

Manual of Administration
The Rapid Interactive Screening Test for Autism in Toddlers
(RITA-T)



**Manual developed by
Roula Choueiri, MD & RITA-T Team**

TABLE OF CONTENTS:

I.	Description of the RITA-T	Page 3
II.	List of Materials	Page 3
III.	RITA-T Administration	
	a. Press A: Blocking of Phone	Page 4
	b. Press B: Phone Tease	Page 5
	c. Press C: Blocked Vision	Page 6
	d. Press D: Magic Ball	Page 7
	e. Press E: Magic Scarf	Page 8
	f. Press F: Object vs. Face preference	Page 9
	g. Press G: Rapid Joint Attention	Page 10
	h. Press H: Reaction to Emotions	Page 11
	i. Press I: Mirror: Self Recognition	Page 12
IV.	Total Scoring	Page 13
V.	Appendix I RITA-T scoring sheet	Page 14

I. Description of the RITA-T:

The RITA-T includes nine semi-structured play-based presses that examine constructs that are delayed in children with Autism Spectrum Disorder (ASD). Each play-based press looks at the integration of 1 or 2 constructs, including: Joint Attention (JA), visual problem solving, Human Agency (HA), Social Awareness (SA), communication, and Self-Awareness (SA). Three items are also related to the developmental level of the child and coded C for cognition. Each press is coded and scored depending on the child's response: the lower the score, the more typical the response. A total score is then calculated by adding the 9 individual scores.

Based on current cut-off-score studies:

A score between 12 and 16 is a grey area or moderate risk.

A score above 16 is high risk and concerning for Autism Spectrum Disorder.

A score below 12 is low risk and most probably not associated with an autism spectrum disorder.

A child with a score between 12 and 16 will need to be further evaluated.

HOWEVER: this is only a screening test and a clinician specializing in testing of toddlers for Autism would need to make the final diagnosis through a comprehensive evaluation.

See Appendix 1 for a copy of the RITA-T scoring sheet.

This manual details the different presses, administration, and scoring.

II. List of materials included:

1. Red odorless, washable marker
2. Small Toy Phone
3. Magic Ball and Vase
4. Color-changing scarf
5. 6 Laminated pictures – 5 pictures of young children from different ethnicities and one picture of a railroad track (all in black and white)
6. Mirror (plastic)
7. Bag
8. RITA-T Scoring Sheets

III. Administration of the RITA-T:

At the very beginning of the test interaction, after you have already met the child and his or her family, and the child has played independently and warmed up, mark a red dot on the tip of the child's nose with the red washable, odorless marker included in the kit. This will be tested in the last item on the RITA-, however marking it early takes the child's attention off of it.

It is preferable that items are administered in order, especially A, B, C as they use the same toy, however items can be administered in a different order as well. It is preferable to have the red dot marking at the beginning and the mirror test at the very end of the test.

Child usually seated with caregiver behind him on his/her left. Let the caregiver know that he/she will have to pretend to cry and have a neutral face before you start so caregiver can be cued in when this is needed.

In the beginning, score directly items after you administer them. Take a habit of circling the N or Y for items then add their score.

A. Blocking of Toy Phone

Materials Needed: Small Toy Phone

Constructs measured: Social Awareness (SA) and awareness of Human Agency (HA). *This is a timed test. However, for ease of administration, we have not included a stopwatch but recommend counting for seconds.*

Administration:

Allow the child to explore the phone for few seconds. Then, while the child still holds the phone, the examiner quickly blocks it with his/her hand, covering the hands of the child. Count how long it takes the child to look to the examiner's eyes.

Maximum wait time: 10 seconds. **This trial should be done three times. Best score kept.**

The following criteria will be scored for this task:

The child's response of looking into eyes of examiner:

A-If the child looks at the examiner's eyes, then count the time it takes the child to do so.

B-Child abandons the phone and it is hard to get them interested in this activity.

Scoring:

The score will vary between 0 (best response: child looks at examiner's eyes between 0-5s) and 2 (no eye contact, or much delayed response, after 10 seconds). If the child abandons, score 1. Maximum scoring obtained here is 4.

When the child does not look at 10s or after, automatically a score of 2 for seconds is provided,

Take the best score of the 3 presses.

Rationale:

A typically-developing child will look to the examiner's face and eyes for help and to understand why the phone is being blocked. A child with ASD or risk of ASD will look at the hand blocking the toy instead of the face, will give up, or will look at the face/eyes of the blocking person but after a prolonged period.

