

High Functioning Autism Spectrum Disorder in Children and Adolescents

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July 20, 2018



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Objectives of Training

- What is ASD?
 - Characteristics of individuals with ASD
 - Diagnosis of ASD
 - Prevalence
 - Etiology
- Moebius sequence and ASD
- Evidence based interventions for ASD

Autism Spectrum Disorder

- Includes a broad range of individuals
- Brain-based (Neurodevelopmental Disorder)
- Causes differences in the way the brain processes information
 - Literal interpretation
 - Poor generalization
 - Deficits in understanding someone else's perspective (theory of mind, empathy)
- Affects understanding and use of language to interact and communicate with people
- Thought to be a “hidden” disability for some

How do we diagnose Autism?

- Purely based on behavior:

1. Deficits in social communication and social interaction across multiple contexts

Examples: failure to respond to social initiations, reduced display of emotion, abnormal eye contact, difficulties sharing

2. Restricted, repetitive patterns of behavior, interests, or activities

Examples: failure to respond to social initiations, reduced display of emotion, abnormal eye contact, difficulties sharing

Symptoms must be present in the early developmental period

Areas most effected by Autism

- Communication
- Socialization
- Behavior
- Learning

Commonly co-occurring diagnoses and other associated symptoms

- Intellectual Disability
- Language Disorder
- Challenging behaviors (aggression towards self, others, tantrumming, eating disorders, sleep issues)
- Fragile X
- Epilepsy
- Hyperactivity, obsessive compulsive phenomena, self-injury, tics, and affective symptoms
- Increased risk for anxiety and mood disorder in older, higher functioning individuals
- Fine and gross motor deficits
- Gastrointestinal problems
- Cerebral Palsy

Current prevalence rates

Surveillance Year	This is about 1 in X Children...
2000	1 in 150
2002	1 in 150
2004	1 in 125
2006	1 in 110
2008	1 in 88
2010	1 in 68
2012	1 in 68
2014	1 in 59

Data and Statistics from the CDC

- About 1 in 59 children has been identified with autism spectrum disorder (ASD) according to estimates from CDC's Autism and Developmental Disabilities Monitoring (ADDM) Network.
- ASD is reported to occur in all racial, ethnic, and socioeconomic groups.
- ASD is about 4 times more common among boys than among girls.
- Studies in Asia, Europe, and North America have identified individuals with ASD with an average prevalence of between 1% and 2%.
- About 1 in 6 children in the United States had a developmental disability in 2006-2008, ranging from mild disabilities such as speech and language impairments to serious developmental disabilities, such as intellectual disabilities, cerebral palsy, and autism.

Etiology of ASD

- No single cause has been identified
- Several causal factors:
 - Genetic
 - Neurobiological
 - Environmental

Causes and Risk Factors for ASD

- Findings in support of genetic link:
 - ASD is more common in boys than girls
 - Increase risk for children who have a sibling with ASD
 - ASD tends to occur more often in people who have certain genetic or chromosomal conditions
- Prescription drugs valproic acid and thalidomide have been linked with higher risk of ASD
- Children born to older parents are at greater risk for having ASD

Research does not support....

- Autism is not due to:
 - “Refrigerator moms”
 - Vaccinations
 - Gluten

A single blue puzzle piece is centered on the page. Inside the piece, the text "Autism is a lifelong developmental disability" is written in a black, serif font, arranged in four lines.

**Autism is
a lifelong
developmental
disability**

A person with ASD may....

Look unusual!	Wear unusual attire (e.g. shorts in winter, sound-reducing earmuffs)
	Demonstrate signs of agitation (e.g., cry, scream, pace, clench teeth, flap hands)
	Give little or no eye contact
	Demonstrate repetitive actions (e.g. rocking, hand flapping)
	Have difficulty using correct voice volume
	Self-harm (e.g., throw self on ground, hit head on wall, smack face, bite arm)
	Carry object(s) for comfort/security, or communication (e.g. an iPad or book w/picture cards)
	Be sensitive/upset by lights, sounds (e.g. sirens), or being touched

A person with ASD may...

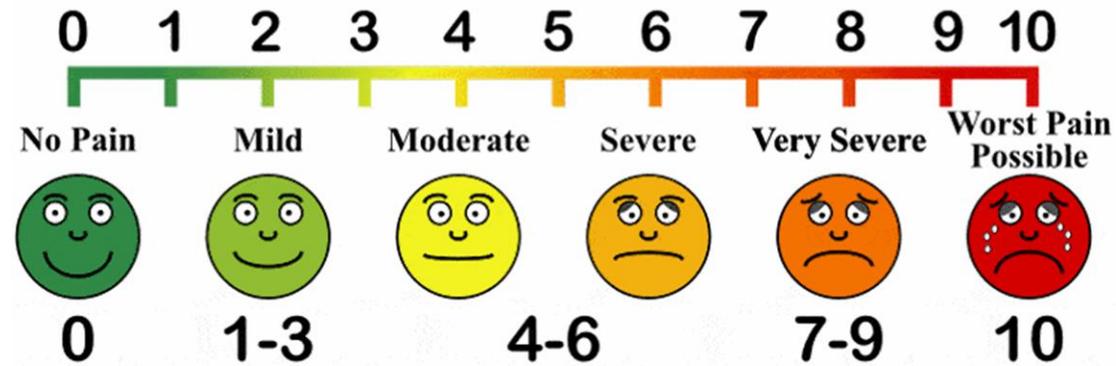
Not understand social boundaries!	Repeat what you say or do, repeat phrases (e.g., from a TV show, etc.)
	Stand very close to another person
	Touch strangers
	Be attracted to (and even <u>reach for</u>) badge, radio, keys, or weapon

A person with ASD may...

