



The Modified Checklist for Autism in Toddlers – Revised/Follow-up (M-CHAT – R/F)

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www.mchatscreen.com

Learn the Signs.
Act Early.



[M-CHAT-R/F Overview

- Autism screening tool
- Introduced 2001; revised 2014
- Targeted age range: 16-20 months
- Parent report measure completed at well child check-ups
 - 18 and 24 months
- Questions drawn from social development milestones and DSM IV Criteria
- 10 minutes to complete; easy to score and maintain
- Failed items require follow-up questions either in person or by phone (approximately 15 minutes)
- 20 yes/no questions; available in 17 languages, fourth grade reading level; available online.
- No cost except for commercial users



Validation

- Psychometrics: M-CHAT
 - Standardization data:
 - 18,989 low risk toddlers (16-30 months); mean age: 20.7 mon.
 - 2 sites: Southern New England and Atlanta
 - Accuracy
 - Sensitivity: .97*
 - Specificity: .99*

Positive Predictive Power

	ASD	Any DSM V Disorder	Any developmental Disorder/concern
M-CHAT	.06	.09	.11
M-CHAT/F	.54	.89	.98

* estimates based on earlier study of 1293 toddlers



M-CHAT R/F Goals

- Avoid “yes” response bias
- Simplify language
- Provide more examples to reduce inaccurate responses
- Evaluate short form
- Evaluate need for follow-up



M-CHAT-R/F

- 16,115 low risk toddlers
- Mean age = 20.9 months
- Two sites: Atlanta and southern New England

	Sensitivity	Specificity	PPV (ASD)
M-CHAT-R	.911	.955	.138
M-CHAT-R/F	.854	.993	.475

PPV for any diagnosed disorder: .833

PPV for any delay or concern: .946



Comparison of M-CHAT/F and M-CHAT-R/F

	M-CHAT/F	M-CHAT-R/F	χ^2
Initial Screen Pos Rate	9.15%	7.17%	39.62**
Number of ASD cases per 10,000 detected by Screen + Follow-up	45	67	8.83*

* $p < .01$

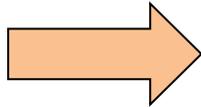
** $p < .001$

Mean age at Dx = 25.6 m (SD = 5.6 m)

Two years earlier than the national average.

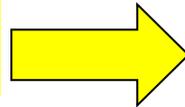
Recommended Algorithm

Total < 3

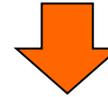


No follow-up needed unless surveillance suggests increased risk

Total 3-7

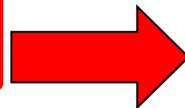


Administer M-CHAT-R follow-up Interview



Total score of 3+ on Interview: refer for diagnostic evaluation & early intervention

Total \geq 8



Bypass Interview & refer immediately for evaluation and intervention

Learn the Signs
Act Early.



M-CHAT-R/F

Please answer these questions about your child. Keep in mind how your child usually behaves. If you have seen your child do the behavior a few times, but he or she does not usually do it, then please answer **no**. Please circle **yes** or **no** for every question. Thank you very much.

1. If you point at something across the room, does your child look at it? Yes No
(**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? Yes No
3. 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
4. Does your child like climbing on things? Yes No
(**FOR EXAMPLE**, furniture, playground equipment, or stairs)
5. Does your child make unusual finger movements near his or her eyes? Yes No
(**FOR EXAMPLE**, does your child wiggle his or her fingers close to his or her eyes?)
6. Does your child point with one finger to ask for something or to get help? Yes No
(**FOR EXAMPLE**, pointing to a snack or toy that is out of reach)
7. Does your child point with one finger to show you something interesting? Yes No
(**FOR EXAMPLE**, pointing to an airplane in the sky or a big truck in the road)
8. Is your child interested in other children? (**FOR EXAMPLE**, does your child watch other children, smile at them, or go to them?) Yes No
9. 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? (**FOR EXAMPLE**, showing you a flower, a stuffed animal, or a toy truck) Yes No



M-CHAT-R/F

10. Does your child respond when you call his or her name? (**FOR 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?) Yes No
11. When you smile at your child, does he or she smile back at you? Yes No
12. Does your child get upset by everyday noises? (**FOR EXAMPLE**, does your child scream or cry to noise such as a vacuum cleaner or loud music?) Yes No
13. Does your child walk? Yes 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
15. Does your child try to copy what you do?
(**FOR EXAMPLE**, wave bye-bye, clap, or make a funny noise when you do) Yes 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
17. 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 something?
(**FOR EXAMPLE**, if you don’t point, can your child understand “put the book on the chair” or “bring me the blanket”?) Yes No
19. If something new happens, does your child look at your face to see how you feel about it?
(**FOR EXAMPLE**, if he or she hears a strange or funny noise, or sees a new toy, will he or she look at your face?) Yes No
20. Does your child like movement activities? (**FOR EXAMPLE**, being swung or bounced on your knee) Yes No



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References

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