Screening for Autism Spectrum Disorders (ASD) Using the M-CHAT

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Learning Objectives

• Understand the AAP practice guidelines for surveillance and screening for ASD
• Know how to do an ASD-specific screening using the M-CHAT
• Understand what referrals to make if there is a concerning result

Epidemiology of ASD

• All racial and socioeconomic groups
• Prevalence: 1 in 150
• M:F ranges from 2.1:1 to 6.5:1

Prevalence of ASD in WI

• Prevalence 5.2/1000 (1/190)
• 3.5:1 Male : Female ratio
• Median age of diagnosis in WI is 54 months

Why Screen in Primary Care

• 44% of PCPs care for >10 children with ASD
• But only 8% routinely screen for it
• Allows for early intervention
• Allows for counseling about recurrence risk

Surveillance and Screening for ASD

Developmental Surveillance

Developmental Screening

18 mo 24:30 mo
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**Pervasive Developmental Disorder (PDD)**

**Three Developmental Domains Affected**

<table>
<thead>
<tr>
<th>Autistic Disorder</th>
<th>PDD-NOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>Communication</td>
</tr>
<tr>
<td>Social</td>
<td>Social</td>
</tr>
<tr>
<td>Behavior</td>
<td>Behavior</td>
</tr>
<tr>
<td>6 or more DSM-IV-TR criteria met</td>
<td>&lt; than 6 DSM-IV-TR criteria met (sub-threshold)</td>
</tr>
</tbody>
</table>

**Asperger Syndrome**

- Social
- Behavior

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**Social Development**

**What to look for**

- Less or no use of non-verbal behaviors
- Less or no relating to peers
- Less or no trying to share experiences and play with others
- Less or no social or emotional reciprocity

**Compared to most kids of same age**

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**Communication Development**

**What to look for**

- Less or no development of speech
- Less or no trying to join conversation
- Less or no social imitative or spontaneous make-believe play
- Repetitive, stereotyped, or idiosyncratic language

**Compared to most kids of same age**

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**Behavioral Development**

**What to look for**

- Very focused, restricted play
- Repetitive non-functional behaviors
- Stereotyped, repetitive motor mannerisms
- Persistent preoccupation with parts of objects

**Compared to most kids of same age**

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**Autistic Disorder**

- Total of 6 characteristics
  - 2 social
  - 1 communication
  - 1 behavior
  - plus 2 from any domain
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Asperger Syndrome

- Total of 6 characteristics
  - 2 social
  - 1 behavior
  - plus 3 from any domain
  - and no “clinically significant” impairment in communication or cognitive level

PDD-NOS

- Same set of characteristics
- But <6, or sub-threshold
- May still experience significant delay or functional impairment in one area

Expect Variation

Spectrum of characteristics

Spectrum of severity

Early Identification in Primary Care

- Routine general developmental surveillance and screening
- Routine ASD surveillance and screening

Surveillance for ASD

- Occurs with general developmental surveillance

On History

- When eliciting parent concerns ask about
  - Behavior
  - Social developmental milestones
  - Emotional developmental milestones
- Assess family history of ASD
  - Risk 10x higher in younger siblings of individual with ASD
On Exam

- Responds to name (12 mo.)
- Follows a point (12, 18, 24 mo.)

RED FLAGS

6 months
- No big smiles
- No other warm, joyful expressions

9 months
- No back-and-forth sharing of sounds
- No back-and-forth sharing of facial expressions

RED FLAGS

12 months
- No babbling
- No pointing or other gestures

16 months
- No single words

24 months
- No 2-word spontaneous phrases
- Loss of language at any age
- Loss of social skills at any age

Screening for ASD

- With ASD-specific tool
  - 18 months
  - 24 months
  - And anytime there is a concern

...reason for immediate referral to Early Intervention or Early Childhood Program
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Wisconsin Medical Home Webcast Series

Screening Tools for ASD

>18 months – Several validated tools
  • Including M-CHAT

<18 months – Tools in development
  • e.g., Infant/Toddler Checklist from CSBC-DP

Modified Checklist for Autism in Toddlers (M-CHAT)

• Designed for early detection of ASD
• Can be used in primary care setting
• 16-30 mos. validated
• 30-48 mos. being validated
• Free, easy to obtain, easy to use: www2.gsu.edu/~psydlr

M-CHAT

• Goal is to maximize sensitivity
• AAP reported Sensitivity = 85%-87%, Specificity = 93%-99%
• Positive predictive power is greater at 24mo than at 18mo

M-CHAT Scoring

2. NO 7. NO 12. No 17. No 22. Yes
4. No 9. NO 14. NO 19. No
5. No 10. No 15. NO 20. Yes

M-CHAT Questionnaire Excerpt

M-CHAT

Please fill out the following about how your child usually is. Please try to answer every question. If the behavior is rare (e.g., you’ve seen it once or twice), please answer as if the child does not do it.

1. Does your child enjoy being swung, bounced on your knee, etc.? Yes No
2. Does your child take an interest in other children? Yes No
3. Does your child like climbing on things, such as up stairs? Yes No
4. Does your child enjoy playing peek-a-boo/hide-and-seek? Yes No
5. Does your child ever pretend, for example, to talk on the care of a doll or pretend other things? Yes No
   Is ever use his/her index finger to point? Yes No

Pandey et al., 2008
M-CHAT Follow-up Interview

- M-CHAT designed for sensitivity
- Concerning result: use follow-up interview
- Structured follow-up interview
  - Clarifies responses
  - Reduces the rate of false positives
  - Ensures appropriate referrals are made

Implementing M-CHAT with ASQ

- 9 month ASQ
- 18 month ASQ and M-CHAT
- 24 months ASQ and M-CHAT

Example Workflow

AAP Recommends

- Provide parent education
- Refer for audiology evaluation
- Refer to Early Intervention (EI) (0-3) OR Early Childhood Education Services (3-6)
- Refer for diagnostic evaluation
- Schedule follow up visit

When to Refer to EI or Early Childhood Program

- Parental concern
- Physician concern
- Or concerning screen

When to Refer for Diagnostic Evaluation

- When the concerning result is supported by one of the following:
  - Structured follow-up interview
  - A standardized, validated level two ASD-specific screening tool
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Refer for Diagnostic Evaluation

• Team of specialists with expertise in ASD
• Developmental Pediatrician
• Child Psychologist
• Child Neurologist
• Child Psychiatrist

Identifying Diagnosticians

• How diagnosis made and by whom may impact coverage and eligibility
• Insurance coverage may impact choice of diagnostician(s)
• Local Regional Center for CYSHCN can help you with insurance coverage and program eligibility questions

WI Regional Centers
for Children and Youth with Special Health Care Needs

http://dhs.wisconsin.gov/health/children/resourcecenters

Ask a Question

Viewing online?
- Click on the envelope above
- Question emailed to Training Team
- Questions answered by expert on topic
- Response within 2-3 weeks

Viewing at a live training?
- Organizer shares questions with Training Team

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