US Army photo

Clinical Practice Guidelines

Autism Spectrum Disorder (ASD)

January 2023

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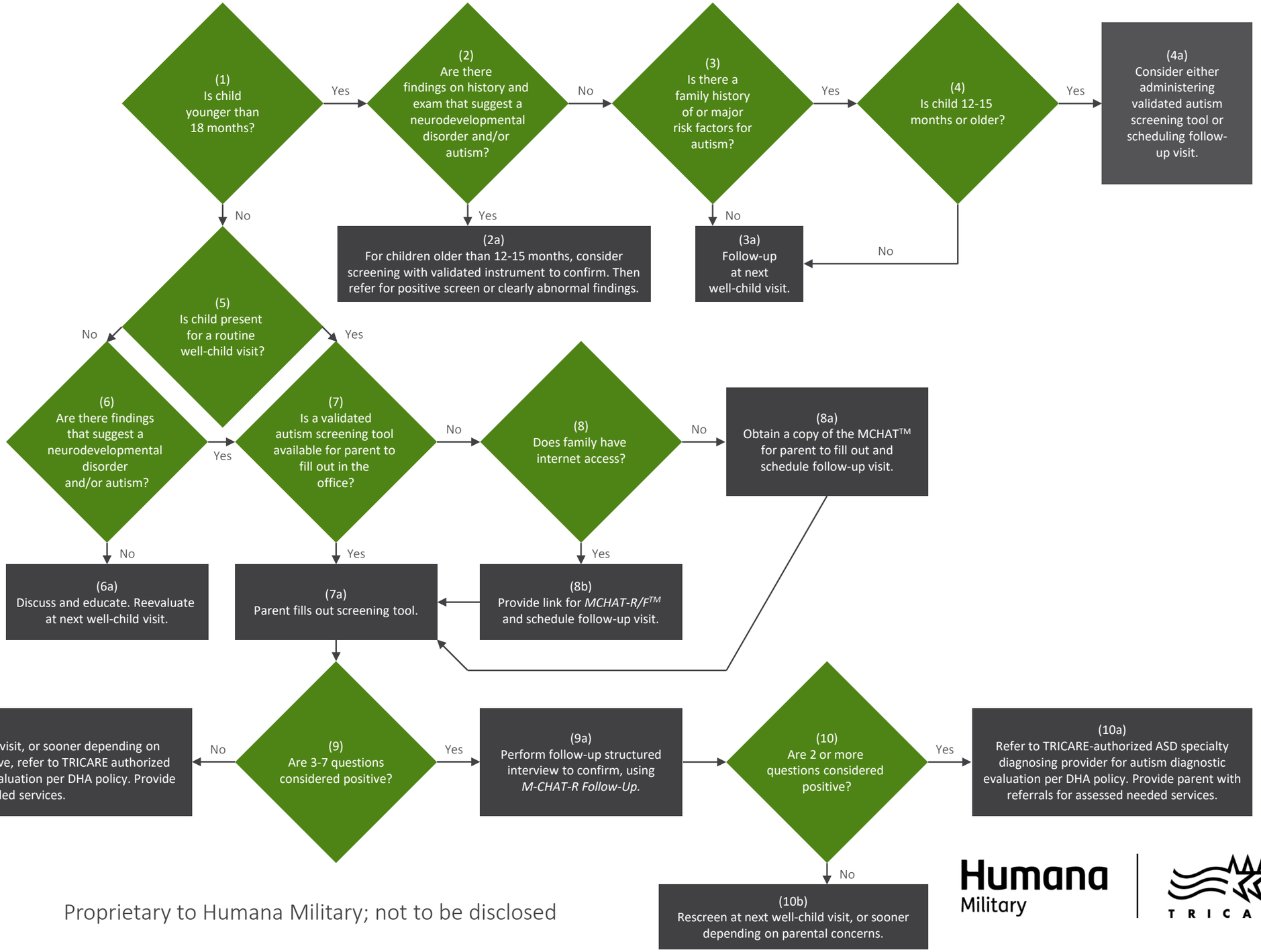
Child presenting for office visit

Click on the flowchart boxes for additional annotations on some of the steps in the algorithm.

