Screening Tools for Autism in the Primary Care Setting

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Disclosure Information

- I have no relevant financial relationships with the manufacturer(s) of any commercial product(s) and/or provider of commercial services discussed in this CME activity.
- I do not intend to discuss commercial products or services and unapproved/investigative uses of a commercial product/device in my presentation.

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Learning Objectives

- Describe effective methods for screening and early identification of children with autism spectrum disorder (ASD) in primary care.
- Report the components of diagnostic and etiologic evaluation of children with ASD.



Autism Spectrum Disorder (ASD): Introduction

- A neurodevelopmental disorder characterized by social and communication impairment and restricted and repetitive behaviors.
- ASD is common and reported prevalence is increasing.
 - $\circ\,$ 1 in 36 children 8 years of age meet criteria for ASD.
 - 1 in 64 children 4 years of age meet criteria for ASD.
 - $\,\circ\,$ More than 5 million Americans in the United States have ASD.
- All pediatric clinicians can expect to have children and youth with ASD in their practice.

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Diagnosis of Autism

- Out of 1,300 families surveyed:
 - The average age of diagnosis of autism was 6 years of age, despite the fact that most parents felt something was wrong by 18 months of age
 - Less than 10% of children were diagnosed at initial presentation
 - 10% were either told to return if their worries persisted, or that their child "would grow out of it"
 - The rest were referred to another professional (at a mean age of 40 months); of which:
 - ❖40% were given a formal diagnosis
 - 25% were told "not to worry"
 - *25% were referred to a third or fourth professional





Screening and Surveillance

- Developmental screening
 - Formal process that uses standardized tests at discrete ages
- Developmental surveillance
 - An ongoing, flexible, longitudinal, and cumulative process in which health care professionals identify children who may have developmental and behavioral problems

https://publications.aap.org/oediatrics/article/118/1/405/69580/Identifying-Infants-and-Young-Children-With Developmental Disorders



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Screening and Surveillance

- General developmental screening should occur at the 9, 18, and 30 month well child visits.
- ASD specific screening should occur at the 18 and 24 month well child visits.
- Developmental surveillance should occur at every well child visit.



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Some Issues to Consider in Selecting a Tool

- Psychometrics: sensitivity/specificity should be at least 70--80%
- Time/staffing required
- Cost and reimbursement
- Parent--completed versus directly administered
- Cultural and linguistic sensitivity



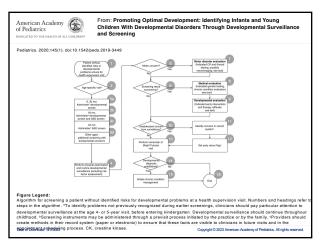
Screening Tool Comparison									
Instrument									
M-CHAT-R	Use 16-48 months 23 items	Free (in public domain)	5-10 minutes Parent	Sens: .85- .87 (mod) Spec: .93- .99 (high)	? Reading level English, Spanish, Turkish, Chinese, Japanese				
PDDST-II PSC	Use 18-48 months 22 items	\$149/kit \$42/25 response forms	10-15 minutes Parent	Sens: .85- .92 (mod- high) Spec: .71- .91 (mod- high)	? Reading level English				
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Screening and Surveillance

- The AAP does not support or endorse the use of any developmental screening tool over another.
 - o Examples are provided in the ASD clinical report and AAP STAR Center website.
- Results of screening tests are not diagnostic.
 - Children identified at risk through screening and surveillance should have a diagnostic evaluation.
- Early identification and intervention can and does influence outcomes.
 - Children should be referred for developmental intervention as soon as the need becomes apparent and not wait for ASD diagnostic evaluation to take place.





Barriers to Early Identification of ASD

- Milder symptoms
- Average range intelligence
- Boys identified more frequently than girls (4:1)
- Co-existing conditions like attentiondeficit/hyperactivity disorder (ADHD)
- Race, ethnicity, socioeconomic factors
- Culturally sensitive screening measures





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Case reports

- While seeing patients at a community clinic, you meet with Matthew...
 - 18-month-old for WCC
 - Very few words-parents think because he is bilingual
- · Your next patient is Claudia
 - · 2-year-old who just moved into town
 - · Very few words-stares at the door



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Case reports

- What stands out to you about Matthew and Claudia?
- Matthew's and Claudia's caregivers complete the M-CHAT-R questionnaire



