

**Optum** Health Education™

# Autism Spectrum Disorder

## Overview, Screening, Diagnosis and Treatment Planning

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## Disclosures

### Disclosure

- We have nothing to disclose.

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## Learning objectives

At the end of this educational activity, participants should be able to:

1. Identify symptoms or behaviors that may alert health care professionals to the need for targeted autism spectrum disorder (ASD) screening;
2. Compare and contrast evidence-based ASD screening tools;
3. State when to perform ASD screening to identify the need for subspecialty referral for evaluation; and
4. Explain the importance of people-first language.

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## Neuroatypical and Neurodiverse

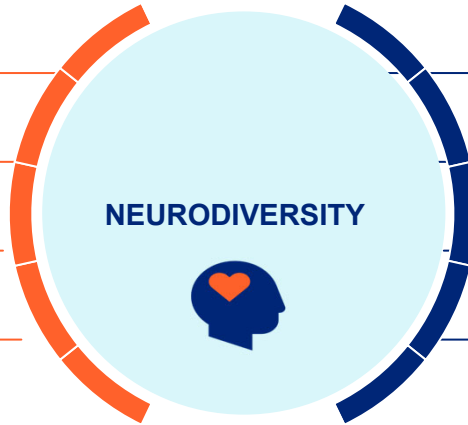
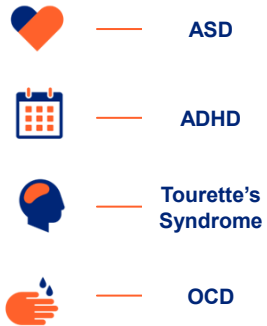
- *Neuroatypical* and *neurodiverse* are terms used to describe people of atypical developmental, intellectual and cognitive abilities.
- They are used to refer to people who have Autism Spectrum Disorder, ADHD, or another developmental difference.
- These terms are used to support the differences, strengths and abilities of persons with ASD, ADHD, or other developmental Disorders using person first language.

[neuroatypical, neurodiverse – Diversity Style Guide](#)

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## Neurodiversity

### Diagnoses



### Diagnoses



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## What is Autism?

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## What is Autism?

Autism is a  
complex  
neurobiological  
disorder

- Onset occurs before 3 years of age
- A range of abilities and disabilities
  - Intellectual disability
  - Social impairments
  - Types of unusual behaviors
  - Communication abilities
- Impairs and limits everyday functioning
- Lifelong disability

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## Autism spectrum disorder (ASD)

### The essential features of ASD

- Persistent impairment in reciprocal social communication and social interaction
- Restricted, repetitive patterns of behavior, interests or activities
- Symptoms present from early childhood
- Symptoms limit or impair everyday functioning



American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition: DSM-5*. Washington, DC: American Psychiatric Publishing; 2013.

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## DSM-5 Criteria for ASD

- Deficits in social communication and social interaction
  - Must meet all 3 criteria
- Restrictive, repetitive patterns of behavior, interests or activities
  - Meets 2 of 4 criteria
- Must be present in the early developmental period
- Impair function
- Not otherwise explained by other developmental, medical, or behavioral problems
- Severity levels – Level 1, 2, or 3

American Psychiatric Association. (2022). Neurodevelopmental disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.)

## Deficits in social communication and social interaction

### 1. Deficits in social-emotional reciprocity

- Unaware of other people's feelings
- Problems identifying / understanding their own feelings
- Lack of joint attention / reduced sharing of interests, emotions, and facial affect
- Abnormal social approach / lack of initiation of social interaction – Failure of normal back-and-forth conversation
- May not understand jokes or sarcasm
- May not respond to own name

American Psychiatric Association. (2022). Neurodevelopmental disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.)

## Deficits in social communication and social interaction



### 2. Deficits in nonverbal communicative behaviors used for social interaction

- Poor eye contact
- No social smile / lack of facial expression
- Deficits in understanding and use of nonverbal communication, including body language and gestures
- Does not point or gesture to communicate or share interest in something
- Poorly integrated verbal and nonverbal communication

American Psychiatric Association. (2022). Neurodevelopmental disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.)

