

Autism Spectrum Disorder

Definition

Autism spectrum disorder (ASD) is the name for a group of developmental disorders. ASD includes a wide range, “a spectrum,” of symptoms, skills, and levels of disability.

People with ASD often have these characteristics:

- Ongoing social problems that include difficulty communicating and interacting with others
- Repetitive behaviors as well as limited interests or activities
- Symptoms that typically are recognized in the first two years of life
- Symptoms that hurt the individual’s ability to function socially, at school or work, or other areas of life

Some people are mildly impaired by their symptoms, while others are severely disabled.

Treatments and services can improve a person’s symptoms and ability to function. Families with concerns should talk to their pediatrician about what they’ve observed and the possibility of ASD screening. According to the [Centers for Disease Control and Prevention \(CDC\)](#) around 1 in 68 children has been identified with some form of ASD.

What is the difference between Asperger’s syndrome and ASD?

In the past, Asperger’s syndrome and Autistic Disorder were separate disorders. They were listed as subcategories within the diagnosis of “Pervasive Developmental Disorders.” However, this separation has changed. The latest edition of the manual from the American Psychiatric Association, the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*, does not highlight subcategories of a larger disorder. The manual includes the range of characteristics and severity within one category. People whose symptoms were previously diagnosed as Asperger’s syndrome or Autistic Disorder are now included as part of the category called Autism Spectrum Disorder (ASD).

Signs and Symptoms

Parents or doctors may first identify ASD behaviors in infants and toddlers. School staff may recognize these behaviors in older children. Not all people with ASD will show all of these behaviors, but most will show several. There are two main types of behaviors: “restricted / repetitive behaviors” and “social communication / interaction behaviors.”

Restrictive / repetitive behaviors may include:

- Repeating certain behaviors or having unusual behaviors
- Having overly focused interests, such as with moving objects or parts of objects

- Having a lasting, intense interest in certain topics, such as numbers, details, or facts.

Social communication / interaction behaviors may include:

- Getting upset by a slight change in a routine or being placed in a new or overly stimulating setting
- Making little or inconsistent eye contact
- Having a tendency to look at and listen to other people less often
- Rarely sharing enjoyment of objects or activities by pointing or showing things to others
- Responding in an unusual way when others show anger, distress, or affection
- Failing to, or being slow to, respond to someone calling their name or other verbal attempts to gain attention
- Having difficulties with the back and forth of conversations
- Often talking at length about a favorite subject without noticing that others are not interested or without giving others a chance to respond
- Repeating words or phrases that they hear, a behavior called *echolalia*
- Using words that seem odd, out of place, or have a special meaning known only to those familiar with that person's way of communicating
- Having facial expressions, movements, and gestures that do not match what is being said
- Having an unusual tone of voice that may sound sing-song or flat and robot-like
- Having trouble understanding another person's point of view or being unable to predict or understand other people's actions.

People with ASD may have other difficulties, such as being very sensitive to light, noise, clothing, or temperature. They may also experience sleep problems, digestion problems, and irritability.

ASD is unique in that it is common for people with ASD to have many strengths and abilities in addition to challenges.

Strengths and abilities may include:

- Having above-average intelligence – the CDC [reports](#) 46% of ASD children have above average intelligence
- Being able to learn things in detail and remember information for long periods of time
- Being strong visual and auditory learners
- Excelling in math, science, music, or art.

Diagnosing ASD

Doctors diagnose ASD by looking at a child's behavior and development. Young children with ASD can usually be reliably diagnosed by age two.

Older children and adolescents should be evaluated for ASD when a parent or teacher raises concerns based on watching the child socialize, communicate, and play.

Diagnosing ASD in adults is not easy. In adults, some ASD symptoms can overlap with symptoms of other mental health disorders, such as schizophrenia or attention deficit hyperactivity disorder (ADHD). However, getting a correct diagnosis of ASD as an adult can help a person understand past difficulties, identify his or her strengths, and obtain the right kind of help.

Diagnosis in young children is often a two-stage process:

Stage 1: General Developmental Screening During Well-Child Checkups

Every child should receive well-child check-ups with a pediatrician or an early childhood health care provider. The Centers for Disease Control and Prevention (CDC) [recommends](#) specific ASD screening be done at the 18- and 24-month visits.