Case Reports Please score Matthew and/or Claudia's M-CHAT forms

MATTHE	-40					
M-CHAT-R™						
Please arrower these questions about your child. Keep in mind how your child <u>usually</u> behaves, child do the behavior a few times, but he or she does not usually do it, then please answer no. F for every question. Thank you very much.	Please answer these questions about your child. Keep in mind how your child <u>upusity</u> behaves. If you have seen your child do the behavior a few times, but he or the does not usually do it, then please answer no. Please circle yea or no for every question. Thank you very much.					
 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?) 	(ms)	No				
Have you ever wondered if your child might be deaf?	(Yes)	No				
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				
 Does your child like climbing on things? (For Example, furniture, playground equipment, or stairs) 	(Yee)	No				
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				
 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) 	(100)	No				
 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) 	⊚	No				
 Is your child interested in other children? (FOR EXAMPLE, does your child watch other children, smile at them, or go to them?) 	Yes	No				
 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? (Fore Example, showing you a flower, a stuffed animal, or a by trud) 	Yes	No				
 Does your child respond when you call his or her name? (Fox 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?) 	(Ves)	No				
11. When you smile at your child, does he or she smile back at you?	€	No				
12 Does your child get upset by everyday noises? (For Example, does your child scream or ony to noise such as a vacuum cleaner or loud music?)	Yes	NO				
13. Does your child walk?	Yee	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)				
 Does your child try to copy what you do? (FOR EXAMPLE, wave bye-bye, clap, or make a furny noise when you do) 	(OS)	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				
 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 comething? (FOR Bixwells, if you don't point, can your child understand 'put the book on the chair' or 'bring me the blanker?')	(Yes)	No				
19. If something new happens, does your child look at your face to see how you feel about it? (FOR EXAMPL, if he or sha hears a strange or funny noise, or sees a new toy, will he or she look at your face?)	Yes	No.	KANSAS CHAPTER American Academy of Pediatrics			
20. Does your child like movement activities? (Fore Example, being swung or bounced on your knee)	Yes	No	Junction (waddily of Federal State			

	M-CHAT-R™ CLAUDI	Α		
Please answer these que child do the behavior a fe for every question. Thank	stions about your child. Keep in mind how your child <u>usually</u> behaves. w times, but he or she does not usually do it, then please answer no. I you very much.	If you hav Please circ	seen your le yes <u>or</u> no	
If you point at someth (FOR EXAMPLE, if you it	ing across the room, does your child look at it? point at a toy or an animal, does your child look at the toy or animal?)	Yes	No -	
	red if your child might be deaf?	Yes	No 7	
Does your child play g from an empty cup, pre	oretend or make-believe? (For Example, pretend to drink stand to talk on a phone, or pretend to feed a doll or stuffed animal?)	Yes	(No)	
 Does your child like of equipment, or stairs) 	limbing on things? (For Example, furniture, playground	Yes	No	
	unusual finger movements near his or her eyes? our child wiggle his or her fingers close to his or her eyes?)	Yes	№	
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(FOR EXAMPLE, pointin	with one finger to show you something interesting? g to an airplane in the sky or a big truck in the road)	Yes	No	
 Is your child interester other children, smile at 	d in other children? (Fox Examples, does your child watch them, or go to them?)	Yes	No	
see – not to get help, b animal, or a toy truck)	you things by bringing them to you or holding them up for you to ut just to share? (For Example, showing you a flower, a stuffed	Yes	No	
 Does your child response took up, talk or babble. 	nd when you call his or her name? (For Example, does he or she or stop what he or she is doing when you call his or her name?)	Yes	(No)	
11. When you smile at you	ur child, does he or she smile back at you?	Yes	No	
12 Does your child get up child scream or cry to r	iset by everyday noises? (Fox EXAMPLE, does your iolse such as a vacuum cleaner or loud music?)	Yes	(No)	
13. Does your child walk?		(100)	No	
 Does your child look y or her, or dressing him 	ou in the eye when you are talking to him or her, playing with him or her?	Yes	(No)	
make a funny noise wh		Yes	(No)	
are looking at?	a look at samething, does your child look around to see what you	(PB)	No	
look at you for praise, o	get you to watch him or her? (Fort Example, does your child r say "look" or "watch me"?)	(Yes)	No	
(For Example, if you do on the chair or foring n		Yes	(No)	WANISAS
(For Example, if he or he or she look at your fi		Yes	No ?	CHAPTER American Academy of Pediatrics
20. Does your child like m (For Example, being s	overment activities? wung or bounced on your knee)	(Yes)	No	

Scoring of MCHAT-R

- For most items, YES is a typical response, and NO is an at-risk response. HOWEVER, Items 2, 5, and 12 are reverse scored, meaning that NO is a typical response and YES is an at-risk response. To score the M-CHAT-R, add up the number of at-risk responses, and follow the algorithm below:
- the algorithm below:

 Total Score 0-2: The score is LOW risk. No Follow-Up needed. Child has screened negative. Rescreen at 24 months if the child is younger than 2 years old (or after 3 months has elapsed), and refer as needed if developmental surveillance or other tools suggest risk for ASD.

