



Clinical Screening for Autism Spectrum Disorder



Health Care Providers

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KEY POINTS

- Early identification of developmental disorders is an integral function of the primary care medical home and an appropriate responsibility of all pediatric healthcare professionals.
- The American Academy of Pediatrics (AAP) recommends that all children be screened for developmental delays and disabilities during regular well-child doctor visits at 9 months, 18 months, and 30 months.
- All children should be screened specifically for autism spectrum disorder (ASD) during well-child doctor visits at 18 months and 24 months.



About developmental screening

Developmental screening can be done by a number of professionals in health care, community, and school settings. However, primary healthcare providers are in a unique position to promote children's developmental health.

Primary care providers have regular contact with children before they reach school age and are able to provide family-centered, comprehensive, coordinated care, including a more complete medical assessment when a screening indicates a child is at risk for a developmental problem.

KEEP READING:

[MythBusters for Healthcare Providers: Developmental Screening](#)

Screening recommendations

Research has found that autism spectrum disorder (ASD) can sometimes be detected at 18 months or younger. By age 2 years, a diagnosis by an experienced professional can be considered very reliable.^[1] However, many children do not receive a final diagnosis until they are much older. This delay means that children with ASD might not get the help they need. The earlier ASD is diagnosed, the sooner treatment services can begin.



If a child has a developmental delay, it is important to identify it early so the child and family can receive needed intervention services and support.

Early Identification of Developmental Disorders



Early identification of developmental disorders is critical to the well-being of children and their families. It is an integral function of the primary care medical home and an appropriate responsibility of all pediatric healthcare professionals.

► **Healthcare providers play a critical role in monitoring children's growth and development and identifying concerns as early as possible.**

The American Academy of Pediatrics (AAP) [recommends](#) that developmental surveillance be incorporated at every health supervision visit. Any concerns raised during surveillance should be addressed promptly with standardized developmental screening tests. In addition, AAP recommends that all children be screened for developmental delays and disabilities during regular well-child doctor visits at

- 9 months
- 18 months
- 30 months

Additional screening might be needed if a child is at high risk for developmental problems because of preterm birth or low birth weight.

In addition, all children should be screened specifically for ASD during regular well-child doctor visits at:

- 18 months
- 24 months

Additional screening might be needed if a child is at high risk for ASD (e.g., having a sibling with ASD) or if symptoms are present.

It is important for doctors to screen all children for developmental delays, but especially to monitor those who are at a higher risk for developmental problems due to preterm birth, low birth weight, or having a sibling or parent with ASD.

The early identification of developmental problems should lead to further developmental and medical evaluation, diagnosis, and treatment, including early developmental intervention. If a child is diagnosed with a developmental disorder through the evaluation and diagnostic process, they should be identified as a child with special health care needs, and chronic-condition management should be initiated. Identification of a developmental disorder and its underlying etiology may also drive a range of treatment planning, from medical treatment of the child to genetic counseling for his or her parents.

SEE ALSO:

[Identification, Evaluation, and Management of Children With ASD](#)

Recommendation regarding universal screening for ASD among young children

In February 2016, the [U.S. Preventive Services Task Force \(USPSTF\)](#) released a recommendation regarding universal screening for ASD among young children.

- This final recommendation statement applies to **children ages 3 years and younger** who have no obvious signs or symptoms of ASD or developmental delay and whose parents, caregivers, or doctors have no concerns about the child's development.
- The USPSTF reviewed research studies on the potential benefits and harms of ASD screening in young children who do not have obvious signs or symptoms of ASD. They looked at whether screening all children for ASD helps with their development or quality of life.

What did the USPSTF conclude about universal screening for ASD among young children?

The final recommendation statement here summarizes what the USPSTF learned following its review:

There is not enough evidence available on the potential benefits and harms of ASD screening in all young children to recommend for or against this screening.

