

AUTISM SPECTRUM DISORDERS

Practice Parameters:

[The Assessment and Treatment Children and Adolescents with Autism Spectrum Disorder](#) 2014

[Caring for Children With Autism Spectrum Disorders: A Resource Toolkit for Clinicians](#)

[https://www.jaacap.org/article/S0890-8567\(13\)00819-8/pdf](https://www.jaacap.org/article/S0890-8567(13)00819-8/pdf)

Overview: What is Autism?

Autism is a bio-neurological developmental disability generally present before the age of 3. Autism is diagnosed 4 times more often in boys than girls. The incidence of autism has been on the rise for years, however no clear causal agents have been identified to explain the dramatic increase to near epidemic levels.

Autism impacts the normal development of the brain in the areas of social interaction, communication skills, and cognitive function.

- Individuals with autism typically have **difficulties in verbal and non-verbal communication, social interactions, and leisure or play activities.**
- Individuals with autism often suffer from co-morbid medical conditions which include: allergies, asthma, epilepsy, digestive disorders, persistent viral infections, feeding disorders, sensory integration dysfunction, sleeping disorders, and more
- Autism is diagnosed four times more often in boys than girls. Its prevalence is not affected by race, region, or socio-economic status.
- Since autism was first diagnosed in the U.S. the incidence has climbed to an alarming **one in 59 children in the U.S.**
- Research has shown that the mortality risk among individuals with autism is twice as high as the general population, in large part due to drowning and other accidents.
- There is no cure for autism, though with early intervention and treatment, the diverse symptoms related to autism can be greatly improved and in some cases completely overcome.
- About 40% of children with autism do not speak. About 25%–30% of children with autism have some words at 12 to 18 months of age and then lose them. Others might speak, but not until later in childhood
- Autism greatly varies from person to person (no two people with autism are alike)
- The rate of autism has steadily grown over the last twenty years
- Comorbid conditions often associated with autism include Fragile X, allergies, asthma, epilepsy, bowel disease, gastrointestinal/digestive disorders, persistent viral infections, PANDAS, feeding disorders, anxiety disorder, bipolar disorder, ADHD, Tourette Syndrome, OCD, sensory integration dysfunction, sleeping disorders, immune disorders, autoimmune disorders

Autism is a neurodevelopmental disorder characterized by:

- Social impairments
- Cognitive impairments

- Communication difficulties
- Repetitive behaviors

Because Autism is a spectrum disorder, it can range from very mild to very severe and occur in all ethnic, socioeconomic and age groups. Males are four times more likely to have autism than females. Some children with autism appear normal before age 1 or 2 and then suddenly “regress” and lose language or social skills they had previously gained. This is called the regressive type of autism.

Early Signs

A person with ASD might:

- Not respond to their name (the child may appear deaf)
- Not point at objects or things of interest, or demonstrate interest
- Not play “pretend” games
- Avoid eye contact
- Want to be alone
- Have difficulty understanding, showing understanding of other’s feelings or their own
- Have no speech or delayed speech
- Repeat words or phrases over and over (echolalia)
- Give unrelated answers to questions
- Get upset by minor changes
- Have obsessive interests
- Flap their hands, rock their body, or spin in circles
- Have unusual reactions (over or under-sensitivity) to the way things sound, smell, taste, look, or feel
- Have low to no social skills
- Avoid or resist physical contact
- Demonstrate little safety or danger awareness
- Reverse pronouns (e.g., says “you” instead of “I”)

People with autism may also:

- Have unusual interests and behaviors
- Have extreme anxiety and phobias, as well as unusual phobias
- Line up toys or other objects
- Play with toys the same way every time
- Like parts of objects (e.g., wheels)
- Become upset by minor changes
- Have obsessive interests

Other Symptoms:

- Hyperactivity (very active)
- Impulsivity (acting without thinking)
- Short attention span
- Aggression
- Causing self injury
- Meltdowns
- Unusual eating and sleeping habits
- Unusual mood or emotional reactions

- Lack of fear or more fear than expected
- Have unusual sleeping habits

M-CHAT-RTM General Information

- The Modified Checklist for Autism in Toddlers, Revised with Follow-Up (M-CHAT-R/F; Robins, Fein, & Barton, 2009) is a 2-stage parent-report screening tool to assess risk for Autism Spectrum Disorder (ASD). The M-CHAT-R/F is an autism screening tool designed to identify children 16 to 30 months of age who should receive a more thorough assessment for possible early signs of autism spectrum disorder (ASD) or developmental delay.
- The American Academy of Pediatrics (AAP) recommends that all children receive autism-specific screening at 18 and 24 months of age, in addition to broad developmental screening at 9, 18, and 24 months. The M-CHAT-R/F, one of the AAP recommended tools, can be administered at these well-child visits.
- If you and your physician agree that further screening is needed, you can request a free developmental assessment through your State Department of Health.
- For more information on M-CHAT-R, visit <http://m-chat.org>.
- Source: <http://m-chat.org>.