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## Deficits in social communication and social interaction

### 3. Problems developing and maintaining relationships, appropriate to developmental level (beyond those with caregivers)

- Difficulties adjusting behavior to suit different social contexts
- Difficulties in sharing imaginative play
- Problems initiating interactions, responding to others, sustaining interactions
- Prefers to be alone
- Absence of interest in people

American Psychiatric Association. (2022). Neurodevelopmental disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.)

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## Restricted, repetitive patterns of behavior, interests, or activities

### 1. Stereotyped or repetitive speech, motor movements, or use of objects

- Echolalia – immediate and delayed
- Idiosyncratic phrases
- Hand flapping, spinning, toe-walking
- Repetitive use of objects



American Psychiatric Association. (2022). Neurodevelopmental disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.)

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## Restricted, repetitive patterns of behavior, interests, or activities

### 2. Excessive adherence to routines, ritualized patterns of verbal or nonverbal behavior, or excessive resistance to change

- Motoric rituals
- Insistence on same route or food
- Repetitive questioning
- Extreme distress at small changes

American Psychiatric Association. (2022). Neurodevelopmental disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.)

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## Restricted, repetitive patterns of behavior, interests, or activities

### 3. Highly restricted, fixated interests that are abnormal in intensity or focus

- Restricted interests with a specific toy (or part of a toy), hobby, or topic
- Strong attachment or preoccupation with unusual objects
- Excessively circumscribed or perseverative interests

American Psychiatric Association. (2022). Neurodevelopmental disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.)

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## Restricted, repetitive patterns of behavior, interests, or activities

### 4. Hyper- or hypo-reactivity to sensory input or unusual interest in sensory aspects of environment

- Hypersensitive to loud noises, hair-washing, nail-cutting, tags, bright lights, food textures, chaotic environments, smells
- Sensory-seeking – licking, jumping, deep pressure
- Excessive smelling or touching objects
- Fascination with lights or spinning objects
- Indifference to pain / heat / cold



American Psychiatric Association. (2022). Neurodevelopmental disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.)

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## ASD diagnosis

ASD often develops in children before age 3. Because there are no differences in a child's outward appearance, it can be difficult to recognize. Some signs may include:

- Not responding to their name by 12 months of age
- Not pointing at objects to show interest (pointing at an airplane flying over) by 14 months
- Not playing "pretend" games (pretend to "feed" a doll) by 18 months
- Avoiding eye contact and wanting to be alone
- Having trouble understanding other people's feelings or talking about their own feelings
- Having delayed speech and language skills
- Repeating words or phrases over and over (echolalia)
- Giving unrelated answers to questions
- Getting upset by minor changes
- Having obsessive interests
- Flapping hands, rocking the body or spinning in circles
- Having unusual reactions to the way things sound, smell, taste, look or feel

National Institute of Mental Health. Autism spectrum disorder. [nimh.nih.gov/health/topics/autism-spectrum-disorders-asd/index.shtml#part\\_145439](https://www.nimh.nih.gov/health/topics/autism-spectrum-disorders-asd/index.shtml#part_145439). Updated March 2022. Accessed May 16, 2022.

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## Autism and other conditions



### Behavioral health

- Attention deficit hyperactivity disorder (ADHD)
- Communication disorders
- Intellectual disabilities
- Depression
- Anxiety
- Bipolar disorder
- Trauma related disorders



### Medical

- Seizures/Epilepsy
- Down syndrome
- Genetic abnormalities
- Gastrointestinal issues
- Sleep challenges
- Food related challenges

Source: Autism Speaks. Medical conditions associated with autism. [autismspeaks.org/medical-conditions-associated-autism](https://www.autismspeaks.org/medical-conditions-associated-autism). Accessed May 16, 2022.

