The Modified Checklist for Autism in Toddlers, Revised with Follow-Up (M-CHAT-R/F)

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Objectives

• Understand the importance of early screening for autism spectrum disorders (ASD’s) in children
• Learn how to use the Modified Checklist for Autism in Toddlers, Revised with Follow-Up (M-CHAT-R/F)
Autism Spectrum Disorder

- Autism is estimated to affect 1 in every 88 children in US and 1 in every 54 boys in the NC
- Screening DOES NOT EQUAL diagnosis
- A **complete assessment** is required for diagnosis

Source: AAP News, June 2013 and CHIPRA Quality Demonstration Grant, 2012

Autism Spectrum Disorder

- New Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5)
  - No longer sub-diagnoses (no more use of Autistic Disorder, Asperger Syndrome, Pervasive Developmental Disorder Not Otherwise Specified, Disintegrative Disorder)
  - Looks at social communication/interaction and restricted and repetitive behaviors that impair function

Source: AAP News, June 2013 and CHIPRA Quality Demonstration Grant, 2012
Joint Attention is Key

• Protoimperative pointing: 12–14 months of age

• Protodeclarative pointing: 14–16 months of age

Recommended Autism Specific Surveillance
From American Academy of Pediatrics (AAP)

• Four risk factors should be assessed as part of surveillance at every visit

  • Sibling with ASD
  • Parent concern, inconsistent hearing, unusual responsiveness
  • Other caregiver concern
  • Health care provider concern

Recommended Autism Specific Surveillance
From AAP (cont.)

Actions when risk factors are present:

- If 2 or more risk factors, refer for EI, ASD Evaluation, and Audiology services simultaneously
- If 1 risk factor, and child is at least 18 mos old, use an age appropriate screening tool (ie., M-CHAT R/F)


Required Screening for Autism Spectrum Disorders: NC Health Check Billing Guide

Providers must perform routine screening for autism spectrum disorders using a validated screening instrument at ages 18 and 24 months
NEW UPDATE: Modified Checklist for Autism in Toddlers Revised with Follow Up (M-CHAT R/F)

• For children 16-30 months of age
• Sensitivity: 85%
• Specificity: 93%
• 20 questions completed by the parent in about 5-10 minutes
• Simpler scoring
  – For items 2, 5, and 12, the response “YES” indicates ASD risk, for all other items the response “NO” indicates ASD risk
• Download forms and scoring at www.mchatscreen.com

Slide Adapted from Dr. Marian Earls

M-CHAT-R/F and Risk For Other Delays

• Providers should be aware that even with the use of the follow-up questions, a significant number of the children who fail the M-CHAT-R (have concerns for ASD) will not go on to be diagnosed with ASD
• However, these children are at risk for other developmental disorders or delays, and therefore, follow-up is warranted for any child who screens positive
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does your child enjoy being swung, bounced on your knee, etc.?</td>
<td></td>
<td>Yes No</td>
</tr>
<tr>
<td>Does your child take an interest in other children?</td>
<td>Yes No</td>
<td></td>
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<tr>
<td>Does your child like climbing on things, such as up stairs?</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Does your child enjoy playing peek-a-boo/hide-and-seek?</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Does your child ever pretend, for example, to talk on the phone or take care of a doll or pretend other things?</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Does your child ever use his/her index finger to point, to ask for something?</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Does your child ever use his/her index finger to point, to indicate interest in something?</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Can your child play properly with small toys (e.g. cars or blocks) without just mouthing, fiddling, or dropping them?</td>
<td>Yes No</td>
<td></td>
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<tr>
<td>Does your child ever bring objects over to you (parent) to show you something?</td>
<td>Yes No</td>
<td></td>
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<tr>
<td>Does your child look in the eye for more than a second or two?</td>
<td>Yes No</td>
<td></td>
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<tr>
<td>Does your child ever seem oversensitive to noise (e.g., plugging ears)</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Does your child smile in response to your face or your smile?</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Does your child imitate you? (e.g., you make a face-will your child imitate it?)</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Does your child respond to his/her name when you call?</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>If you point at a toy across the room, does your child look at it?</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Does your child walk?</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Does your child look at things you are looking at?</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Does your child make unusual finger movements near his/her face?</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Does your child try to attract your attention to his/her own activity?</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Have you ever wondered if your child is deaf?</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Does your child understand what people say?</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Does your child sometimes stare at nothing or wander with no purpose?</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Does your child look at your face to check your reaction when faced with something unfamiliar?</td>
<td>Yes No</td>
<td></td>
</tr>
</tbody>
</table>
MCHAT-R/F Information

