



# NIDCD Fact Sheet

## Communication Problems in Children with Autism

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES · NATIONAL INSTITUTES OF HEALTH · NATIONAL INSTITUTE ON DEAFNESS AND OTHER COMMUNICATION DISORDERS

### What is autism?

Autism is one of the autism spectrum disorders, a group of conditions that vary in their severity and the age at which a child first may show symptoms. Autism spectrum disorders fall under a broader category known as pervasive developmental disorders (PDDs). PDDs cause delays in many areas of childhood development, such as the development of skills to communicate and interact socially.

Autism typically is diagnosed during a child's second year and is lifelong, although symptoms may lessen over time. There is no cure for autism, but appropriate treatments can help a child develop life skills to function more independently.

### Who is affected by autism?

Autism is one of the most common developmental disabilities. It affects people of every race, ethnic group, and socioeconomic background. Boys are four times more likely to have autism than are girls. According to a study by the Centers for Disease Control and Prevention (CDC), autism spectrum disorders were found to affect an average of one out of every 110 8-year-old children.

### How does autism affect communication?

The word "autism" has its origin in the Greek word "autos," which means "self." Children with autism often are self-absorbed and seem to exist in a private world where they are unable to successfully

communicate and interact with others. Children with autism may have difficulty developing language skills and understanding what others say to them. They also may have difficulty communicating nonverbally, such as through hand gestures, eye contact, and facial expressions.

Not every child with an autism spectrum disorder will have a language problem. A child's ability to communicate will vary, depending upon his or her intellectual and social development. Some children with autism may be unable to speak. Others may have rich vocabularies and be able to talk about specific subjects in great detail. Most children with autism have little or no problem pronouncing words. The majority, however, have difficulty using language effectively, especially when they talk to other people. Many have problems with the meaning and rhythm of words and sentences. They also may be unable to understand body language and the nuances of vocal tones.

Below are some patterns of language use and behaviors that are often found in children with autism.

- **Repetitive or rigid language.** Often, children with autism who can speak will say things that have no meaning or that seem out of context in conversations with others. For example, a child may count from one to five repeatedly. Or a child may repeat words he or she has heard over and over, a condition called **echolalia**. Immediate echolalia occurs when the child repeats words someone has just said. For example, the child may respond to a question by asking the same question. In delayed echolalia, the child will repeat words heard at



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an earlier time. The child may say “Do you want something to drink?” whenever he or she asks for a drink.

Some children with autism speak in a high-pitched or singsong voice or use robot-like speech. Other children with autism may use stock phrases to start a conversation. For example, a child may say “My name is Tom,” even when he talks with friends or family. Still others may repeat what they hear on television programs or commercials.

- **Narrow interests and exceptional abilities.** Some children may be able to deliver an in-depth monologue about a topic that holds their interest, even though they may not be able to carry on a two-way conversation about the same topic. Others have musical talents or an advanced ability to count and do math calculations. Approximately 10 percent of children with autism show “savant” skills, or extremely high abilities in specific areas, such as calendar calculation, music, or math.
- **Uneven language development.** Many children with autism develop some speech and language skills, but not to a normal level of ability, and their progress is usually uneven. For example, they may develop a strong vocabulary in a particular area of interest very quickly. Many children have good memories for information just heard or seen. Some children may be able to read words before 5 years of age, but they may not comprehend what they have read. They often do not respond to the speech of others and may not respond to their own names. As a result, children with autism sometimes are mistakenly thought to have a hearing problem.
- **Poor nonverbal conversation skills.** Children with autism often are unable to use gestures—such as pointing to an object—to give meaning to their speech. They often avoid eye contact,

which can make them seem rude, uninterested, or inattentive. Without meaningful gestures or the language to communicate, many children with autism become frustrated in their attempts to make their feelings and needs known. They may act out their frustrations through vocal outbursts or other inappropriate behaviors.

### How are the speech and language problems of autism treated?

If a doctor suspects a child has autism or another developmental disability, he or she usually will refer the child to a variety of specialists, including a **speech-language pathologist**. This is a health professional trained to treat individuals with voice, speech, and language disorders. The speech-language pathologist will perform a comprehensive evaluation of the child’s ability to communicate and design an appropriate treatment program. In addition, the pathologist might make a referral for audiological testing to make sure the child’s hearing is normal.

