

# What You Need to Know About AUTISM



Sarah Paterson, Ph.D., a scientist at CAR, evaluates a child in CAR's Infant Sibling Study

One in 150 children in the United States is diagnosed with autism (1 in 94 for boys). That makes autism the fastest growing developmental disability in this country. More children will be diagnosed with autism this year than with AIDS, diabetes and cancer combined. Chances are you, or someone in your family, will go to school or work with someone who suffers from autism at some point in your lives.

## What is autism?

Autism is a complex neurodevelopmental disorder associated with difficulties in social interaction, verbal and nonverbal communication and repetitive behaviors or interests.

Other characteristics can include unusual responses to sensory experiences, such as sensitivity to noises, textures or tastes. These are part of a group of disorders called autism spectrum disorders (ASD), so named because impairments range from mild to severe and vary with each individual.

The range of severity applies to each symptom of ASD. That is, some children may rarely use words to communicate, while others may hold extensive conversations and use rich language. Some children may not like to be hugged or touched, while others seek out and enjoy physical contact.

The autism spectrum disorders include Autistic Disorder, Pervasive Developmental Disorder not otherwise specified (PDD-NOS), Asperger's Syndrome, Rett

Syndrome and Childhood Disintegrative Disorder.

## How is Autism/ASD diagnosed?

Children develop at different rates, which can sometimes make autism difficult to diagnose.

Years ago, autism was not diagnosed before the age of four or five. More recently, the typical age of diagnosis is three. While this is a step forward, the age of diagnosis continues to be inconsistent with parental concern, which typically begins when infants are twelve to eighteen months of age.

There are early signs of autism that warrant concern and should be discussed with your pediatrician. If, by 18 months of age, a child is not talking, responding to his or her name, orienting to sound, pointing or showing and is not taking an interest in people and surroundings, a parent should request an autism screening.

Since there is no definitive medical test for ASD, a diagnosis is based on whether the individual meets the criteria set forth in the *Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV)*. ASD can only be formally diagnosed by a trained clinician after conducting diagnostic tests and asking questions of caregivers on the individual's history and behavior.

## What causes autism/ASD?

Though autism research has come a long way in the past decade, it's not yet known what causes the disorder. We do know that ASD does not occur due to psychological factors, and it's not a result of parenting behaviors or practices. Research is currently being conducted to examine the possible genetic factors, environmental influences and biological origins of autism.

Genetic and family research studies have shown that ASDs are heritable, increasing the likelihood of other family members having a diagnosis on the autism spectrum or difficulties associated with autism. Much research attention has been given to younger siblings of children with autism, who are considered to be "higher risk" and more likely to develop ASD. In

