

# the facts about autism

AUTISM IS A DEVELOPMENTAL DISABILITY THAT TYPICALLY APPEARS DURING THE FIRST THREE YEARS OF LIFE. IT IS A NEUROLOGICAL DISORDER THAT AFFECTS THE DEVELOPMENT OF THE BRAIN, CAUSING DIFFICULTY WITH COMMUNICATION, LEARNING, AND SOCIAL INTERACTION.

Autism is one of several Autism Spectrum Disorders (ASD)—also known as Pervasive Developmental Disorders—that include Asperger’s Syndrome, and Pervasive Developmental Disorder–Not Otherwise Specified.

## What are the symptoms of autism?

**Communication:** Language develops slowly or not at all; gestures are absent or are limited and atypical (e.g., using someone’s hand as a tool for opening the door). Loss of language occurs in some cases.

**Social Interaction:** Child shows little interest in making friends; initiates social interactions primarily to have immediate needs met (e.g., to get food, preferred toy); and tends not to share accomplishments and experiences.

**Behaviors:** Intensely repetitive motor movements or use of objects; child is consumed with a single item, idea, or person; experiences difficulty with changes in the environment or transitioning from one situation to another; may have frequent tantrums; and may be aggressive or self-injurious.

## How prevalent is autism?

The number of diagnosed cases of autism and related disorders has dramatically increased over the past decade. The most recent studies (CDC, 2009) report that ASD occur in approximately one in every 110 births. They are the second most common serious developmental disability, following mental retardation. Autism is four times more likely to occur in boys than in girls.

## How is autism diagnosed?

There are no medical tests for diagnosing autism, but when parents become concerned about developmental delays in children, they should consult a physician. He or she can rule out various potential medical causes, such as hearing problems. Before a child can be diagnosed with autism, that child should be evaluated by an autism specialist. Such a person may be a psychologist, psychiatrist, pediatric neurologist, or developmental pediatrician who specializes in diagnosing and treating children with ASD. Best practice guidelines identify the following six components of a comprehensive diagnostic evaluation for autism:

- Parent or caregiver interview
- Review of relevant medical, psychological, and/or school records
- Cognitive/developmental assessment
- Direct play observation
- Measurement of adaptive functioning
- Comprehensive medical examination

Each ASD has unique diagnostic criteria described by the American Psychiatric Association (APA) in its *Diagnostic & Statistical Manual of Mental Disorders* (DSM-IV-TR). Qualified professionals provide these diagnoses when symptoms of ASD (communication, social interaction, and repetitive behaviors) are present in ranges that are inappropriate for the child’s age and developmental level. Autism is diagnosed when all of these symptoms are present to some degree. Children are diagnosed with Pervasive Developmental Disorder–Not Otherwise Specified (PDD-NOS) or Asperger’s Syndrome when a child exhibits fewer symptoms than are present in autism. However, all ASD diagnoses are often associated with significant challenges in important areas of life functioning.

## Additional Resources

American Academy of Pediatrics  
[www.aap.org](http://www.aap.org) (key word "autism")

Autism & Asperger's Research  
Reports  
[http://aarr.stanford.edu/body\\_section.htm](http://aarr.stanford.edu/body_section.htm)

Autism Consortium  
[www.autismconsortium.org](http://www.autismconsortium.org)

Autism Society of America  
[www.autism-society.org](http://www.autism-society.org)

Autism Speaks  
[www.autismspeaks.org](http://www.autismspeaks.org)

Centers for Disease Control and  
Prevention  
[www.cdc.gov](http://www.cdc.gov) (key word "autism")

May Institute  
[www.mayinstitute.org](http://www.mayinstitute.org)

National Institute of Mental Health  
[www.nimh.nih.gov](http://www.nimh.nih.gov) (key word  
"autism")

Organization for Autism Research  
[www.researchautism.org](http://www.researchautism.org)

### What causes autism?

Although one specific cause of autism is not known, current research links autism to biological or neurological differences in the brain. Autism is believed to have a genetic basis, although no single gene has been directly linked to the disorder. Researchers are using advanced brain-imaging technology to examine factors that may contribute to the development of autism. MRI (Magnetic Resonance Imaging) and PET (Positron Emission Tomography) scans can show abnormalities in the structure of the brain, with significant cellular differences in the cerebellum.

### What treatments are recommended?

Selecting the most appropriate treatment for an individual with an ASD is complicated. The following factors should influence treatment selection: (a) evidence of intervention effectiveness; (b) professional judgment and data-based clinical decision making; (c) values and preferences of families (including the individual on the autism spectrum); and (d) capacity to accurately implement an intervention.

The National Standards Project of the National Autism Center has identified interventions that have sufficient evidence to show they are effective for individuals with ASD. We recommend considering these interventions unless they are deemed inappropriate based on one of the other factors influencing treatment selection.

The 11 Established Treatments are: Antecedent Package; Behavioral Package; Comprehensive Behavioral Treatment for Young Children; Joint Attention Intervention; Modeling; Naturalistic Teaching Strategies; Peer Training Package; Pivotal Response Treatment; Schedules; Self-management; and Story-based Intervention Package.

Most of the interventions identified above come from the behavioral literature (including applied behavior analysis, behavioral psychology, and positive behavior supports). Increasingly, a broad range of fields (e.g., developmental psychology, special education, speech-language pathology) are making contributions to the autism literature, so this trend may change over time.

### How do you find the right program?

Look for programs that:

- involve direct consultation by senior clinicians (doctoral-level or board certified professionals)
- include staff who can clearly describe the design and implementation of an intervention
- integrate research findings with professional judgment and data-based clinical decision making, the values and preferences of families, and capacity to effectively implement interventions
- address the comprehensive needs of individuals on the autism spectrum with sufficient intensity so children and adolescents can make meaningful progress

### About the National Autism Center

The National Autism Center is one of May Institute's centers for service, training, and research. It is a nonprofit organization dedicated to supporting effective, evidence-based treatment approaches for Autism Spectrum Disorders (ASD) and to providing direction to families, practitioners, organizations, policy-makers, and funders. The Center's goal is to serve individuals with ASD by responding to the rising demand for reliable information and by providing comprehensive resources for families and communities.



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