Read the full statement from USPSTF:

[Final Recommendation Statement on Universal Screening for ASD Among Young Children | USPSTF](#)



This recommendation statement is not a recommendation against screening; it is a call for more research.

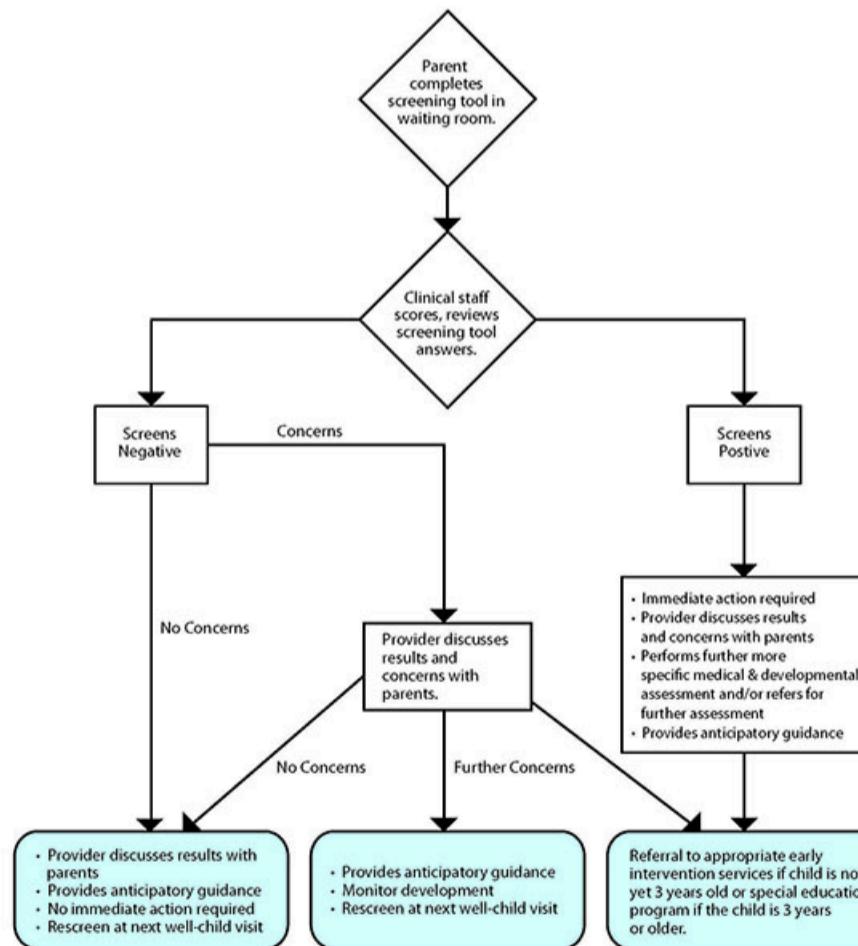
Developmental screening in pediatric and primary care practice

Integrating routine developmental screening into the practice setting can seem daunting. Following are suggestions for integrating screening services into primary care efficiently and at low cost, while ensuring thorough coordination of care.

An example of how developmental screening activities might flow in a clinic:

[View and print this Pediatric Developmental Screening Flowchart](#) [\[PDF\]](#)

Pediatric Developmental Screening Flowchart



Pediatric Developmental Screening Flowchart

For information on reimbursement for developmental screening:

SEE ALSO:

[AAP Coding Fact Sheets](#)

Involving families in screening

Research indicates that parents are reliable sources of information about their children's development. Evidence-based screening tools that incorporate parent reports (e.g., Ages and Stages Questionnaire, the Parents' Evaluation of Developmental Status, and Child Development Inventories) can facilitate structured communication between parents and providers to discover parent concerns, increase parent and provider observations of the child's development, and increase parent awareness. Such tools can also be time- and cost-efficient in clinical practice settings.[\[2\]](#) [\[3\]](#) [\[4\]](#) A 1998 analysis found that, depending on the instrument, the time for administering a screening tool ranged from about 2 to 15 minutes, and the cost of materials and administration (using an average salary of \$50/hour) ranged from \$1.19 to \$4.60 per visit.[\[5\]](#)

Screening children and providing parents with anticipatory guidance—that is, educating families about what to expect in their child's development, how they can promote development, and the benefits of monitoring development—can also improve the relationship between the provider and parent.[\[6\]](#) By establishing relationship-based practices, providers promote positive parent-child relationships, while building the strongest possible relationship between the parent and provider. Such practices are fundamental to quality services.