A. Blocking of Phone: 3 times- T Take best score.

SA, HA

- | | | |
|--|------------------------------------|-------|
| 1. Looks at examiner's eyes: | Y (0) | N (1) |
| 2. Latency to look at examiner's eyes: | 0-5s = (0); 6-10s = (1); >10s= (2) | |
| 3. Abandonment (gives up): | Y (1) | N (0) |

(0-4)



B. Phone Tease

Materials Needed: Toy Phone

Constructs Measured: Social Awareness (SA) and Joint Attention (JA).

Administration:

Present the child with the phone but do not let the child take it – the examiner should continue holding it even when presenting. Time your removal to coincide with child's reach toward the toy. Present the toy to the child close-up and then pull it back to the side so that you can tell if the child looks at your eyes or the phone. Observe the child's reaction. Repeat this task 3 times and you can combine all trials for this one. See below.

The following criteria will be scored in this section:

Does the child look immediately to the examiner's face and/or to the caregiver's face?

Scoring:

The score varies between 0 (best response: such as the child looks to both caregiver and examiner even if at two separate teases) and 3 (no response joint attention to either caregiver or examiner).

Rationale:

A typically-developing child would directly look at the examiner's face and eyes when teased. A child with an ASD or risk of ASD is more likely to look only at the hand holding the toy, or give up.

B. Phone Tease: 3 times.

JA

- | | | |
|-------------------------------|-------|-------|
| 1. Looks at examiner's eyes: | Y (0) | N (1) |
| 2. Looks at caregiver's eyes: | Y (0) | N (1) |
| 3. Looks at both: | Y (0) | N (1) |

(0-3)



C. Blocked Vision

Materials Needed: Small Phone toy, opaque screen

Constructs Measured: Human Agency (HA), Joint Attention (JA). *This is a timed test.*

Administration:

Allow the child to explore the toy phone for few seconds. While the child continues to explore it, move behind him/her and block the phone with the non-picture side of one of the pictures, between the toy and the child, approximately 3-5 inches in front of the child's eyes. Count how long it takes the child to look back at the examiner's eyes. Maximum wait time: 10 seconds.

The following criteria will be scored in this section:

The child's response: Does the child look up at the examiner and, if so, how long does it take him/her to look?

Scoring:

The score varies between 0 (best response: child looks at examiner between 0-5s) and 3 (child does not look after 10s of wait time). When child does not look back at examiner within 10 s, he/she automatically receives a 2 for timing and 1 for N.

Rationale:

A typically developing child will look at the person blocking them from a toy they are playing with whereas a child with ASD, or a very young one, or at risk for an ASD will continue looking at the phone, and will not look at the person blocking.

C. Blocked Vision: 1 time T

JA, HA

- | | |
|------------------------------|-------------------------------------|
| 1. Looks at examiner's eyes: | Y (0) N (1) |
| 2. Latency to look: | 0-5s = (0); 6-10s = (1); >10s = (2) |

(0-3)



D. Magic Ball

Materials Needed: Magic Ball and Vase

Constructs Measured: Visual problem solving (C) – that is a developmental /cognitive function; Joint Attention (JA) – this is a social awareness function.

Administration:

An object is shown to the child (the small ball in the “magic” cup), and then the examiner makes the ball disappear quickly and reappear. **Repeat this press 3 times.** Observe the child’s reaction. Try to position this between you and the child so that the child can see it. Try to close and open for the ball to appear/disappear not too slow and not too fast. Practice!

The following criteria will be scored in this section:

The child’s response: whether the child is surprised at the disappearance of the magic ball, searches for the ball, and makes eye contact with the examiner or the caregiver to share surprise or enjoyment. **Please note that surprise can be very subtle: a change in facial expressions, a vocalization, eyebrows lifting etc....**

Scoring:

This press scores separately 0 (for present) or 1 (for absent) each for surprise, searching for the ball, and making eye contact with caregiver **or** examiner. Total score varies between 0 to 3 with 0 being best responses of surprise, looking for the object and making joint attention with caregiver or examiner.

Rationale:

A typically developing child will search for the ball, be amused by its disappearance, and will look at the examiner or caregiver. A child with an ASD or risk of ASD will keep looking at the empty cup, look for the ball, give up, or will not look at the examiner.

