

Training for Administration of the Screening Tool for Autism in Toddlers and Young Children (STAT) (Stone et al., 2000)

Patricia A. Prelock
Provost & Senior Vice President

Molly Bumpas, Speech-Language Pathologist,
Autism Assessment Clinic

University of Vermont



Test Protocol
ages 24 - 36 months



Why Pediatric Providers and the STAT?

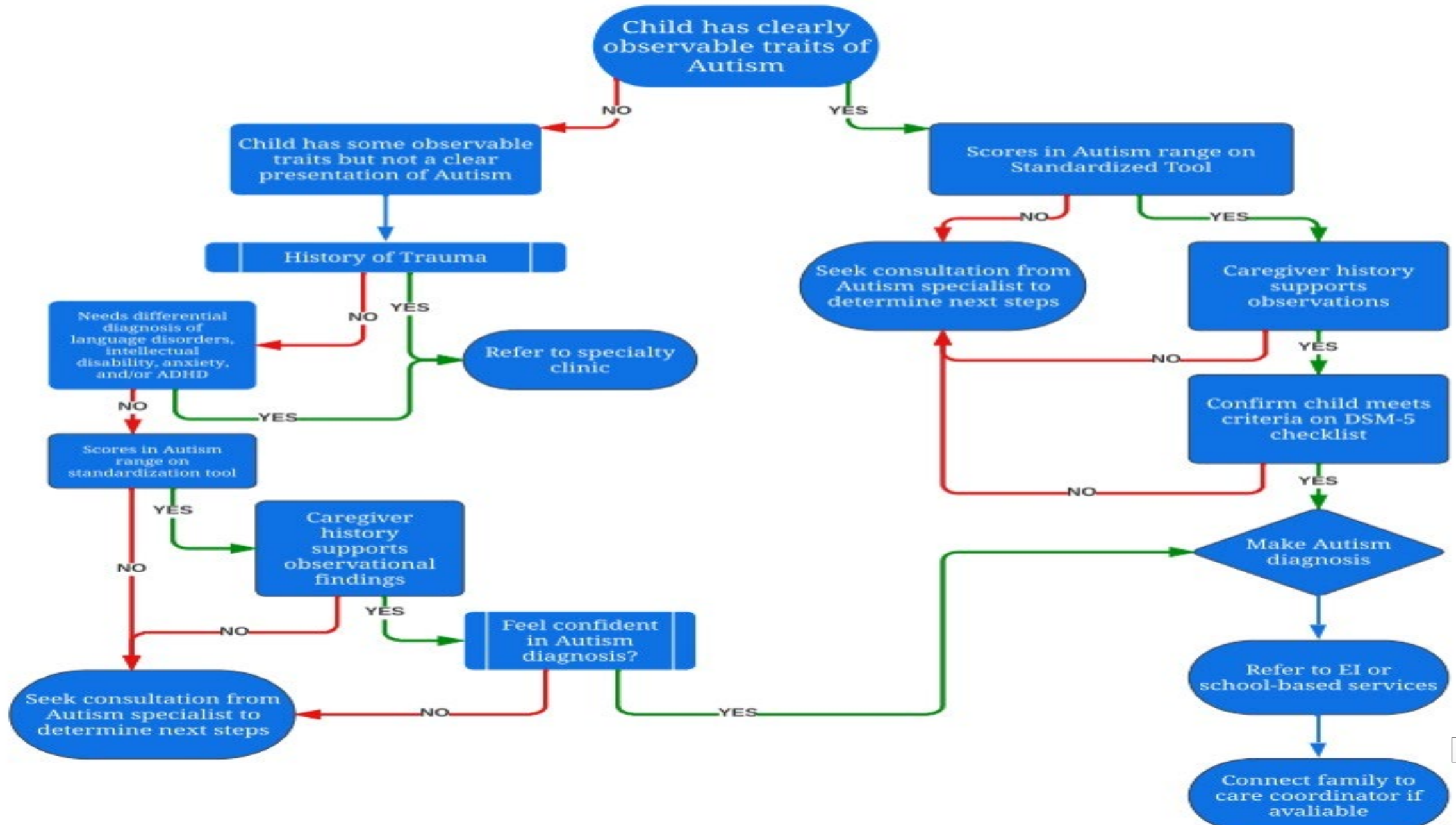
The STAT is a level 2 screening test that is interactive.