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# Prevalence of ASD

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## Facts about ASD:

About

**1 in 36**

children is diagnosed with ASD.<sup>1</sup>

ASD occurs in

**all**

racial, ethnic and socioeconomic groups.<sup>1</sup>

Boys are nearly

**4x**

more likely than girls to have ASD.<sup>1</sup>

ASD can be diagnosed by

**age 2**

and can sometimes be detected at 18 months or younger.

**Early intervention**

treatment services can greatly improve a child's development.<sup>2</sup>

Early diagnosis and intervention can also reduce the cost of lifelong care by

**2/3**

compared with the cost of not receiving early help.<sup>2</sup>

The exact cause of ASD is

**unknown.<sup>2</sup>**

1. Centers for Disease Control and Prevention. Data and statistics on autism spectrum disorder. [cdc.gov/ncbddd/autism/data.html](https://www.cdc.gov/ncbddd/autism/data.html). Updated April 4, 2023. Accessed July 5, 2023.  
2. Centers for Disease Control and Prevention. What is autism spectrum disorder? [cdc.gov/ncbddd/autism/facts.html](https://www.cdc.gov/ncbddd/autism/facts.html). Updated March 31, 2022. Accessed May 16, 2022.

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## Impact of autism



**19%**

of children under 18  
have special health  
care needs.<sup>1</sup>



Caregivers are

**2x**

more likely to use mental  
health services and are more  
likely to suffer from anxiety  
or depression.<sup>2</sup>



**1/3**

of caregivers reported  
having to stop working  
in order to care for their  
child with special needs.<sup>3</sup>

1. Child and Adolescent Health Measurement Initiative. 2016-2017 National Survey of Children's Health (NSCH) data query. Data Resource Center for Child and Adolescent Health supported by Cooperative Agreement U59MC27866 from the U.S. Department of Health and Human Services, Health Resources and Services Administration's Maternal and Child Health Bureau (HRSA MCHB). Retrieved May 16, 2022 from [childhealthdata.org](https://childhealthdata.org). CAHMI: [cahmi.org](https://cahmi.org). 2. Pilapil M, Colelli DJ, Rabey C, DeLaet D. Caring for the caregiver: supporting families of youth with special health care needs. Current problems in pediatric and adolescent health care. 2017;47(8):190-9. 3. Saunders BS, Tifford JM, Fussell JJ, et al. Financial and employment impact of intellectual disability on families of children with autism. Families, Systems & Health. 2015;33(1):38-46.

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# Developmental and ASD Screening

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## Evaluation of ASD



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## Developmental Screening

**1 in 4 children**, ages 0-5, are at moderate or high risk for developmental, behavioral, or social delay

AAP recommends:

- Developmental surveillance at every health supervision visit
- Developmental screening at 9, 18, and 24 or 30 months
- Or if parent or clinician has concerns

**96110 - Billing code to use for developmental screen**

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## Developmental/Autism Screening

Screening Tool	Ages
Ages and Stages Questionnaires SE-2	1-72 months
Pervasive Developmental Disorders Screening Test - II	12-48 months
Communication and Symbolic Behavior Scales - CSBS	6-24 months
Modified Checklist for Autism in Toddlers - MCHAT	16-48 months

\*HealthyChildren.org from the American Academy of Pediatrics

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## M-CHAT-R/F (2009)

- Parents answer 20 “yes/no” questions
- Score abnormal responses:
  - all answers should be “yes” except items 2, 5, and 12 (these are supposed to be no's)
- Add up the abnormal responses

### M-CHAT-R™

Please answer these questions about your child. Keep in mind how your child usually behaves. If you have seen your child do the behavior a few times, but he or she does not usually do it, then please answer **no**. Please circle **yes** or **no** for every question. Thank you very much.