D. Magic Ball: 3 times (Object Constancy)

C. JA

- | | | |
|--|-------|-------|
| 1. Reaction (surprise): | Y (0) | N (1) |
| 2. Seeking object: | Y (0) | N (1) |
| 3. Joint attention to caregiver or examiner: | Y (0) | N (1) |

(0-3)



E. Color Constancy: (Scarf)

Materials Needed: Color Changing Scarf

Constructs measured: Ability to recognize change, a cognitive/developmental construct (C), and Joint Attention/shared surprise (JA).

Administration:

The examiner will hold the color changing scarf in front of the child for 4 seconds and then change the colors quickly, but not too quickly. Make sure the child notices the colors changing. **Repeat the task three times.**

The following criteria will be scored for this task:

The child's response: The child acts with surprise (judging by vocalizations and facial expressions); the child looks immediately to the caregiver's and/or the examiner's face to share surprise and enjoyment after each one of the changing colors actions. Each item is scored between 0 for reaction present and 1 for absent reaction. A total score for this press varies between 0 (best response: such as the child expressed surprise, and *immediately* shows joint attention to caregiver and examiner) to 4 (no surprise, delayed joint attention or absent joint attention to caregiver and or examiner).

Rationale:

A typically developing child will exhibit vocalizations of surprise, and/or facial expression of surprise, then immediate joint attention to his/her caregiver or the examiner. A child with an ASD, or at risk for ASD, may be indifferent to the change, will notice the change and not react, will smile but without joint attention, or will look at the caregiver or examiner's faces after a latency time.

E. Magic Scarf: 3 times (Color Constancy)

C, JA

- | | | |
|--|-------|-------|
| 1. Reaction (surprise): | Y (0) | N (1) |
| 2. Joint attention to caregiver (immediate): | Y (0) | N (1) |
| 3. Joint attention to examiner (immediate): | Y (0) | N (1) |
| 4. Joint attention to both (simultaneously): | Y (0) | N (1) |

(0-4)



F. Preference Objects vs. Faces

Materials Needed: Pictures of the face of a baby and of the rails of a train. We have added pictures of faces to be representative of all children. You can select the most appropriate one.

Constructs Measured: Social awareness (SA) and preference for object vs. face. *This is a timed test.*

Administration:

Examiner holds each picture up in each hand. **The train rails on the examiner's RIGHT.** The examiner will show pictures to the child and will allow 10 seconds for the child to look at them. Observe whether the child intentionally turns reaches to one or the other. Examiner says: "do you want this or this?".

The following criteria will be scored for this task:

The child's response: preference for one picture over the other will be determined by the child intentionally pointing, reaching, or taking one of the pictures.

Scoring:

Score varies between 0 (preference for face) to 2 (preference of train); no interest in either picture or equivalent interest in both pictures will be scored as 1.

Rationale:

A typically developing child maybe briefly interested by the train picture but will also be interested in the picture of a baby, or will look at both pictures either equally or preferentially to the baby's picture. A child with ASD or at risk for an ASD, may be very briefly interested in the baby but more interested in the picture of the train, or it will be difficult to get him/her interested in either.

F. Object vs. Face: Train tracks picture on examiner's right and face picture on left

SA

Preference for:

Face	Y (0)
Object	Y (2)
No preference	Y (1)

(0-2)



G. Response to Rapid Joint Attention

Materials Needed: None: ceiling fan or lamp

Construct Measured: Rapid Joint Attention (JA)

Administration:

The examiner positions him/herself at ear level with the child. Then, the examiner calls the child's name and points suddenly at the light at the ceiling saying: "X, look!" Examiner can do this twice if no response is obtained after initial try. Note the child's response and looking at where the examiner is pointing.

The following criteria will be scored for this task:

The child's response: Does he/she follow the observer's point to the light? Scoring varies between 0 (best response: child looks at the light, same direction of point) to 1 (the child does not follow point to light)

Rationale:

A typically developing child will follow a point and will show joint attention. A child with an ASD, or at risk for an ASD, will not respond to name or to following a point.

G. Rapid Joint Attention: 2 times. Call name and point to overhead light.

JA

1. Child looks same direction:

Y (0) N (1)

(0-1)



H. Reaction to Caregiver's Emotions (Sad/Neutral)

Materials Needed: Participation of caregiver

Constructs measured: Social Awareness (SA); communication. *This is a timed test.*

Administration:

The caregiver will be asked to pretend to cry for 10 seconds (count for time). Observe the child for: looking towards caregiver, interest (sustained looking), distress (or a degree of concern), and/or coming closer to the caregiver (proximity seeking). Make sure the examiner directs the attention to the caregiver and not the caregiver calling the child for the sad administration. You can let the caregiver know at the beginning of the session that they will be asked to do this and then cue the caregiver when it is time for this.