Earlier screening might be needed if a child is at high risk for ASD or developmental problems. Those at high risk include children who:

- Have a sister, brother, or other family member with ASD
- Have some ASD behaviors
- Were born premature, or early, and at a low birth weight.

Parents' experiences and concerns are very important in the screening process for young children. Sometimes the doctor will ask parents questions about the child's behaviors and combine this information with his or her observations of the child. [Read more about screening instruments on the CDC website.](#)

Children who show some developmental problems during this screening process will be referred for another stage of evaluation.

Stage 2: Additional Evaluation

This evaluation is with a team of doctors and other health professionals with a wide range of specialties who are experienced in diagnosing ASD. This team may include:

- A developmental pediatrician—a doctor who has special training in child development
- A child psychologist and/or child psychiatrist—a doctor who knows about brain development and behavior
- A speech-language pathologist—a health professional who has special training in communication difficulties.

The evaluation may assess:

- Cognitive level or thinking skills
- Language abilities
- Age-appropriate skills needed to complete daily activities independently, such as eating, dressing, and toileting.

Because ASD is a complex disorder that sometimes occurs along with other illnesses or learning disorders, the comprehensive evaluation may include:

- Blood tests
- Hearing test

The outcome of the evaluation will result in recommendations to help plan for treatment.

Diagnosis in older children and adolescents

Older children whose ASD symptoms are noticed after starting school are often first recognized and evaluated by the school's special education team. The school's team may refer these children to a health care professional.

Parents may talk with a pediatrician about their child's social difficulties including problems with subtle communication. These subtle communication issues may include understanding tone of voice, facial expressions, or body language. Older children may have trouble understanding figures of speech, humor, or sarcasm. Parents may also find that their child has trouble forming friendships with peers. The pediatrician can refer the child for further evaluation and treatment.

Diagnosis in adults

Adults who notice the signs and symptoms of ASD should talk with a doctor and ask for a referral for an ASD evaluation. While testing for ASD in adults is still being refined, adults can be referred to a psychologist or psychiatrist with ASD expertise. The expert will ask about concerns, such as social interaction and communication challenges, sensory issues, repetitive behaviors, and restricted interests. Information about the adult's developmental history will help in making an accurate diagnosis, so an ASD evaluation may include talking with parents or other family members.

Risk Factors

Scientists don't know the exact causes of ASD, but research suggests that genes and environment play important roles.

Risk factors include:

- Gender—boys are more likely to be diagnosed with ASD than girls
- Having a sibling with ASD
- Having **older parents** (a mother who was 35 or older, and/or a father who was 40 or older when the baby was born)
- Genetics—about 20% of children with ASD also have certain genetic conditions. Those conditions include Down syndrome, fragile X syndrome, and tuberous sclerosis among others.

In recent years, the number of children identified with ASD has increased. Experts disagree about whether this shows a true increase in ASD since the guidelines for diagnosis have changed

in recent years as well. Also, many more parents and doctors now know about the disorder, so parents are more likely to have their children screened, and more doctors are able to properly diagnose ASD, even in adulthood.

Treatments and Therapies

Early treatment for ASD and proper care can reduce individuals' difficulties while helping them learn new skills and make the most of their strengths. The very wide range of issues facing those "on the spectrum" means that there is no single best treatment for ASD. Working closely with a doctor or health care professional is an important part of finding the right treatment program.

There are many treatment options, social services, programs, and other resources that can help.

Here are some tips.

- Keep a detailed notebook. Record conversations and meetings with health care providers and teachers. This information helps when its time to make decisions.
- Record doctors' reports and evaluations in the notebook. This information may help an individual qualify for special programs.
- Contact the local health department, school, or autism advocacy groups to learn about their special programs.
- Talk with a pediatrician, school official, or physician to find a local autism expert who can help develop an intervention plan and find other local resources.
- Find an autism support group. Sharing information and experiences can help individuals with ASD and/or their caregivers learn about options, make decisions, and reduce stress.

Medication

A doctor may use medication to treat some difficulties that are common with ASD. With medication, a person with ASD may have fewer problems with:

- Irritability
- Aggression
- Repetitive behavior
- Hyperactivity
- Attention problems
- Anxiety and depression