Teaching children with autism how to communicate is essential in helping them reach their full potential. There are many different approaches to improve communication skills in a child with autism. The best treatment program begins early, during the preschool years, and is tailored to the child’s age and interests. It also will address both the child’s behavior and communication skills and offer regular reinforcement of positive actions. Most children with autism respond well to highly structured, specialized programs. Parents or primary caregivers as well as other family members should be involved in the treatment program so it will become part of the child’s daily life.

For some younger children, improving verbal communication is a realistic goal of treatment. Parents and caregivers can increase a child’s chance

of reaching this goal by paying attention to his or her language development early on. Just as toddlers learn to crawl before they walk, children first develop pre-language skills before they begin to use words. These skills include using eye contact, gestures, body movements, and babbling and other vocalizations to help them communicate. Children who lack these skills may be evaluated and treated by a speech-language pathologist to prevent further developmental delays.

For slightly older children with autism, basic communication training often emphasizes the functional use of language, such as learning to hold a conversation with another person, which includes staying on topic and taking turns speaking.

Experts estimate that as many as 25 percent of all children with autism may never develop verbal language skills. For some of these children, the goal may be to acquire gestured communication, such as the use of sign language. For others, the goal may be to communicate by means of a symbol system in which pictures are used to convey thoughts. Symbol systems can range from picture boards or cards to sophisticated electronic devices that generate speech through the use of buttons that represent common items or actions.

### **What research is being conducted to improve communication in children with autism?**

The federal government's Combating Autism Act of 2006 brought attention to the need to expand research and improve coordination among all of the components of the National Institutes of Health (NIH) that fund autism research. These include the National Institute of Mental Health (NIMH), which is the principal institute for autism research at the NIH, along with the National Institute on Deafness and

Other Communication Disorders (NIDCD), the Eunice Kennedy Shriver National Institute on Child Health and Human Development (NICHD), the National Institute of Environmental Health Sciences (NIEHS), and the National Institute of Neurological Disorders and Stroke (NINDS).

Together, these five institutes have established the Autism Centers of Excellence (ACE), a program of research centers and networks at universities across the country. Here, scientists study a broad range of topics, from basic science investigations that explore the molecular and genetic components of autism to translational research studies that test new types of behavioral interventions. Some of these studies, which could be testing new treatments or interventions, might be of interest to parents of children with autism. Go to <http://clinicaltrials.gov> and enter the search term "autism" for information about current trials, their locations, and who may participate.

The NIDCD supports additional research to improve the lives of people with autism and their families. Recently, a group of NIDCD-funded researchers developed recommendations calling for a standardized approach to evaluating language skills in young children with autism spectrum disorders. The new benchmarks will make it easier, and more accurate, to compare the effectiveness of different intervention strategies.

NIDCD-funded researchers in universities and organizations across the country also are looking at:

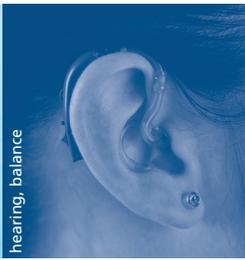
- Better ways to predict early in infancy if a child is at risk for an autism spectrum disorder.
- Whether or not treatment interventions for at-risk infants can influence the development of speech perception and speech preferences.

**more →**

voice, speech, language



hearing, balance



smell, taste



NIDCD supports and conducts research and research training on the normal and disordered processes of hearing, balance, smell, taste, voice, speech, and language and provides health information, based upon scientific discovery, to the public.

- How infants with autism spectrum disorders “visually” scan their environment during their earliest social interactions and how this influences their development of language and communication skills.
- How genes and other potential factors predispose individuals to autism spectrum disorders.

### Where can I find additional information?

Additional information from other centers and institutes at the NIH that participate in autism research is available at <http://health.nih.gov/topic/Autism>.

In addition, the NIDCD maintains a directory of organizations that provide information on the normal and disordered processes of hearing, balance, smell, taste, voice, speech, and language. Please see the list of organizations at <http://www.nidcd.nih.gov/directory>.

Use the following keywords to help you search for organizations that can answer questions and provide printed or electronic information on autism:

- Autism
- Speech-language development
- Learning disabilities

For more information, additional addresses and phone numbers, or a printed list of organizations, contact:

#### **NIDCD Information Clearinghouse**

1 Communication Avenue  
Bethesda, MD 20892-3456  
Toll-free voice: (800) 241-1044  
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For more information, contact:  
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