 Total Score 3-7: The score is MODERATE risk. Administer the M-CHAT-R Follow-Up items that correspond to the at-risk responses. Only those items which were scored at risk need to be completed. If 2 or more items continue to be at-risk, refer the child immediately for (a) early intervention and (b) diagnostic evaluation.
- Total Score: 8-20: The score is HIGH risk. It is not necessary to complete the M-CHAT-R Follow-Up at this time. Bypass Follow-Up, and refer immediately for (a) early intervention and (b) diagnostic evaluation.

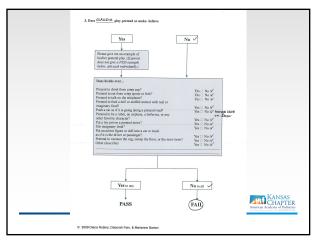


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M-CHAT-R Follow-Uptm Scoring Sheet Please note: Yes/No has been replaced with Pass/Fail 1. If you point at something across the room, does your child look at it? Pass Fail (FOR EXAMPLE. If you point at a toy or an animal, does your child look at the toy or animal?) 2 Have you ever wondered if your child might be deaf? 2 Have you ever wondered if your child might be deaf? 3 Does your child play prefend or make-believe? Allows your child prefered 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) Pass Fail Albesyour child like climbing on things? Toll you kun you'r bead to look at stringeling, does you'r child book around to see what you are looking at? Pass Fall 17 Dees you'r child by poet you to watch film on her? 18 Dees you'r child by poet you low tank him on her? 18 Dees you'r child book at you for praise, or say "look" or watch me? 18 Dees you'r child poet you'r child book at you for praise, or say "look" or watch me? 19 If something reve happiers, does you'r child look at your face to see how you feel about it? (FOREXAMPLE, if he or she hears a strange or furny) 20 Dees you'r child lise movement activities? 20 Dees you'r child lise movement activities? 21 Dees you'r child lise movement activities? 22 Dees you'r child lise movement activities? 23 Dees you'r child lise movement activities? 24 Dees you'r child lise movement activities? 25 Dees you'r child lise movement activities? 26 Dees you'r child lise movement activities? 26 Dees you'r child lise movement activities? 27 Dees you'r child lise movement activities? 28 Dees you'r child lise movement activities? 28 Dees you'r child lise movement activities? 29 Dees SEA Fall KANSAS CHAPTER







Case reports ■ What would you do next?

Summary/Take Home Points

- ASD is a common neurodevelopmental disability that significantly impacts the lives of youth and families.
- Autism and general developmental screening can be done in a primary care setting at a well child visit.
- Screening does not mean diagnosis.
- Early identification and intervention improves outcomes.



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Resources: AAP Policy

- Identifying infants and young children with developmental disorders in the medical home: an algorithm for developmental surveillance and screening https://publications.aap.org/pediatrics/article/118/1/405/69580/Identifying-Infants.aand-Young-Children-With
- Infants-and-Young-Children-With

 Identification, Evaluation, and Management of Children With Autism Spectrum
 Disorder https://pediatrics.aappublications.org/content/145/1/e20193447
- Executive Summary: Identification, Evaluation, and Management of Children With Autism Spectrum Disorder
 - https://pediatrics.aappublications.org/content/145/1/e20193448
- Promoting Optimal Development: Identifying Infants and Young Children With Developmental Disorders Through Developmental Surveillance and Screening https://pediatrics.aappublications.org/content/145/1/e20193449



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Resources: AAP Tools

- www.aap.org/autism
 - Caring for Children with Autism Spectrum Disorder: A Practical Resource Toolkit for Clinicians, 3rd Edition https://toolkits.solutions.aap.org/autism/home
 - Autism Spectrum Disorder: What Every Parent Needs to Know, 2nd Edition https://shop.aap.org/autism-spectrum-disorder-paperback
 - o HealthyChildren.org ASD articles for families/caregivers
- www.healthychildren.org/English/health-issues/conditions/Autism/Pages/default.aspx
- Bright Futures National Center https://brightfutures.aap.org/Pages/default.aspx
- National Resource Center for Patient/Family-Centered Medical Home https://medicalhomeinfo.aap.org/Pages/default.aspx
- Screening in Practices Initiative www.aap.org/en-us/advocacy-and-policy/aaphealth-initiatives/Screening/Pages/default.aspx



Resources: Other Organizations

- Family-to-Family Health Information Centers https://familyvoices.org/lfpp/f2fs
- Centers for Disease Control and Prevention
 - Autism and Developmental Disabilities Monitoring Network www.cdc.gov/ncbddd/autism/addm.html
 - o Learn the Signs. Act Early. www.cdc.gov/ncbddd/actearly/index.html
- Autism Treatment Network Toolkits https://airpnetwork.org/what-we-do/toolkits
- Title V Children and Youth with Special Health Care Needs Programs www.amchp.org/Policy-Advocacy/MCHAdvocacy/Pages/StateProfiles.aspx
- Association of University Centers on Disabilities www.aucd.org/template/index.cfm