After the reaction to emotions sad, have the child settle back into his seat to complete Item I (mirror).

Then ask the caregiver to call the patient one time, to look away and to have a neutral face, a face without emotions. The examiner can also call the child and direct their attention to the caregiver. Wait for 10 s for this item before scoring reactions of child: looking (even if answering to name gets that credit, interest: sustained looking, proximity seeking and concern/distress)

The following criteria will be scored for this task (separately for sad and neutral).

Looking, interest, proximity seeking, and distress/concern will be scored each with 0 (best response) to 1 (absent response); the child will have a score of 0-4 for each and a total score of 0-8 combining both presses.

Rationale:

A typically developing child will attempt to look and be interested, then will appear distressed/cry, and/or will express concern, getting closer to the sad caregiver to comfort. A typically developing child will also be distressed by a neutral face and by a sad face. A child with an ASD, or at risk for ASD, may avoid looking at the caregiver; may make eye contact for a short period, or will act indifferently to the emotion.

H. Reaction to emotions - Caregiver's participation T

SA

A. Sad (Pretend to cry):

- | | | |
|--|-------|-------|
| 1. Proximity seeking: | Y (0) | N (1) |
| 2. Looking (child looks at caregiver): | Y (0) | N (1) |
| 3. Distress (concern): | Y (0) | N (1) |
| 4. Interest (sustained looking): | Y (0) | N (1) |

(0-4)

B. Neutral (No emotion): Caregiver calls child's name once at beginning and disengages. Examiner can direct child to caregiver once. *If child distressed and clearly moves to caregiver in A, administer item "I" between items A and B to have the child go back to the table for item I. Then administer item B.

- | | | |
|--|-------|-------|
| 1. Proximity seeking: | Y (0) | N (1) |
| 2. Looking (child looks at caregiver): | Y (0) | N (1) |
| 3. Distress (concern): | Y (0) | N (1) |
| 4. Interest (sustained looking): | Y (0) | N (1) |

(0-4)



I. Mirror: Self-Recognition

Materials Needed: Mirror (red dot should already be on the tip of the child's nose).

Construct Measured: Self-awareness (SA). This is a developmental measure (C). *This press is the last. This is a timed test.*

Administration:

Sometime after the child is comfortable and warmed up, you can make a round red mark on the tip of the child's nose, using the nontoxic, non-permanent, odorless marker available in the kit. This needs to be done before this current press. During this press, the examiner presents the child with a mirror, and observes the child's reaction to the reflected image: observe if the child enjoys looking at him/herself in the mirror, and/or will notice the mark on his/her nose.

The following criteria will be scored for this task:

The child's recognition of him/herself in the mirror and if the child tries to take off the red mark on his/her nose. A score of 0 or 1 is given for each of those reactions with 0 being the reaction is present. Total score varies between 0 (child looks at him/herself in mirror and tries to take off the red dot within 10s) and 2 (child does not look at mirror, does not recognize self, and does not try to take off the red dot within 10s).

Rationale:

A typically developing child will be interested in his/her image, will recognize the mark, and will try to touch it and erase it, given that cognitive age is 19 months equivalent or above, as this is the age when children recognize irregularities on their faces. A child with an ASD, or at risk for an ASD, and/or with developmental delays may not look at the mirror, or may look but not recognize the red mark.

I. Mirror: Self-Recognition - T

C, SA

- | | | |
|---|-------|-------|
| 1. Child looks at mirror and self: | Y (0) | N (1) |
| 2. Child recognizes dot AND tries to take it off: | Y (0) | N (1) |

(0-2)



TOTAL SCORE

The scores of each press are then summed and a total score for the RITA-T is calculated. Total score varies between 0 and 30 with the maximum high score is 30.

TOTAL SCORE

(0-30)

Behavioral Observations:

A “Behavioral Observations” additional item can be completed during this testing: Each one of those items can be scored from 0 (none) to 2 (frequently observed) with 1 being sometimes observed. This is more qualitative. For example, note if you observed repetitive behaviors, sensory seeking behaviors, visual stimming behaviors and/or if it was hard for you to direct the child’s attention.

The following observations are noted during the evaluation. These are qualitative observations made during testing.