1. If you point at something across the room, does your child look at it? (FOR EXAMPLE, if you point at a toy or an animal, does your child look at the toy or animal?)	Yes	No
2. Have you ever wondered if your child might be deaf?	Yes	No
3. Does your child play pretend or make-believe? (FOR EXAMPLE, pretend to drink from an empty cup, pretend to talk on a phone, or pretend to feed a doll or stuffed animal?)	Yes	No
4. Does your child like climbing on things? (FOR EXAMPLE, furniture, playground equipment, or stairs)	Yes	No
5. Does your child make <u>unusual</u> finger movements near his or her eyes? (FOR EXAMPLE, does your child wiggle his or her fingers close to his or her eyes?)	Yes	No
6. Does your child point with one finger to ask for something or to get help? (FOR EXAMPLE, pointing to a snack or toy that is out of reach)	Yes	No
7. Does your child point with one finger to show you something interesting? (FOR EXAMPLE, pointing to an airplane in the sky or a big truck in the road)	Yes	No
8. Is your child interested in other children? (FOR EXAMPLE, does your child watch other children, smile at them, or go to them?)	Yes	No
9. Does your child show you things by bringing them to you or holding them up for you to see – not to get help, but just to share? (FOR EXAMPLE, showing you a flower, a stuffed animal, or a toy truck)	Yes	No
10. Does your child respond when you call his or her name? (FOR EXAMPLE, does he or she look up, talk or babble, or stop what he or she is doing when you call his or her name?)	Yes	No
11. When you smile at your child, does he or she smile back at you?	Yes	No
12. Does your child get upset by everyday noises? (FOR EXAMPLE, does your child scream or cry to noise such as a vacuum cleaner or loud music?)	Yes	No
13. Does your child walk?	Yes	No
14. Does your child look you in the eye when you are talking to him or her, playing with him or her, or dressing him or her?	Yes	No
15. Does your child try to copy what you do? (FOR EXAMPLE, wave bye-bye, clap, or make a funny noise when you do)	Yes	No
16. If you turn your head to look at something, does your child look around to see what you are looking at?	Yes	No
17. Does your child try to get you to watch him or her? (FOR EXAMPLE, does your child look at you for praise, or say “look” or “watch me”?)	Yes	No
18. Does your child understand when you tell him or her to do something? (FOR EXAMPLE, if you don't point, can your child understand “put the book on the chair” or “bring me the blanket”?)	Yes	No
19. If something new happens, does your child look at your face to see how you feel about it? (FOR EXAMPLE, if he or she hears a strange or funny noise, or sees a new toy, will he or she look at your face?)	Yes	No
20. Does your child like movement activities? (FOR EXAMPLE, being swung or bounced on your knee)	Yes	No

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## PCP/Pediatrician - Initial Assessment

### History

- Prenatal and postnatal
- Ask about seizures, sleep, nutrition / GI
- Psychosocial History
- Family History

### Hearing / Vision

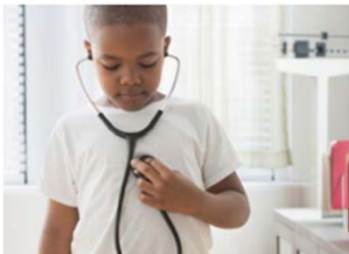
### Physical / Neurological examination

- Growth, Head Circumference
- Dysmorphic features
- Neurocutaneous markings



## After Diagnosis, What is Next?

## PCP/Pediatrician - Initial Assessment



### Referrals:

- Audiology / Ophthalmology
- Speech / Language
- Occupational therapy
- Behavioral Health Specialists
- Comprehensive Diagnostic Evaluation – Psychologist or Development Pediatrician
- Applied Behavior Analysis

### Labs:

- Nutrition labs, lead, CBC, Ferritin, TSH
- Fragile X and CMA

## Comorbid Diagnosis and rule in/rule out

A Comprehensive Diagnostic Evaluation is recommended to ensure appropriate diagnosis, as differential diagnosis is key to optimal treatment.

- Autism must be differentiated from other developmental disorders such as: Learning disorders, sensory impairments, attachment disorders, OCD, intellectual disability or developmental delay, selective mutism, ADHD, etc.
- Children who have comorbid intellectual disabilities need to show social and communication deficits that are more severe or delayed than other adaptive areas.
- Language delays or selective language can occur with developmental language disorders and selective mutism, its important to review other potential symptoms of ASD to rule-in or out diagnosis.
- ASD can commonly co-occur with ADHD, anxiety, and intellectual disabilities its important to assess for those conditions as well.