Developmental Screening

- Developmental screening is a short test to tell if children are learning basic skills when they should, or if they might have delays. During developmental screening the doctor might ask the parent some questions or talk and play with the child during an exam to see how she learns, speaks, behaves, and moves. A delay in any of these areas could be a sign of a problem.
- All children should be screened for developmental delays and disabilities during regular well-child doctor visits at:
 - 9 months
 - 18 months
 - 24 or 30 months

Additional screening might be needed if a child is at high risk for developmental delays due to preterm birth, low birth weight, having a sibling with ASD or if behaviors associated with ASDs are present.

Comprehensive Diagnostic Evaluation

The second step of diagnosis is a comprehensive evaluation. This thorough review may include looking at the child's behavior and development and interviewing the parents. It may also include a hearing and vision screening, genetic testing, neurological testing, and other medical testing.

- In some cases, the primary care doctor might choose to refer the child and family to a specialist for further assessment and diagnosis. Specialists who can do this type of evaluation include:
 - Developmental Pediatricians (doctors who have special training in child development and children with special needs)
 - Child Neurologists (doctors who work on the brain, spine, and nerves)
 - Child Psychologists or Psychiatrists (doctors who know about the human mind)

- Source: <http://www.cdc.gov/ncbddd/autism/screening.html>, and neuroinflammation.
- Autism is the fastest growing developmental disorder, yet most underfunded
- A 2008 Danish Study found that the mortality risk among those with autism was nearly twice that of the general population
- Children with autism do progress – early intervention is key

If your child is young and you suspect there might be something wrong, immediately seek early intervention services for your child.

Click here for more information on [Early Intervention](#).

<http://nationalautismassociation.org/first-signs-next-steps/>



Myths About Developmental Screening

Myth #1	There are no adequate screening tools for preschoolers.
Fact	Although this may have been true decades ago, today sound screening measures exist. Many screening measures have sensitivities and specificities greater than 70%. [5] , [11]
Myth #2	A great deal of training is needed to administer screening correctly.
Fact	Training requirements are not extensive for most screening tools. Many can be administered by paraprofessionals.
Myth #3	Screening takes a lot of time.
Fact	Many screening instruments take less than 15 minutes to administer, and some require only about 2 minutes of professional time. [5] , [12]
Myth #4	Tools that incorporate information from the parents are not valid.
Fact	Parents' concerns are generally valid and are predictive of developmental delays. Research has shown that parental concerns detect 70% to 80% of children with disabilities. [13] , [14]

Diagnostic Tools:



There are many tools to assess ASD in young children, but no single tool should be used as the basis for diagnosis. Diagnostic tools usually rely on two main sources of information—parents' or caregivers' descriptions of their child's development and a professional's observation of the child's behavior. In some cases, the primary care provider might choose to refer the child and family to a specialist for further assessment and diagnosis. Such specialists include neurodevelopmental pediatricians, developmental-behavioral pediatricians, child neurologists, geneticists, and early intervention programs that provide assessment services.

Selected examples of diagnostic tools:

- [Autism Diagnosis Interview – Revised \(ADI-R\)](#)

- [7]

A clinical diagnostic instrument for assessing autism in children and adults. The instrument focuses on behavior in three main areas: reciprocal social interaction; communication and language; and restricted and repetitive, stereotyped interests and behaviors. The ADI-R is appropriate for children and adults with mental ages about 18 months and above.

- [Autism Diagnostic Observation Schedule – Generic](#)

- (ADOS-G)^[8] [1]

A semi-structured, standardized assessment of social interaction, communication, play, and imaginative use of materials for individuals suspected of having ASD. The observational schedule consists of four 30-minute modules, each designed to be administered to different individuals according to their level of expressive language.

- Childhood Autism Rating Scale (CARS)^[9] [1]

Brief assessment suitable for use with any child over 2 years of age. CARS includes items drawn from five prominent systems for diagnosing autism; each item covers a particular characteristic, ability, or behavior. ● [Gilliam Autism Rating Scale – Second Edition \(GARS-2\)](#)

Assists teachers, parents, and clinicians in identifying and diagnosing autism in individuals ages 3 through 22. It also helps estimate the severity of the child's disorder.