NOTE: Although the STAT suggests a final diagnosis must be made by a clinician specializing in ASD testing in toddlers through a comprehensive evaluation, we encourage providers to make a referral for services if you are confident in your assessment which is confirmed by your family interview and observations.



Pediatric ASD Diagnostic Flowchart

Refer to the checklist when making a diagnosis via flowchart



Description

- Designed for use with children between the ages of 24 and 36 months.
- Consists of 12 items tapping the dimensions of play, motor imitation, and communication, all organized into four sections: Play, Requesting, Directing Attention, and Imitation.
- **Development sample:** 1.0 sensitivity; .91 specificity
- **Validation sample:** .83 sensitivity; .86 specificity
- **Concurrent validity with the ADOS:** .95
- **Interobserver agreement:** 1.0
- **Test-retest reliability:** .90



Materials



Play Materials	Requesting Materials	Directing Attention Materials	Imitation Materials
1 – 5" ball 1 – 5" truck or car 1 – 5"-8" baby doll 1 – 5"-8" teddy bear 1 each – teacup, spoon, baby bottle (for doll) 1 each – table, chair, bed (for doll) 6 – 1" blocks	1 – jar soap bubbles 1 – 4"-5" clear plastic jar (with lid that can be screwed on tightly) Food treats for jar (e.g., Teddy Grahams, Fruit Loops, Cheerios, M&Ms, Goldfish crackers)	1 – small bag balloons 1 – animal puppet 1 – cloth bag 1 each – 12" sparkle wand, large rubber snake, fuzzy animal (for bag) 1 – small electronic noisemaker (with varying, unique sounds)	1 – rattle (with handle) 1 – small plastic dog (or other four-legged animal) 1 – 3" car or truck



Administration

01

Use the verbal instructions exactly as presented

02

Avoid providing prompts other than those described on the STAT test protocol.

03

Record child's responses in real time; write down what the child says and does.

04

Score immediately after each task

05

Have parent or caregiver present as an observer only, sitting behind the child

06

Credit responses directed towards the parent/caregiver; items should be repeated so child can interact with the examiner.



Scoring

Child's best performance should be used in determining item score.

A pass is better than a refusal; a refusal is better than a fail.

To be scored as a refuse, child must either say no or shake their head no.



Section 1: Play Items

Item 1: Turn Taking Play

Scoring:

Criteria for PASS: Rolls the ball or car back and forth for three consecutive turns.

Ball				Car (optional)			
Trial	Throws/Rolls Ball Back?		# turns	Trial	Rolls Car Back?		# turns
1	Yes	No		1	Yes	No	
2	Yes	No		2	Yes	No	
3	Yes	No		3	Yes	No	
4	Yes	No		4	Yes	No	
5	Yes	No		5	Yes	No	

Circle Item Score: PASS FAIL REFUSE

- Place all play materials on the floor, before child enters the room.
- Sit on the floor approximately 3-4 feet from child
- Get the child's attention by saying, "**look, (child's name), here's the ball!**"
- Roll the ball to the child, hold your hand out and say, "**Roll it back to me!**"
- If child fails on first trial, give up to 4 more trials with the ball, and up to 5 trials with the car.



Item 1: Turn Taking



Section 1: Play Item

Item 2: Doll Play

- Randomly place doll furniture & dishes near the child
- Hand the doll to the child & say: **“Look (child’s name), look at my doll!”**
- If the child takes the doll but does not engage in a functional play act, hold up the feeding and/or furniture items and say: **“Look at my other toys!”**
- **Do not label the objects or demonstrate any functional play acts**
- 5 trials allowed for doll & stuffed animal.

Scoring:

Criteria for PASS: Engages in a simple functional play act with the doll or animal.

Pass Examples:
Hugs or feeds doll/animal
Lays doll/animal in bed
Sits doll/animal in chair

Fail Examples:
Bangs or undresses doll/animal
Stirs spoon in cup

Doll Play		
Trial	Functional Play Act?	Action with Doll
1	Yes No	
2	Yes No	
3	Yes No	
4	Yes No	
5	Yes No	

Animal Play (optional)		
Trial	Functional Play Act?	Action with Animal
1	Yes No	
2	Yes No	
3	Yes No	
4	Yes No	
5	Yes No	

Circle Item Score: **PASS** **FAIL** **REFUSE**



Item 2: Doll Play



Section 2: Requesting

Item 3: Bubbles

Administration:

- Hold up the bubble jar and say, “**Look (child’s name), look what I have!**”
- Blow bubbles in the child’s view, being careful not to let them pop near the child’s face.
- If the child does not notice the bubbles, you may *verbally* direct their attention to them by saying, “**look!**”
- *****do not point to or label the bubbles**
- Put the wand back in the jar, screw the lid on tightly, hand the jar to the child and say “**now you do it!**” Or “**it’s your turn!**”
- Indicate whether the child requests on the scoring grid.
 - If *NO*, you may give up to two more trials.
 - If *YES*, check boxes that describe the child’s behavior
 - If a check is in a white box, move on to the next item.
 - If not, you may give up to two more trials.