References and bibliography



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(2) Are there findings on the history and exam that suggest a neurodevelopmental disorder and/or autism?

It is recommended that all children receive screening with a validated, autism-specific instrument at 18 months and 24 months.[4,10] Screening before 24 months may be associated with higher false-positive rates but may be of value in detecting other developmental delays.[25]

While delays in social communication may be subtly present around 12 months of age, they may not be specific to autism at that young age.

(3) Is there a family history of or major risk factors for autism?

Evidence also suggests that siblings of affected children are at an elevated risk compared with the general population.[25] Rates are commonly thought to be 2% to 10%, or perhaps higher.[21]

Other risk factors include extreme premature birth (< 26 week gestation), advanced maternal or paternal age, close spacing of pregnancies, family members with learning or language disabilities and genetics.[21]

(4) Is child 12-15 months or older?

While delays in social communication may be subtly present around 12 months of age, they may not be specific to autism at that young age. Early screening for autism may be associated with higher false-positive rates but may be of value in detecting other developmental delays.[25]

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(5) Is the child present for a routine well-child visit?

A number of organizations recommend screening with a validated, autism-specific instrument at 18 months and 24 months and early identification of neurodevelopmental disorders:[4,10,25]

- The American Academy of Pediatrics Council on Children with Disabilities has recognized early identification of developmental disorders as an integral function of the primary care medical home and the responsibility of all clinicians.[v]
- The National Institute of Mental Health recommends early treatment to reduce individual difficulties while assisting with the acquisition of new skills and optimizing individual strengths.[ii]

Commonly accepted advantages of early identification include:

- Access to early childhood educational services (especially in the public sector), as well as speech therapy, physical and occupational therapy, and medical care planning. Many of these early interventions are publicly available following a positive screening.[11]
- Many clinicians believe that early intervention leads to improved outcomes, including core deficits of ASD (i.e., social attention), IQ, language, and symptom severity.[25] Theories regarding the neuroplasticity of the developing brain postulate that interventions are optimized when rendered during periods of rapid brain development.[20]
- Early identification also initiates an etiologic investigation and family counseling regarding recurrence risk. If a genetic condition is identified, counseling can be offered to help inform future reproductive decisions.

(6) Are there findings that suggest a neurodevelopmental disorder and/or autism?

Differentiating developmental delay from ASD can be hard, particularly with younger children.[21]

- Directing attention or showing attention to voice are considered to be helpful in the diagnosis at 24 months.
- Use of other's body, attention to voice, pointing, and finger mannerisms are considered to be helpful at 36 months.
- Anxiety disorders may be confused, but children with anxiety disorder are often more socially aware as opposed to the social withdrawal and poor language skills of children with ASD.

Parents often report that there is no period of normal development or that the child seemed "too good and undemanding" as an infant.[21]

(6a) Discuss and educate. Reevaluate at next well-child visit.

Helpful information for parents includes:

- The "*Autism A.L.A.R.M.*": a flyer that highlights the prevalence of autism, the importance of screening and listening to parents' concerns and the urgency of making simultaneous referrals to specialists in ASDs and early intervention programs to promote improved outcomes. CDC – Recommendations and Guidelines
- Learn the Signs. Act Early (CDC)
- Autism Toolkit
- Healthy Children: Words of Support for Parents of a Child with Autism
- ASD Resources for Healthcare Providers, Advocates and Families

(7) Is a validated autism screening tool available for the parent to fill out in the office?

Most ASD screening tests used in the primary care setting are administered to parents in the form of a questionnaire and can be completed in 10 to 20 minutes. Modified Checklist for Autism in Toddlers, Revised with Follow-Up (M-CHAT-R/F™) is commonly used in the US and is readily available.