## RED FLAGS FOR AUTISM

DISCUSS WITH A PEDIATRICIAN IF, BY 18 MONTHS OF AGE, A CHILD:  
DOES NOT RESPOND TO NAME  
AT TIMES, APPEARS TO BE DEAF

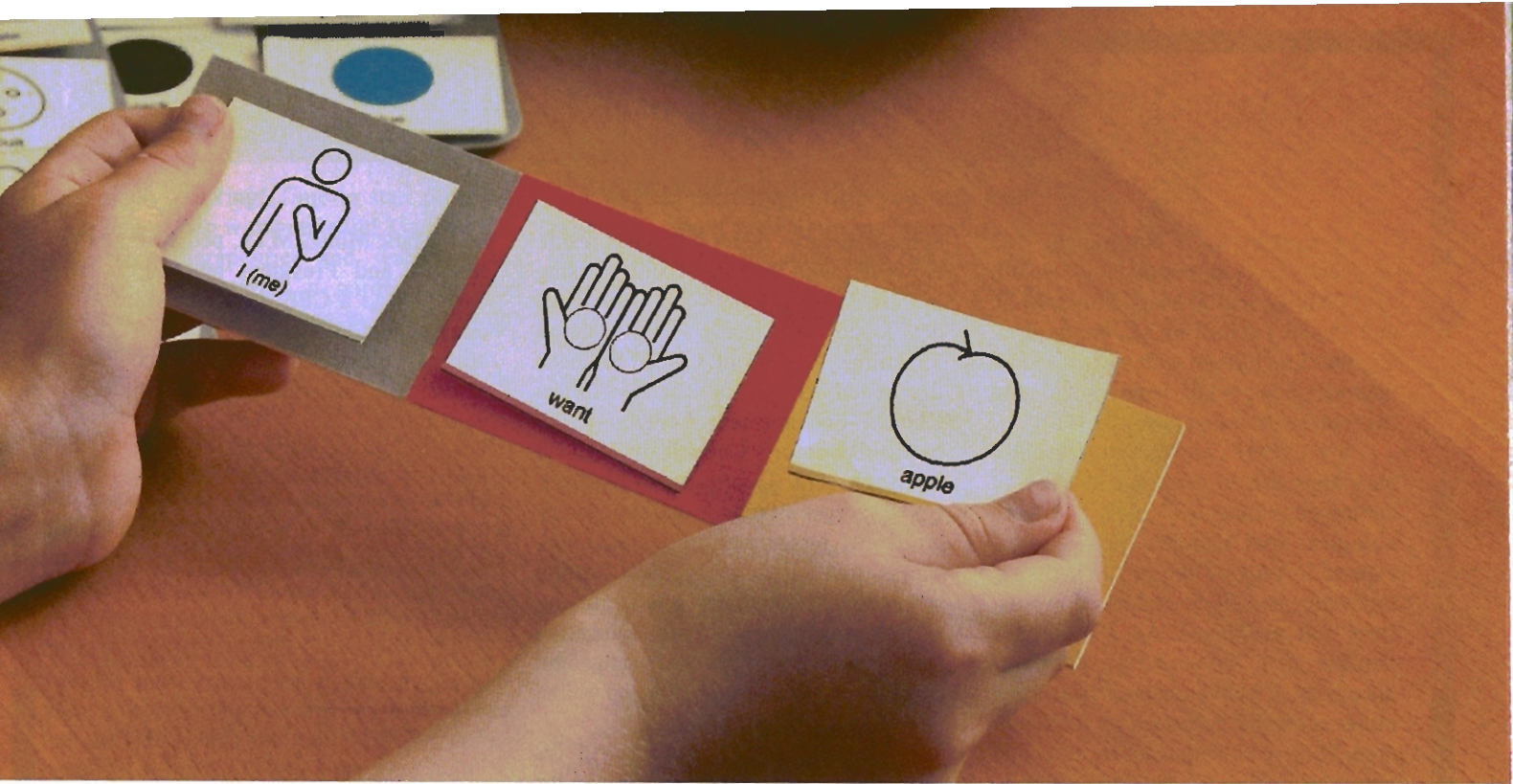
- ▶ SPEAKS WITH AN ABNORMAL TONE OR RHYTHM
- ▶ ENGAGES IN REPETITIVE MOTIONS, SUCH AS ROCKING, SPINNING OR HAND FLAPPING
- ▶ IS EASILY UPSET WITH CHANGE OF ROUTINE
- ▶ WALKS ON TOES
- ▶ HAS UNUSUAL ATTACHMENTS TO OBJECTS OR SCHEDULES
- ▶ DOESN'T KNOW HOW TO PLAY WITH TOYS
- ▶ DOESN'T RETURN A SMILE
- ▶ HAS POOR EYE CONTACT
- ▶ PREFERS TO PLAY ALONE OR WITH ADULTS
- ▶ LINES UP TOYS OR OTHER OBJECTS
- ▶ DOES NOT SPEAK

fact, some researchers have found that these siblings are demonstrating some concerns consistent with ASD as young as 6 months of age.

## Is there a cure for autism/ASD?

While there is no definitive cure for ASD, there are educational, behavioral and therapeutic interventions and strategies for families and instructors to teach motor, cognitive and social skills. These plans and programs are highly individualized, as the needs of each child with ASD are different. Treatment plans frequently include a cooperative team of speech and language, occupational and physical therapists. Some families find other therapies, such as Applied Behavior Analysis (ABA), play therapy, medication, or certain dietary restrictions, work well for them.

Generally speaking, the earlier a child with ASD receives services, the more these interventions will enhance a child's development and help reduce challenging behaviors.



## Autism Research

Research has helped to identify and diagnose ASD at younger ages, resulting in earlier access to specialized early intervention services for children on the autism spectrum. As researchers

continue to learn more about ASD, it's becoming increasingly clear that autism is a complex disorder involving different levels of functioning and widely varied outcomes. Researchers worldwide are investigating the cause, or causes, of ASD and the brain mechanisms involved, which may have an impact on how the disorder is expressed or visible in each individual. The Children's Hospital of Philadelphia, under the direction of Dr. Robert Schultz, joined that endeavor by establishing the Center for Autism Research (CAR).

CAR's mission is to help characterize the heterogeneity of ASD through state of the art research tools, diagnostic evaluations and research protocols incorporating world class imaging and genetic techniques. CAR's support of a growing array of research projects is guided by the belief that effective treatments will follow from a better understanding of underlying causes. CAR has studies for children and adults, aged 6 months through 49 years old.

### How you can help

In addition to individuals with ASD, CAR needs typically developing children and adults to take part in research studies for comparison purposes. Families who participate receive free comprehensive evaluation reports based on cognitive, social and behavioral assessments and are paid for their time and travel costs. If you are interested in learning more about participating in research, contact CAR toll-free at 1-866-570-6524 or visit <http://stokes.chop.edu/car>.\*

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## Are you pregnant or do you have an infant under the age of 12 months?

The Center for Autism Research at The Children's Hospital of Philadelphia is looking for participants for a research study focusing on early brain development.

Who are we looking for?

- Infant siblings of typically developing children
- Infant siblings of children with autism



Want to learn more?  
Contact the Center for Autism Research at 1.866.570.6524 or [autism@email.chop.edu](mailto:autism@email.chop.edu)