Scoring:

Criteria for PASS: Requests help opening the jar or requests that you blow more bubbles by combining eye contact and a vocalization.

Pass Example:
Hands you the jar looks at you, and says “bu-bu”

Fail Examples:
Hands you the jar without eye contact
Says “bu-bu” without eye contact
Looks at you while trying to open the jar

	Trial 1		Trial 2		Trial 3	
Did child request?	Yes	No	Yes	No	Yes	No
	If yes, check behaviors:		If yes, check behaviors:		If yes, check behaviors:	
	No Eye Contact	Eye Contact	No Eye Contact	Eye Contact	No Eye Contact	Eye Contact
Verbal request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vocalization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Give object	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Point	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manipulate hand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None of the above	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Verbalizations/Vocalizations used:						

Circle Item Score: PASS FAIL REFUSE



Item 3: Bubbles



Scoring:

Criteria for PASS: Requests help opening the food jar or requests that you open the jar by combining eye contact and a vocalization.

Pass Example:

Hands you the jar, looks at you, and says "Op."

Fail Examples:

Hands you the jar without eye contact
Says Op without eye contact
Looks back and forth between you and the jar without vocalizing.

	Trial 1		Trial 2		Trial 3	
Did child request?	Yes	No	Yes	No	Yes	No
	If yes, check behaviors:		If yes, check behaviors:		If yes, check behaviors:	
	No Eye Contact	Eye Contact	No Eye Contact	Eye Contact	No Eye Contact	Eye Contact
Verbal request						
Vocalization						
Give object						
Point						
Manipulate hand						
None of the above						
Verbalizations/Vocalizations used:						

Circle Item Score: PASS FAIL REFUSE

Section 2: Requesting Item 4: Food

- Hold up jar containing food treats.
- Get the child's attention by shaking the jar and saying "**Look (child's name), look what I have!**"
- Hand the jar to the child and say: "**you can have some!**"
- If the child does not show interest in the jar, open it and give the child one food treat, then close the jar and repeat the trial.
- Indicate whether the child requests on the scoring grid.
 - If *NO*, you may give up to two more trials.
 - If *YES*, check boxes that describe the child's behavior
 - If a check is in a white box, move on to the next item.
 - If not, you may give up to two more trials.



Item 4: Food



Section 3: Directing Attention

Item 5: Balloon

- Hold up a deflated balloon and get the child's attention by saying "**look, (child name), look what I have!**"
- Blow up the balloon and hold it over your head
- Get the child's attention and say "**one, two, three...**" and release the balloon so it flies into the air.
- Do NOT make vocalizations or surprised expressions
- Indicate whether the child directs your attention to the balloon on the scoring grid.
 - If *NO*, give up to two more trials.
 - If *YES*, check the boxes that describe the child's behavior and move to the next item.

Scoring:

Criteria for PASS: Directs your attention to the balloon while (or after) it deflates.

Pass Examples:
 Looks back and forth between you and the balloon with a surprised facial expression
 Points at the balloon and looks at you

Fail Examples:
 Hands you the balloon
 Looks for the balloon
 Says "1, 2, 3"
 Holds the balloon up to your lips
 Looks at you and reaches for the balloon while you inflate it

	Trial 1		Trial 2		Trial 3	
Did child direct your attention?	Yes	No	Yes	No	Yes	No
	If yes, check behaviors:		If yes, check behaviors:		If yes, check behaviors:	
	No Eye Contact	Eye Contact	No Eye Contact	Eye Contact	No Eye Contact	Eye Contact
Social comment (e.g., Uh-oh, Wow)	?		?		?	
Question (e.g., Where is it?)	?		?		?	
Object label						
Vocalization						
Change in affect						
Point						
Show						
None of the above						
Verbalizations/Vocalizations used:						

Circle Item Score: **PASS** **FAIL** **REFUSE**



Section 3: Directing Attention - Item 6: Puppet

- Give only one trial for this item
- Place the puppet on your writing hand.
- Get child's attention by saying, "I've got some writing to do!" with the puppet on your hand.
- Maintain flat facial expression & avoid looking at the child as you write.**
- If no response, yawn & cover your mouth with puppet; scratch your head
- If no response, place puppet on the table.
- Indicate whether the child directs your attention to the puppet:
 - If *NO*, move on to the next item.
 - If *YES*, check the boxes that describe the child's behaviors, then move on to the next item.

