matsushita & Sonoyama)
 1. Face the target and stand sideways so that the left side of the body is turned forward.
 2. Bend the right knee and lower the hip; lift the left leg.
 3. With the ball facing downwards, lift the right arm backwards to shoulder-height.
 4. Bend the elbow so the ball faces the opposite direction of the target.
 5. Take a step forward (towards the target) with the left leg.
 6. With the right elbow raised higher than the shoulders, turn the right arm.
 7. Extend the right arm in the direction of the target and let go of the ball.
 8. Bring the downward-swung right arm over to the left side.
 9. With the left leg slightly bent, shift the body’s weight to the left leg.
 10. Continue looking at the target.

Modeling: Demonstrating the desired behavior or skill

- Most effective when paired with verbal rules/instructions (see below)
- Can be especially effective in educating athletes who have ASD when combined with other visual prompts (i.e., video; pictures)
- Exemplify good sportsmanship at all times.
- A team buddy can serve as a peer model – people are more likely to imitate someone who is similar to them, and this is especially true for children.

Verbal Prompting or Shaping: Provide reinforcement (e.g., via praise) in small increments for each step of the desired skill or behavior until it is fully achieved

- Establish an appropriate starting point for the individual
- Ask prompt questions after providing instructions or an explanation
- EXAMPLES:
 - What do I mean when I say “choke up on the bat?”
 - When do we throw the soccer ball in from the sideline?
 - You may need to prompt with additional questions
- When a target behavior does not occur, refer back to visual prompts and provide constructive feedback

Chaining: Behavioral chaining involves developing a sequence of steps that gradually leads to a desired outcome. Research shows that individuals with ASD often learn more easily (and with less frustration) when instructed one step at a time. Chaining involves verbal and physical prompting, physical guidance, and elements of shaping (i.e., praise with each step) and modeling.

- **EXAMPLE:** (Martin & Pear, 2003) A golf coach notices that Jon's inconsistent preputt routine might be contributing to inconsistent putting. He developed a list of specific steps that he wanted Jon to follow prior to attempting a putt...
 1. When approaching the ball, forget about the score and think only about the putt at hand.
 2. Go behind the hole, look back at the ball, and check the slope of the green in order to estimate the speed/path of the putt.
 3. Move behind the ball, look toward the hole, and recheck the slope.
 4. While standing behind the ball, pick a spot to aim at, take two practice strokes, and visualize the ball rolling into the hole.
 5. Move beside the ball, set the putter down behind the ball, and adjust it so that it is aiming at the desired spot.
 6. Adjust your feet so that they are parallel to the putting line, grip the putter in the usual way, and say, "Smooth stroke."
 7. Look at the hole, look at the ball, look at the spot, look at the ball, and stroke the putt.
- It is important for the sequence to conclude with a reinforcer (i.e., making the putt), so you may need to adjust the level of difficulty (i.e., putt from shorter distance) at first to ensure successful completion. The procedure can also be reinforced with treats such as stickers, small toys, and edibles.
- Training will involve execution of steps over a series of trials. If the athlete misses a step, prompt him or her to perform it before continuing to the next step.
- It may be helpful to maintain a checklist to document each time a step is performed. This can also be visually motivating for the athlete.

Attend to Transitions

- Help athlete anticipate changes and transitions
- Give advance notice before transition
 - "Two more minutes!"
- Use transition "signals"
 - Blow a whistle (nonverbal)
 - "Rotate!" (verbal)
- Follow a challenging transition with rewarding activity
 - E.g., water break; snack; game

The Three R's: Routine, Ritual, Relaxation

Routine: Provide a structured environment and somewhat predictable practice format

- Children with ASD thrive on routine
- Decreases anxiety and increases a sense of comfort

Ritual: collective acts the team shares

- Provides public acceptance of the ASD athlete as a full member of the team, e.g., pregame huddle