Respond inappropriately or unusually to questioning!	Not respond to requests/questions or take a long time to respond
	Fail to make needs known (e.g., they are lost, hurt, etc..)
	Appear argumentative, stubborn (not follow commands)
	Ignore verbal questions
	Respond after a long delay

A person with ASD may...

Have a high/low (extreme) threshold for pain



What is “High Functioning” Autism?

- IQ of 80 or higher
- Ability to speak, read, and write
- Individuals without cognitive or language impairments
- Still demonstrate social-affective deficits and restricted-repetitive, stereotyped patterns of behavior

High Functioning Autism

- May present with difficulties interacting with others
 - May struggle with small talk
 - Difficulties understanding personal space
 - Struggle to read nonverbal cues
 - Bullied/rejected by peers
 - Poor eye contact
 - May lack empathy

High Functioning Autism

- Intense and deep knowledge of obscure topic
- Excellent problem solvers
- Honest, hard working, may be excellent scientists or engineers

Moebius Sequence and ASD

- Studies conducted in the early 2000 showed markedly increased prevalence of ASD (21-29% vs. .63% in population)
- More recent studies in 2009-2010 have shown significantly lower rates (maximum 5.4%)

Evidence based interventions

- The NPDC used a rigorous criteria to classify 27 focused interventions as EBPs in 2014. The 27 identified EBPs have been shown through scientific research to be effective when implemented correctly with students with ASD.
- The NPDC is currently developing online modules, called AFIRM, for each of the 27 identified practices

Evidence based interventions and high functioning ASD

- Social Skills Training
- Peer Mediated Instruction and Intervention
- Video Modeling

For more EBP:

<https://autismpdc.fpg.unc.edu/evidence-based-practices>

Social Skills Training

- Social skills training (SST) involves group or individual instruction designed to teach learners to appropriately interact with typically developing peers.
- Most social skills meetings include instruction on basic concepts, role-playing or practice, and feedback to help learners acquire and practice communication, play, or social skills to promote positive interactions with peers.
- SST meets evidence-based criteria with 7 group design and 8 single case design studies.
- According to the evidence-based studies, this intervention has been effective for toddlers (0-2 years) to young adults (19-22 years) with ASD.
- SST can be used effectively to address social, communication, behavior, play, and cognitive skills.

Peer Mediated Instruction and Intervention

- Peer-mediated instruction and intervention (PMII) is used to teach typically developing peers ways to interact with and help learners with ASD acquire new behavior, communication, and social skills by increasing social opportunities within natural environments.
- Peers are systematically taught ways of engaging learners with ASD in social interactions in both teacher directed and learner-initiated activities. Peers are paired or placed in cooperative learning groups that include at least one learner with ASD.
- PMII is a useful strategy for promoting positive transitions across settings.
- PMII meets evidence-based criteria with 15 single case design studies.
- According to the evidence-based studies, this intervention has been effective for preschoolers (3-5 years) to high school-age learners (15-18 years) with ASD.
- PMII can be used effectively to address social, communication, joint attention, play, school-readiness, and academic skills.

Video Modeling

- Video modeling (VM) is a method of instruction that uses video recording and display equipment to provide a visual model of the targeted behavior or skill. The model is shown to the learner, who then has an opportunity to perform the target behavior, either in the moment or at a later point in time.
- Types of video modeling include basic video modeling, video self-modeling, point-of-view video modeling, and video prompting.
 - Basic video modeling is the most common and involves recording someone besides the learner engaging in the target behavior or skill.
 - Video self-modeling is used to record the learner displaying the target skill or behavior and may involve editing to remove adult prompts.
 - Point-of-view video modeling is when the target behavior or skill is recorded from the perspective of what the learner will see when he or she performs the response.
 - Video prompting involves breaking the behavior into steps and recording each step with incorporated pauses during which the learner may view and then attempt a step before viewing and attempting subsequent steps. Video prompting can be implemented with other, self, or point of-view models.
- Video modeling strategies have been used in isolation and also in conjunction with other intervention components such as prompting and reinforcement strategies.
- VM meets evidence-based criteria with 1 group design and 31 single case design studies.
- According to the evidence-based studies, this intervention has been effective for toddlers (0-2 years) to young adults (19–22) years with ASD.

Thank you & Questions



For more information or questions, please contact:
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