Scoring:


Criteria for PASS: Directs your attention to the puppet.

<i>Pass Examples:</i> Looks at you and says, "Woof!" Looks back and forth between you and the puppet and laughs	<i>Fail Examples:</i> Hands the puppet to you Imitates writing with the puppet without looking at you Points to the puppet without looking at you Says "doggie" without looking at you
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Trial 1 (Only 1 trial permitted)

Did child direct your attention?	Yes	No
	If yes, check behaviors:	
	No Eye Contact	Eye Contact
Social comment (e.g., Uh-oh, Wow)	?	
Question (e.g., What is it?)	?	
Object label		
Vocalization		
Change in affect		
Point		
Show		
None of the above		
Verbalizations/Vocalizations used:		

Circle Item Score: PASS FAIL REFUSE



Item 6: Puppet



Section 3: Directing Attention

Item 7: Bag of Toys

- Hold up bag of toys & get child's attention: **"look (child's name), look what I have!"**
- Place bag in front of the child, hold it open, and say, **"look at my toys!"**
- If child doesn't remove any toys from the bag, pull one *partially* out so it is visible.
- If still no response, pull one toy *completely* out and place it in front of the child.
- Indicate whether the child directs your attention to the toy on the scoring grid
 - If *NO*, give up to two more trials.
 - If *YES*, check the boxes that describe the child's behaviors and move on to the next item.

Scoring:

Criteria for PASS: Directs your attention to any of the toys in the bag.

Pass Examples:
 Looks at you while holding up (showing) the wand
 Looks at the snake then looks at you and says "snake"

Fail Examples:
 Looks in the bag then looks at you
 Bangs wand
 Plays with toys
 Says "snake" while looking at snake

	Trial 1		Trial 2		Trial 3	
Did child direct your attention?	Yes	No	Yes	No	Yes	No
	If yes, check behaviors:		If yes, check behaviors:		If yes, check behaviors:	
	No Eye Contact	Eye Contact	No Eye Contact	Eye Contact	No Eye Contact	Eye Contact
Social comment (e.g., Uh-oh, Wow)	?		?		?	
Question (e.g., Where is it?)	?		?		?	
Object label						
Vocalization						
Change in affect						
Point						
Show						
None of the above						
Verbalizations/Vocalizations used:						

Circle Item Score: **PASS** **FAIL** **REFUSE**


Item 7: Bag of toys



Section 3: Directing Attention – Item 8: Noisemaker

- Give only one trial for this item**
- Administer when the child is engaged with a toy and not looking at you.
- Hold noisemaker out of sight and activate it for approx. 10s.
- Maintain a flat facial expression & avoid looking directly at the child.
- If no response, activate noisemaker again for two or three 5s. Bursts.
- Indicate whether the child directs your attention to the sound on the scoring grid.
 - If *NO*, move on to the next item.
 - If *YES*, check the boxes that describe the child's behavior

Scoring:		
<i>Criteria for PASS: Directs your attention to the sound.</i>		
<i>Pass Examples:</i>	<i>Fail Examples:</i>	
Points toward the sound and looks at you	Looks for the noisemaker	
Looks back and forth between you and the direction of the sound with a surprised facial expression	Activates the noisemaker and looks at you without a vocalization or change in affect.	
Looks at you and says, Uh-oh.		
Trial 1 (Only 1 trial permitted)		
Did child direct your attention?	Yes	No
	If yes, check behaviors:	
	No Eye Contact	Eye Contact
Social comment (e.g., Uh-oh, Wow)	?	
Question (e.g., What is it?)	?	
Object label		
Vocalization		
Change in affect		
Point		
Show		
None of the above		
Verbalizations/Vocalizations used:		
Circle Item Score:	PASS	FAIL REFUSE



Item 8: Noisemaker



Section 4: Imitation Items

Item 9: Shake Rattle

- Hold up the rattle and get child's attention by saying, "**look what I have!**"
- Shake rattle back and forth for 10s., saying "**bop, bop, bop**" in rhythm as you shake it.
- Hand the rattle to the child and say, "**you do it**" or "**your turn!**"
- If the child does not obtain a *Pass*, you may administer up to 2 more trials.
 - Verbal imitation not necessary for a pass.