• MCHAT-R is completed by the parent

• MCHAT Follow-up Interview: clarifying questions for questions that are not passed; used to increase positive predictive value of a positive screen

• MCHAT-R Follow-up Scoring Sheet: score of 2 or greater is positive with low, medium and high-risk

• 10 translations in process: Bulgarian, French (Canadian), Italian, Japanese, Korean, Persian, Polish, Portuguese (Brazil and Portugal), Spanish (Spain and Western Hemisphere), Turkish

http://www2.gsu.edu/~psydlr/M-CHAT/MDiana L. Robins, Ph.D.

MCHAT-R/F Scoring Algorithm With Recommendations for Action

• LOW-RISK: Total Score is 0-2
  – If the child is younger than 24 months, screen again after the second birthday
  – No further action is required unless surveillance indicates a risk for ASD

http://www2.gsu.edu/~psydlr/M-CHAT/Official_M-CHAT_Website_files/M-CHAT-R_F.pdf
MCHAT-R/F Scoring Algorithm and Actions (cont.)

• MEDIUM-RISK: Total Score is 3-7
  – Administer the follow-up questions (second stage of M-CHAT-R/F) to get additional information about at-risk responses
  – If M-CHAT-R/F score remains at 2 or higher after the follow-up questions are used and reviewed, the child has screened positive and action is required.
  – Provider should refer child for diagnostic evaluation and eligibility evaluation for early intervention
  – If score after the follow-up questions are used is 0-1, child has screened negative
  – No further action is required unless surveillance indicates risk for ASD. Child should be rescreened at future well-child visits

http://www2.gsu.edu/~psydlr/M-CHAT/Official_M-CHAT_Website_files/M-CHAT-R_F.pdf

Scoring and Actions (cont.)

• HIGH-RISK: Total Score is 8-20
  – It is acceptable to bypass use of the follow-up questions and refer the child immediately for diagnostic evaluation and eligibility evaluation for early intervention
CASE: Tommy

18 months old Tommy is in for a well visit. Mom feels Tommy is healthy, but she has noticed that around other kids especially, he seems to be in his own world. She understands about the “terrible 2’s”, but he tantrums a lot and she often cannot figure out what he wants.

ASQ-3 and M-CHAT R/F

• Have mom complete the ASQ-3 and the M-CHAT-R
• Review and score the ASQ-3 and find the scores in the social emotional and speech language domains are above the cutoffs for an 18 month old
• Review and score the completed M-CHAT-R screening tool to determine which questions were passed and failed using the scoring algorithm
How many questions did Tommy fail?

What are the options for next steps?
M-CHAT-R Follow-Up Question Interview Sheets

- Tommy failed questions 3, 6, 7, 16, 17, and 19 which is a score of 6 which places him at medium risk.
- Use the 6 follow-up question interview sheets (second stage of M-CHAT-R/F) to get additional information for those 6 failed items.
- Follow the flowchart format, asking questions until a PASS or FAIL is scored.
- When a parent reports “maybe,” ask whether most often the answer is “yes” or “no” and continue the interview according to that response.
- In places where there is room to report an “other” response, the interviewer must use his/her judgment to determine whether it is a passing response or not.
6. Does your child point with one finger to ask for something or to get help?

- Yes
  - PASS
  - If there is something your child wants that is out of reach, such as a snack or toy that is out of reach, how does he/she get it? (If parent does not give a PASS example below, ask each individually.)