Hyperactivity	Sensory seeking behaviors	Repetitive Behaviors	Difficult to get attention	Other

RITA-T (Rapid Interactive Screening Test for Autism in Toddlers) Scoring Sheet

Child's name: _____ DOB: _____ DOV: _____ Examiner: _____

At the beginning of the test, or when the child has warmed up to you, mark the child's nose with a circular red dot with the removable hypoallergenic marker provided in the kit. Do this before item "I. Items can be administered in any order; however, A,B, and C must follow.

JA=Joint Attention; SA=Social Awareness; HA= Human Agency; C= Cognition; T= Timed- always timed for 10 seconds.

A. Blocking of Phone: 3 times-T Take best score. SA, HA

- | | | | |
|--|-------------------------------------|-------|-------|
| 1. Looks at examiner's eyes: | Y (0) | N (1) | |
| 2. Latency to look at examiner's eyes: | 0-5s = (0); 6-10s = (1); >10s = (2) | | |
| 4. Abandonment (gives up): | Y (1) | N (0) | (0-4) |

B. Phone Tease: 3 times. JA

- | | | | |
|-------------------------------|-------|-------|-------|
| 1. Looks at examiner's eyes: | Y (0) | N (1) | |
| 2. Looks at caregiver's eyes: | Y (0) | N (1) | |
| 3. Looks at both: | Y (0) | N (1) | (0-3) |

C. Blocked Vision: 1 time T JA, HA

- | | | | |
|------------------------------|-------------------------------------|-------|-------|
| 3. Looks at examiner's eyes: | Y (0) | N (1) | |
| 4. Latency to look: | 0-5s = (0); 6-10s = (1); >10s = (2) | | (0-3) |

D. Magic Ball: 3 times (Object Constancy) C, JA

- | | | | |
|--|-------|-------|-------|
| 4. Reaction (surprise): | Y (0) | N (1) | |
| 5. Seeking object: | Y (0) | N (1) | |
| 6. Joint attention to caregiver or examiner: | Y (0) | N (1) | (0-3) |

E. Magic Scarf: 3 times (Color Constancy) C, JA

- | | | | |
|--|-------|-------|-------|
| 5. Reaction (surprise): | Y (0) | N (1) | |
| 6. Joint attention to caregiver (immediate): | Y (0) | N (1) | |
| 7. Joint attention to examiner (immediate): | Y (0) | N (1) | |
| 8. Joint attention to both (simultaneously): | Y (0) | N (1) | (0-4) |

F. Object vs. Face: Train tracks picture on examiner's right and face picture on left T SA

Preference for:

- | | | | |
|---------------|-------|--|-------|
| Face | Y (0) | | |
| Object | Y (2) | | |
| No preference | Y (1) | | (0-2) |

G. Rapid Joint Attention: 2 times. Call name and point to overhead light. JA

- | | | | |
|--------------------------------|-------|-------|-------|
| 2. Child looks same direction: | Y (0) | N (1) | |
| | | | (0-1) |

H. Reaction to emotions - Caregiver's participation T SA

A. Sad (Pretend to cry):

- | | | | |
|--|-------|-------|-------|
| 5. Proximity seeking: | Y (0) | N (1) | |
| 6. Looking (child looks at caregiver): | Y (0) | N (1) | |
| 7. Distress (concern): | Y (0) | N (1) | |
| 8. Interest (sustained looking): | Y (0) | N (1) | (0-4) |

B. Neutral (No emotion): Caregiver calls child's name once at beginning and disengages. Examiner can direct child to caregiver once. *If child distressed and clearly moves to caregiver in A, administer item "I" between items A and B to have the child go back to the table for item I. Then administer item B.

- | | | | |
|--|-------|-------|-------|
| 5. Proximity seeking: | Y (0) | N (1) | |
| 6. Looking (child looks at caregiver): | Y (0) | N (1) | |
| 7. Distress (concern): | Y (0) | N (1) | |
| 8. Interest (sustained looking): | Y (0) | N (1) | (0-4) |

I. Mirror: Self-Recognition - T C, SA

- | | | | |
|---|-------|-------|-------|
| 1. Child looks at mirror and self: | Y (0) | N (1) | |
| 2. Child recognizes dot AND tries to take it off: | Y (0) | N (1) | (0-2) |

TOTAL SCORE

(0-30)

Hyperactivity	Sensory Seeking Behaviors	Repetitive Behaviors	Difficulty to get attention	Other

RITA-T scores: Low risk <12; Medium risk/grey area: 12-16; High risk for ASD >16.
Always use clinical judgement and impressions in final referral.