Scoring:			
<i>Criteria for PASS: Shakes the rattle back and forth at least 2 times.</i>			
<i>Emerge Example:</i> Shakes the rattle one time without back and forth motion		<i>Fail Examples:</i> Throws rattle Looks at rattle Drops rattle	
Trial #	Score		
1	Pass	Emerge	Fail
2	Pass	Emerge	Fail
3	Pass	Emerge	Fail
Circle Item Score: PASS FAIL* REFUSE			

*Emerge is scored as Fail.



Item 9: Shake Rattle



Section 4: Imitation Item Item 10: Roll Car

- Hold up the car and get the child's attention by saying, "**look what I have!**"
- Starting at the child's left, roll the car back and forth for approx. 10s, saying "**whee-whee-whee**" as you roll it.
- Hand the car to the child and say, "**you do it**" or "**your turn!**"
- If the child does not obtain a *Pass*, you may administer up to 2 more trials.
 - Verbal imitation not necessary for a pass.

Scoring:

Criteria for PASS: Rolls the car back and forth across the table at least one time.

Emerge Example:

Rolls car in one direction only

Fail Examples:

Drops car on floor

Spins the car tires

Trial #	Score		
1	Pass	Emerge	Fail
2	Pass	Emerge	Fail
3	Pass	Emerge	Fail

Circle Item Score: **PASS** **FAIL*** **REFUSE**

*Emerge is scored as Fail.



Item 10: Roll Car



Section 4: Imitation Items – Item 11: Drum Hands

Scoring:

Criteria for PASS: Drums hands on table, alternating hands, and with each hand touching the table at least one time.

Emerge Examples:
Hits table with only one hand
Hits table with both hands at the same time

Fail Examples:
Claps hands
Leaves table

Trial #	Score		
1	Pass	Emerge	Fail
2	Pass	Emerge	Fail
3	Pass	Emerge	Fail

Circle Item Score: PASS FAIL* REFUSE

*Emerge is scored as Fail.

- Get the child’s attention by saying, “**look what I’m doing**”
- Drum your hands on the table slowly, alternating your left and right hands
- Continue for approx. 10s. Saying “**boom, boom, boom**” in rhythm as each hand hits the table.
- Point to the child and say, **you do it**” or “**your turn!**”
- If the child does not obtain a *Pass*, you may administer up to 2 more trials.
 - Verbal imitation not necessary for a pass.



Item 11: Drum Hands



Section 4: Imitation Items

Item 12: Hop Dog

Scoring:			
<i>Criteria for PASS: Hops dog so that it moves across the table and touches down on the table at least two times.</i>			
<i>Emerge Examples:</i> Slides dog across table Hops dog two times in place		<i>Fail Examples:</i> Throws dog Points to dog	
Trial #	Score		
1	Pass	Emerge	Fail
2	Pass	Emerge	Fail
3	Pass	Emerge	Fail
Circle Item Score:	PASS	FAIL*	REFUSE

*Emerge is scored as Fail.

- Hold up the dog and get the child's attention by saying, "**look what I have**"
- Starting at the child's left, hop the dog across the table for approx. 10s, saying "**beep-beep-beep**" in rhythm as you hop the dog.
- Hand the child the dog and say, "**you do it**" or "**your turn!**"
- If the child does not obtain a *Pass*, you may administer up to 2 more trials.
 - Verbal imitation not necessary for a pass.



Item 12: Hop Dog



SELECTED REFERENCES

Stone WL, Coonrod EE, & Ousley OY (2000). Brief report: screening tool for autism in two-year-olds (STAT): development and preliminary data. *Journal of Autism and Developmental Disorders*, 30(6), 607. 10.1023/a:1005647629002 [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)]

Stone WL, Coonrod EE, Turner LM, & Pozdol SL (2004). Psychometric properties of the STAT for early autism screening. *Journal of Autism and Developmental Disorders*, 34(6), 691–701. 10.1007/s10803-004-5289-8 [[PubMed](#)] [[CrossRef](#)] [[Google Scholar](#)]

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