In addition to the tools above, the American Psychiatric Association's Diagnostic and Statistical Manual, Fifth Edition (DSM-5) provides standardized criteria to help diagnose ASD.

[DSM-5 diagnostic criteria »](#)

Diagnostic Criteria for 299.00 Autism Spectrum Disorder

Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history

Deficits in social-emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back-and-forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions.

Deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits in understanding and use of gestures; to a total lack of facial expressions and nonverbal communication.

Deficits in developing, maintaining, and understand relationships, ranging, for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers.

Severity is based on social communication impairments and restricted, repetitive patterns of behavior.

Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following, currently or by history (examples are illustrative, not exhaustive; see text): Stereotyped or repetitive motor movements, use of objects, or speech (e.g., simple motor stereotypes, lining up toys or flipping objects, echolalia, idiosyncratic phrases).

Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior (e.g., extreme distress at small changes, difficulties with transitions, rigid thinking patterns, greeting rituals, need to take same route or eat same food every day). Highly restricted, fixated interests that are abnormal in intensity or focus (e.g., strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests). Hyper- or hyporeactivity to sensory input or unusual interest in sensory aspects of the environment (e.g. apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling or touching of objects, visual fascination with lights or movement).

Specify current severity:

Severity is based on social communication impairments and restricted, repetitive patterns of behavior.

Symptoms must be present in the early developmental period (but may not become fully manifest until social demands exceed limited capacities, or may be masked by learned strategies in later life).

Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning.

These disturbances are not better explained by intellectual disability (intellectual developmental disorder) or global developmental delay.

Intellectual disability and autism spectrum disorder frequently co-occur; to make comorbid diagnoses of autism spectrum disorder and intellectual disability, social communication should be below that expected for general developmental level.

Note: Individuals with a well-established DSM-IV diagnosis of autistic disorder, Asperger’s disorder, or pervasive developmental disorder not otherwise specified should be given the diagnosis of autism spectrum disorder. Individuals who have marked deficits in social communication, but whose symptoms do not otherwise meet criteria for autism spectrum disorder, should be evaluated for social (pragmatic) communication disorder.

Specify if:

- With or without accompanying intellectual impairment with or without accompanying language impairment
- Associated with a known medical or genetic condition or environmental factor
- Associated with another neurodevelopmental, mental, or behavioral disorder
- With catatonia (refer to the criteria for catatonia associated with another mental disorder)

References

American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Arlington, VA: American Psychiatric Association; 2013.

There are no medications that can cure ASD or treat the core symptoms. However, there are medications that can help some people with ASD function better. For example, medication might help manage high energy levels, inability to focus, depression, or seizures.

Medications might not affect all children in the same way. It is important to work with a health care professional who has experience in treating children with ASD. Parents and health care professionals must closely monitor a child's progress and reactions while he or she is taking a medication to be sure that any negative side effects of the treatment do not outweigh the benefits.

It is also important to remember that children with ASD can get sick or injured just like children without ASD. Regular medical and dental exams should be part of a child's treatment plan. Often it is hard to tell if a child's behavior is related to the ASD or is caused by a separate health condition. For instance, head banging could be a symptom of the ASD, or it could be a sign that the child is having headaches. In those cases, a thorough physical exam is needed. Monitoring healthy development means not only paying attention to symptoms related to ASD, but also to the child's physical and mental health, as well.



Early Intervention Services

Research shows that early intervention treatment services can greatly improve a child's development.^{[1],[2]} Early intervention services help children from birth to 3 years old (36 months) learn important skills. Services include therapy to help the child talk, walk, and interact with others. Therefore, it is important to talk to your child's doctor as soon as possible if you think your child has an ASD or other developmental problem.

Even if your child has not been diagnosed with an ASD, he or she may be eligible for early intervention treatment services. The [Individuals with Disabilities Education Act \(IDEA\)](#) says that children under the age of 3 years (36 months) who are at risk of having developmental delays may be eligible for services. These services are provided through an early intervention system in your state. Through this system, you can ask for an evaluation.

In addition, treatment for particular symptoms, such as speech therapy for language delays, often does not need to wait for a formal ASD diagnosis. While early intervention is extremely important, intervention at any age can be helpful.

Types of Treatments

There are many different types of treatments available. For example, auditory training, discrete trial training, vitamin therapy, anti-yeast therapy, facilitated communication, music therapy, occupational therapy, physical therapy, and sensory integration.

The different types of treatments can generally be broken down into the following categories:

- Behavior and Communication Approaches
- Dietary Approaches
- Medication
- Complementary and Alternative Medicine

Behavior and Communication Approaches

According to reports by the American Academy of Pediatrics and the National Research Council, behavior and communication approaches that help children with ASD are those that provide structure, direction, and organization for the child in addition to family participation.