A positive screen (three or more endorsed answers) should be followed by verification. This is performed to minimize false-positives, thereby avoiding referrals for unnecessary diagnostic evaluations taking place.[6,10,12,25] The follow-up interview utilizing the M-CHAT-R™ Follow Up assessment is designed to be completed by a pediatric extender or support staff. Scoring of the M-CHAT-R/F™ is based on total scores from parent report and/or interview. It is available free to providers.

When choosing a test, consider the following:[6]

- Age of the child
- Length of time to complete
- Length of time to score
- Paper versus electronic
- Languages available
- Administered by provider, trained office staff or parent
- Difficulty in interpreting/scoring
- Sensitivity/Specificity

A validated screening tool should meet an appropriate level of sensitivity and specificity.[22] Together, they allow comparison of the effectiveness of different tools or between different populations. However, in clinical practice, sensitivity and specificity alone cannot indicate the probability of a patient having ASD.[12]

- Sensitivity is the ability of the test to correctly identify young children with ASD risk.[22]
- Specificity is the ability of the test to differentiate ASD from other global developmental disorders (including language disorders).[22]
- Recommendations suggest that both sensitivity and specificity for developmental screening instruments should be no less than 80%.[22]

Positive Predictive Value (PPV) or Negative Predictive Value (NPV) measures the probability that an individual has or does not have a disorder based on whether they have tested positive or negative.[12]

- PPV indicates whether an individual with a positive test actually has the disorder.
- NPV indicates whether an individual with a negative result does not actually have the disorder.
- However, results are directly dependent on whether there is high prevalence in a specific population or when specific risk factors are present.
- PPV and NPV are not reported for all screening tools.

(8b) Provide link for MCHAT and schedule a follow-up visit.

- MCHAT R/F interview

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(9a) Perform follow-up structured interview to confirm.

- MCHAT R/F interview

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(9b) Positive questions

0-2 positive questions: Rescreen at next well-child visit, or sooner depending on parental concerns.

Helpful information for parents includes:

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- Autism Toolkit
- Healthy Children: Words of Support for Parents of a Child with Autism
- ASD Resources for Healthcare Providers, Advocates and Families

8-20 positive questions: Refer to TRICARE-authorized ASD specialty diagnosing provider for autism diagnostic evaluation per DHA policy. Provide parent with referrals for assessed needed services.

Surveys indicate the majority of children with concerning screening results are referred to:[6,10]

- Developmental specialists
- Therapy (e.g. occupational, speech, applied behavior analysis, etc.)
- School system if appropriate age

It is important to remember that screening instruments should supplement or inform clinical judgment but not replace it:[21] Steps when screening is found to be positive:

- A thorough review of past records
- Obtaining family history
- More careful history based on accepted criteria for diagnosis of autism
- Review of any past or current interventions for child
- Thorough medical evaluation and physical exam, including hearing screen
- Thorough assessment of adaptive behavior and other psychosocial issues
- Assessment by TRICARE-authorized specialty ASD diagnosing provider

(10a) Refer to TRICARE-authorized ASD specialty diagnosing provider for autism diagnostic evaluation per DHA policy. Provide parent with referrals for assessed needed services.

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- Review of any past or current interventions for child
- Thorough medical evaluation and physical exam, including hearing screen
- Thorough assessment of adaptive behavior and other psychosocial issues
- Assessment by TRICARE-authorized specialty ASD diagnosing provider

(10b) Rescreen at next well-child visit, or sooner depending on parental concerns.

Helpful information for parents includes:

- The "*Autism A.L.A.R.M.*": a flyer that highlights the prevalence of autism, the importance of screening and listening to parents' concerns and the urgency of making simultaneous referrals to specialists in ASDs and early intervention programs to promote improved outcomes. CDC – Recommendations and Guidelines
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