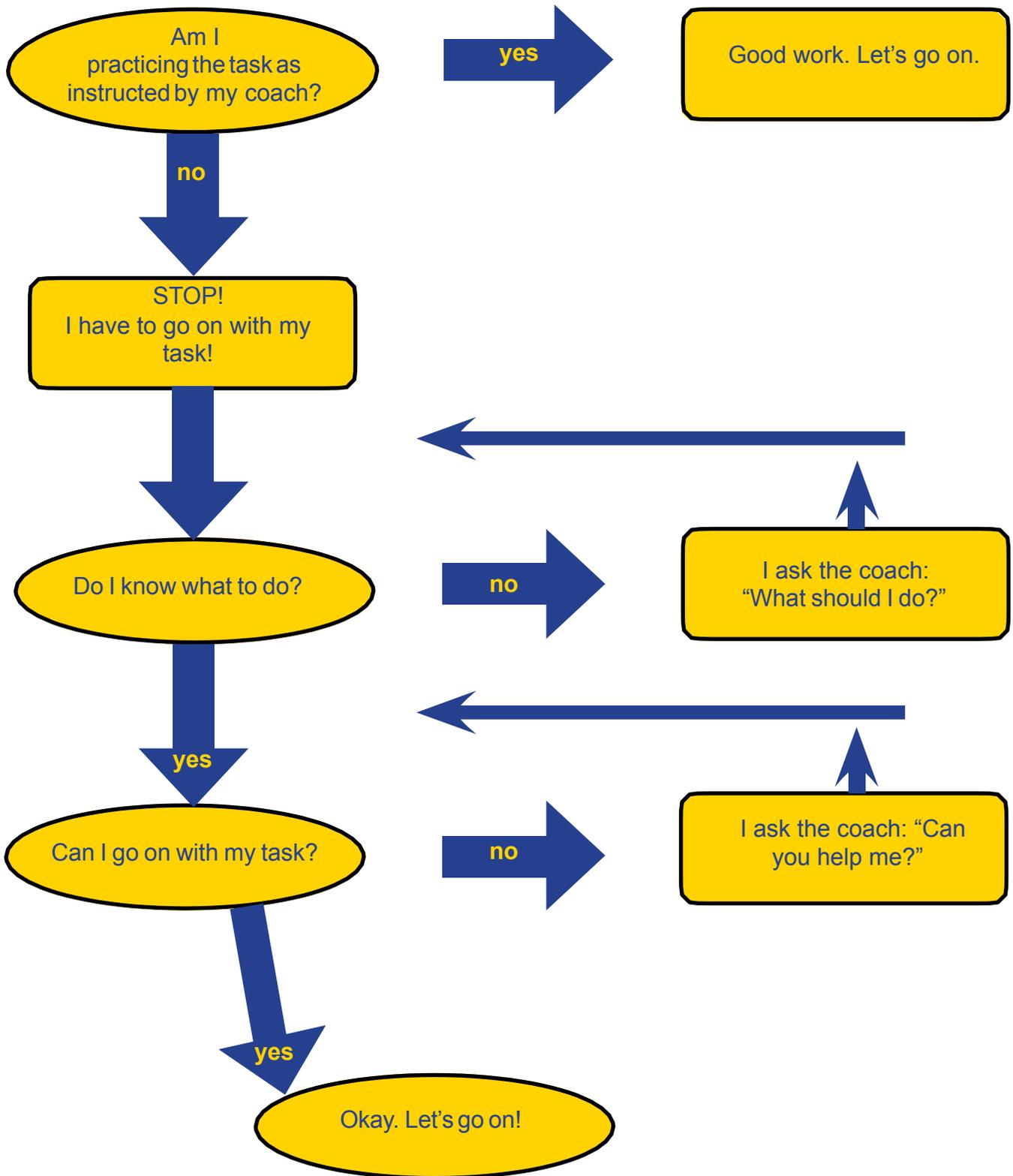
Relaxation: By helping an athlete enhance his or her ability and feel confident in attempting various aspects of a sport, he or she will be more likely to feel relaxed...AND perform in the zone.

Maintain Boundaries

- Implement team rules – be consistent, but offer flexibility in environment and processes.
- Corrective feedback can be helpful if provided appropriately. Correction points out what the child should do...not what not to do. For example, it is better to say, "Hold your lacrosse stick in the ready position," as opposed to, "Stop swinging your stick around." It is effective when administered much less often than positive attention and praise.
- Avoid ridicule, criticism, or any tactics that may humiliate
- Stay calm – exercise patience – individuals with ASD may have difficulty sustaining task engagement

Flow chart to help athletes with task engagement:

(Based on a 2012 study by Palmen & Didden)



Mindfulness

Mindfulness is a practice of being “awake,” or fully present. It involves being intentional with one’s actions and becoming more aware of the emotions you experience, as you’re experiencing them. Research shows a strong relationship between this kind of awareness and emotional regulation. Mindfulness strategies have been proven effective in helping children with ASD control *aggressive behavior*...

- Anger and/or aggression may result from difficulty regulating one’s emotions, and a faulty mechanism for expressing anger. A child with ASD may exert aggression as a means of gaining control over certain situations and meeting one’s own demands. For some, aggression might be a way of avoiding or escaping tasks or unpleasant situations.
- Aggression can be verbal or physical. Some examples of physically aggressive behavior are hitting, punching, kicking, biting, scratching, slapping, and destroying property.
- This procedure is also a form of distraction. The idea is that if you are able to fully distract yourself – using all of your senses – from a stimulating situation, heightened emotions will decrease in intensity.
- Encourage athletes to PRACTICE the exercise (2x a day?) so that it can be used wherever and whenever an anger-triggering incident arises that may otherwise have resulted in aggression. While learning, one can practice by reflecting back to an incident that triggered anger.
- During an incident that could elicit aggression, a coach or parent can talk an athlete through the steps if the athlete seems unable to engage in the procedure solo.
- It is recommended that you train all of your athletes in this method at the start of the season. It provides an accessible mechanism to appropriately deal with angry feelings. Periodically, review the steps and check in with your athletes – after a practice; following a competition – have them describe examples of implementing this procedure. What worked? What was challenging? It takes time, so encourage patience and persistence. Knowing that they can diffuse their own anger and aggressive impulses will ultimately feel empowering.