## Medical and behavioral benefits for autism

Treatment of autism spectrum disorder (ASD) can require access to both medical benefits and mental health benefits



### Behavioral benefits

- Psychiatric management
- Family therapy
- Individual therapy
- Applied behavior analysis (ABA)
- Social Skills development



### Medical benefits

- Pediatric neurology
- Developmental pediatrics
- Occupational therapy
- Speech therapy
- Gastrointestinal/Feeding

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## People First Language: Essential for Family-Centered Care

A disability descriptor is simply a medical diagnosis

**People First Language** respectfully puts the person before the disability

**A person with a disability is more *like* people without disabilities than different!**

- **NOT** the Downs Kid – The child with Down syndrome
- **NOT** the Autistic Kid – The child with Autism
- **NOT** the Retarded Kid – The child with an intellectual disability

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### In Summary: Best Practice Recommendations

- Follow screening guidelines
- Identify early
- Provide Family-centered Care
  - Use People First Language
- Collaborate with providers, clinical staff, school personal, and family members is crucial to success

**Listen to parents' concerns.  
Remember – Parents are the Experts!**

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## Q&A

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# Resources and References

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## References / Resources

- American Academy of Pediatrics
  - Screening: <https://www.aap.org/en-us/advocacy-and-policy/aaphealth/initiatives/Screening/Pages/Screening-Recommendations.aspx>
  - Algorithm for Developmental Surveillance and Screening: <http://pediatrics.aappublications.org/content/118/1/405>
  - Healthy Children: [How Pediatricians Screen for Autism - HealthyChildren.org](http://HealthyChildren.org)
- Centers for Disease Control and Prevention
  - ASD: [Recommendations & Guidelines | Autism Spectrum Disorder \(ASD\) | CDC](https://www.cdc.gov/autism/guidelines/index.html)

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## References Developmental Screening

- Ages and Stages Questionnaire (ASQ-3) –
  - <http://www.brookespublishing.com/resource-center/screening-and-assessment/asq/>
- Brigance screens
  - <http://www.hbe.com.au/series-brigance/early-childhood/screens.html>
- Developmental Assessment of Young Children, 2nd edition (DAYC-2)
  - <http://www.therapro.com/Browse-Category/Developmental-Assessments/DevelopmentalAssessment-of-Young-Children-Second-Edition-DAYC-2.html>
- Early Screening Profiles
  - <https://www.pearsonclinical.com/childhood/products/100000089/early-screening-profiles.html>
- Parents' Evaluation of Developmental Status (PEDS)
  - [PEDStest:Home](#)

## References Autism Screening

- Pervasive Developmental Disorders Screening Test-II
  - <http://www.pearsonclinical.com/psychology/products/100000132/pervasive-developmental-disorders-screening-test-ii-pddst-ii.html>
- Ages and Stages Questionnaire – Social-Emotional
  - <http://agesandstages.com/products-services/asqse-2/>
- Social Communication Questionnaire
  - [\(SCQ\) Social Communication Questionnaire \(wpspublish.com\)](#)

## References Autism Screening

- Modified Checklist for Autism in Toddlers, Revised with Follow-up (M-CHAT/F)
  - [http://www2.gsu.edu/~psydlr/M-CHAT/Official\\_M-CHAT\\_Website\\_files/MCHAT-R\\_F.pdf](http://www2.gsu.edu/~psydlr/M-CHAT/Official_M-CHAT_Website_files/MCHAT-R_F.pdf)
- CSBS DP Infant Toddler Checklist
  - [Infant-Toddler Checklist \(fsu.edu\)](http://infant-toddler-checklist.fsu.edu)
  - <https://firstwords.fsu.edu/checklist.html>
- Childhood Autism Screening Test (CAST)
  - [Childhood Autism Spectrum Test \(CAST\) - Autism Research Centre](#)

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