Applied Behavior Analysis (ABA)

A notable treatment approach for people with an ASD is called applied behavior analysis (ABA). ABA has become widely accepted among health care professionals and used in many schools and treatment clinics. ABA encourages positive behaviors and discourages negative behaviors in order to improve a variety of skills. The child's progress is tracked and measured. There are different types of ABA. Following are some examples:

- **Discrete Trial Training (DTT)**
DTT is a style of teaching that uses a series of trials to teach each step of a desired behavior or response. Lessons are broken down into their simplest parts and positive reinforcement is used to reward correct answers and behaviors. Incorrect answers are ignored.
- **Early Intensive Behavioral Intervention (EIBI)**
This is a type of ABA for very young children with an ASD, usually younger than five, and often younger than three.
- **Pivotal Response Training (PRT)**
PRT aims to increase a child's motivation to learn, monitor his own behavior, and initiate communication with others. Positive changes in these behaviors should have widespread effects on other behaviors.
- **Verbal Behavior Intervention (VBI)**
VBI is a type of ABA that focuses on teaching verbal skills.

Other therapies that can be part of a complete treatment program for a child with an ASD include:

Developmental, Individual Differences, Relationship-Based Approach (DIR; also called "Floortime")

Floortime focuses on emotional and relational development (feelings, relationships with caregivers). It also focuses on how the child deals with sights, sounds, and smells.

[Treatment and Education of Autistic and related Communication-handicapped Children \(TEACCH\)](#)
[External](#)

TEACCH uses visual cues to teach skills. For example, picture cards can help teach a child how to get dressed by breaking information down into small steps.



Occupational Therapy

Occupational therapy teaches skills that help the person live as independently as possible. Skills might include dressing, eating, bathing, and relating to people.

Sensory Integration Therapy

Sensory integration therapy helps the person deal with sensory information, like sights, sounds, and smells. Sensory integration therapy could help a child who is bothered by certain sounds or does not like to be touched.

Speech Therapy

Speech therapy helps to improve the person's communication skills. Some people are able to learn verbal communication skills. For others, using gestures or picture boards is more realistic.

The Picture Exchange Communication System (PECS)

PECS uses picture symbols to teach communication skills. The person is taught to use picture symbols to ask and answer questions and have a conversation. Visit the [Autism Speaks](#) or [Autism Society](#) website to read more about these therapies.

Dietary Approaches

These treatments do not have the scientific support needed for widespread recommendation. An unproven treatment might help one child, but may not help another.

Dietary treatments are based on the idea that food allergies or lack of vitamins and minerals cause symptoms of ASD. Some parents feel that dietary changes make a difference in how their child acts or feels.

Medication

There are no medications that cure ASD nor are any medicines specifically designed to treat the main symptoms. But there are medications that can help some people with related symptoms. For example, medication might help manage high energy levels, inability to focus, depression, or seizures. [To learn more about medication and ASD, please visit the National Institute of Child Health and Human Development's website](#)

Complementary and Alternative Treatments

To relieve the symptoms of ASD, some parents and health care professionals use treatments that are outside of what is typically recommended by the pediatrician. These types of treatments are known as complementary and alternative treatments (CAM). They might include special diets, chelation (a treatment to remove heavy metals like lead from the body), biologicals (e.g., secretin), or body-based systems (like deep pressure).^[3]

These types of treatments are very controversial. Current research shows that as many as one third of parents of children with an ASD may have tried complementary or alternative medicine treatments, and up to 10% may be using a potentially dangerous treatment.^[4] Before starting such a treatment, check it out carefully, and talk to your child's doctor.

To learn more about CAM therapies, go to the National Center for Complementary and Alternative Medicine [Get the Facts](#)

Additional Treatment Resources

[The National Institute on Deafness and Other Communication Disorders](#) has a website to help individuals with an ASD who have communication challenges.

[The National Institute of Dental and Craniofacial Research](#) has a website to help health professionals with the oral health care needs of patients with an ASD.

[Clinical Trials.Gov](#) lists federally funded clinical trials that are looking for participants. If you or someone you know would like to take part in an autism study, go to the website and search "autism." [Autism Treatment Network](#) (ATN) seeks to create standards of medical treatment that will be made broadly available to physicians, researchers, parents, policy makers, and others who want to improve the care of individuals with autism. ATN is also developing a shared national medical database to record the results of treatments and studies at any of their five established regional treatment centers.

ADDitude: <https://www.additudemag.com/category/adhd-add/related-conditions/autism-spectrum-disorder/>