Meditation on the Soles of the Feet is a strategy that has been shown to significantly reduce aggressive behavior among children with ASD. (Singh et al., 2011) Here are the steps, modified for use in an athletic setting:

1. Decide whether or not you need to leave the playing area. Adjust your body so that you are not in an aggressive posture. Sit or stand with the soles of your feet flat on the ground.
2. Breathe naturally and do nothing.
3. Let your angry thoughts flow through your mind without restriction. Feel the anger. Your body might show signs of the anger (e.g., breathing quickly; clenched fists)
4. Next, shift all of your attention fully to the soles of your feet.
5. Slowly, move your toes, feel your shoes covering your feet, feel the texture of your socks, the curve of your arch, and the heels of your feet against the back of your shoes. (If you are not wearing shoes, feel the floor/ground.)
6. Keep breathing naturally and focus on the soles of your feet until you feel calm.

Consider Age Placement. Children with ASD are often socially and emotionally younger than their age. If it is feasible with the structure of the league and they can play with children a year or two younger, they may have more fun.

Win - and Lose - as a Team. Many children have a hard time with losing. The coach should make sure that the players know that winning or losing is a team responsibility, and that every member of the team can be a CHAMPION. No player should be held at fault, even if he missed the last shot or made the last strikeout. It is the coach’s job to instill and demonstrate sportsmanship values for all players, beginning with the first practice. Support, encouragement, and respect for all players should be a top priority.

Teach Sportsmanship Skills

- Undesirable behaviors, such as whining or screaming, may be exhibited by athletes with ASD in athletic situations over which they have little or no control (e.g., losing a game).
- One method proven to be effective in teaching sportsmanship skills to children with ASD is called the Power Card Strategy.
 - Can be implemented with an individual or whole team
 - Develop a scenario at the child's (or team's) level of understanding that revolves around a personal hero or special interest and addresses the problematic behavior or situation.
 - Use a script, pictures, and graphics (e.g, from a computer, magazines, drawings, etc.) to design a "Power Card."
 - Power Card outlines brief scenario of the hero/model attempting to solve a problem using a three- to five-step strategy that results in a successful experience. Include a final note of encouragement for the child to try the new behavior.

Sample Power Card (adapted from a study by Keeling, Myles, Gagnon, & Simpson, 2003)



The Avengers Play Soccer

The Avengers like to play soccer. Sometimes they win the game. When they win, they feel happy. They might smile, give each other high fives, or say, "Yeah!" Sometimes they lose the game. When they lose, the Avengers might not feel happy. They may take deep breaths; say "Good job" to their friends; say, "Maybe next time" or "Oh well."

The Avengers want everyone to have fun playing games. They want you to remember these three things when playing games the Avenger way:

1. Games should be fun for everyone.
2. If you win a game, you can: smile; give a high five; or say, "Yeah!"
3. If you lose a game, you can: Take a deep breath; say, "Good job" to a friend; or say, "Maybe next time" or "Oh well."

Play games the Avengers way and your friends will have fun playing games with you!



What Role Does Medication Play?

Though psychotropic medication is frequently a component of one's treatment plan, it is primarily aimed at reducing problematic behaviors, rather than treating underlying symptoms of ASD. There is no medicinal remedy for ASD issues with social development, communication, and repetitive behaviors. Symptoms that are typically treated with medication fall into three categories: irritability (includes aggression and self-injury), ADHD-like symptoms, and repetitive behaviors. (The latter is mentioned as both treatable and untreatable by medication, as it depends on the behavior and its severity.)

Interesting tidbits...

Many athletes with ASD are undiagnosed and excel at technical positions (e.g., catcher, goalie, surfing, running, martial arts) It is thought that Mozart, Albert Einstein, and Sir Isaac Newton met criteria for ASD.

Some professional athletes with ASD:

Clay Marzo (surfer)
Jim Eisenreich (former MLB player)
T. Mac (NHL goalie)

A 2010 study by Matsushita and Sonoyama described the behavior analysis of an 11-year-old boy who had been diagnosed as having Asberger's Disorder. At the beginning of treatment, when many of the aforementioned techniques were first being implemented, the boy said that he wanted to be part of the "going-home club" when he got to junior high. At the conclusion of the study, he stated that he had decided that he wanted to join the tennis club...when he reached junior high, he did just that.

Carrie Hastings, Psy.D.
askdoctorcarrie@playlikeachampion.org