Developmental screening tools

Screening tools are designed to help identify children who might have developmental delays. Screening tools can be specific to a disorder (e.g., autism) or an area (e.g., cognitive development, language, or gross motor skills), or they may be general, encompassing multiple areas of concern. Some screening tools are used primarily in pediatric practices, while others are used by school systems or in other community settings.

Screening tools **do not** provide conclusive evidence of developmental delays and do not result in diagnoses. A positive screening result should be followed by a thorough assessment. Screening tools do not provide in-depth information about an area of development.

Selecting a screening tool

When selecting a developmental screening tool, take the following into consideration:

- Domain(s) the screening tool covers
 - What are the questions that need to be answered?
 - What types of delays or conditions do you want to detect?
- Psychometric properties
 - These affect the overall ability of the test to do what it is meant to do.
- The sensitivity of a screening tool is the probability that it will correctly identify children who exhibit developmental delays or disorders.
- The specificity of a screening tool is the probability that it will correctly identify children who are developing normally.
- Characteristics of the child
 - For example, age and presence of risk factors.
- Setting in which the screening tool will be administered
 - Will the tool be used in a physician's office, daycare setting, or community setting? Screening can be performed by professionals, such as nurses or teachers, or by trained paraprofessionals.

Types of screening tools

There are many different developmental screening tools. CDC does not approve or endorse any specific tools for screening purposes. This list is not exhaustive, and other tests may be available.

Examples of screening tools for general development and ASD

- [Ages and Stages Questionnaires \(ASQ®\)](#) General developmental screening tool. Parent-completed questionnaire; series of 19 age-specific questionnaires screening communication, gross motor, fine motor, problem-solving, and personal adaptive skills; results in a pass/fail score for domains.
- [Communication and Symbolic Behavior Scales \(CSBS DPT™ Infant-Toddler Checklist\)](#) Standardized tool for screening of communication and symbolic abilities up to the 24-month level; the Infant Toddler Checklist is a 1-page, parent-completed screening tool.
- [Parents' Evaluation of Developmental Status \(PEDS Tools®\)](#) General developmental screening tool. Parent-interview form; screens for developmental and behavioral problems needing further evaluation; single response form used for all ages; may be useful as a surveillance tool.

- [Modified Checklist for Autism in Toddlers \(M-CHAT™\)](#)  Parent-completed questionnaire designed to identify children at risk for autism in the general population.
- [Screening Tool for Autism in Toddlers and Young Children \(STAT™\)](#)  Interactive screening tool designed for children when developmental concerns are suspected. It consists of 12 activities assessing play, communication, and imitation skills and takes 20 minutes to administer.

AAP Developmental Screening Tools



A more comprehensive list of developmental screening tools is available from the American Academy of Pediatrics (AAP), including descriptions of the tools and their sensitivity and specificity. The list includes general screening tools as well as those for ASD.

[Search for screening tools](#) 

Additional resources

- [Information on Autism Spectrum Disorder for Healthcare Providers](#)
- [Clinical Testing and Diagnosis for Autism Spectrum Disorder](#)
- [Developmental Monitoring and Screening](#)
 - [Developmental Surveillance Resources for Healthcare Providers](#)
- [Autism Spectrum Disorder Articles](#)

SOURCES

CONTENT SOURCE:

National Center on Birth Defects and Developmental Disabilities

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