- Does he/she...
  - Reach for the object with his/her whole hand? Yes ☐ No ☒
  - Lead you to the object? Yes ☒ No ☐
  - Try to get the object for him/herself? Yes ☐ No ☒
  - Ask for it using words or sounds? Yes ☐ No ☒

  - Yes to any of the above
  - If you said “Show me”, would he/she point at it?
    - Yes
      - PASS
    - No
      - FAIL

- No to all of the above

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ASK ALL → Does your child point with one finger just to show you something interesting?

- Yes
  - Please give me an example something he/she might point at to show you. (If parent does not give a PASS example below, ask each individually.)

- No
  - Does your child ever want you to see something interesting such as:
    - An airplane in the sky? Yes ☐ No ☒
    - A truck on the road? Yes ☐ No ☒
    - A bug on the ground? Yes ☐ No ☒
    - An animal in the yard? Yes ☐ No ☒

  - How does your child draw your attention to it? Would he/she point with one finger?
    - Yes to any
      - Yes
      - Is this to show their interest, not to get help?
        - No
          - FAIL
        - Yes OR both to show interest and to get help
          - PASS
    - No
      - FAIL
16. If you turn your head to look at something, does ________ look around to see what you are looking at?

Yes  

PASS  

No  

What does he/she do when you turn to look at something? *(If parent does not give a PASS example below, ask each individually.)*

- Does your child... *(Below are PASS responses)*
  - Look toward the thing you are looking at? Yes ☐ No ☐
  - Point toward the thing you are looking at? Yes ☐ No ☑
  - Look around to see what you are looking at? Yes ☐ No ☐

- Does your child... *(Below are FAIL responses)*
  - Ignore you? Yes ☑ No ☐
  - Look at your face? Yes ☐ No ☑

If yes only to PASS example(s)  

Yes to both PASS and FAIL responses  

Which one does he/she do most often? Look at face  

PASS  

FAIL

17. Does ________ try to get you to watch him/her?

Yes  

Please give me an example of how he/she would try to get you to watch him/her. *(If parent does not give a PASS example below, ask each individually.)*

Does he/she...

- Say “Look!” or “Watch me!”? Yes ☐ No ☓
- Babble or make a noise to get you to watch what he/she is doing? Yes ☐ No ☑
- Look at you to get praise or comment? Yes ☐ No ☑
- Keep looking to see if you are looking? Yes ☐ No ☑
- Other (describe): Yes ☐ No ☑

If yes to any  

PASS  

FAIL  

If yes to none  

FAIL
M-CHAT-R Follow-Up Scoring Sheet

• Use the M-CHAT-R Follow-Up Scoring Sheet to obtain a final score
• Circle the questions that were originally passed questions from the M-CHAT-R and include a pass or fail after using the follow-up questions
• Determine your next actions based on the final score
• Please note that if the healthcare provider or parent has concerns about ASDs, children should be referred for evaluation regardless of the score on the M-CHAT-R or M-CHAT-R/F
Reviewing the M-CHAT-R Follow-Up Scoring Sheet

- Tommy passed 3 of the 6 questions with use of the follow-up questions to help clarify mom’s original responses
- Tommy’s final score is 3 which still puts him at medium-risk and he screens positive on the tool
- Tommy should be referred for a diagnostic evaluation which includes a referral to Early Intervention
When the MCHAT R/F is Positive

AAP Recommendation is for simultaneous referral for:

• Evaluation and diagnosis

• Early Intervention services

• Audiologic evaluation

Also applies if just surveillance recommended by AAP is positive for two of more risk factors

Referrals For Concerns on the M-CHAT-R/F

• Concerns based on positive risk (medium or high risk score)
  – Audiology
  – Infant Toddler or Preschool Early Intervention (see full page handouts)
  – If concerns about genetic or neurological condition or syndrome also consider referral to developmental/behavioral pediatrician, neurologist or geneticist

• Simultaneous referrals to:
  – Evidence-based parenting programs (i.e., Incredible Years, Strengthening Families, Triple P)
  – Evidence-based home visiting programs (i.e., Healthy Families America)
  – CC4C
Thank You!

Questions?
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