Rapid Interactive Screening Test for Autism in Toddlers (RITA-T) (Choueiri et al., 2021)

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Why Pediatric Providers and the RITA-T?

- Reliable in 18-36 months olds

- Easy to learn; 5-10 minutes to administer and score

- Can be administered after a positive Level 1 test to identify those with real ASD risk

- Toddlers with high risk of ASD would not be delayed for diagnostic confirmation

- Training for reliable administration and scoring of the RITA-T is 3 hours

- Correlates well with established diagnostic measures of ASD

- Fits well into busy practice flow

(Boston Children's Hospital, n.d.).

Why Pediatric Providers and the RITA-T?

- The RITA-T is a level 2 screening test that is interactive. Although the RITA-T 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.
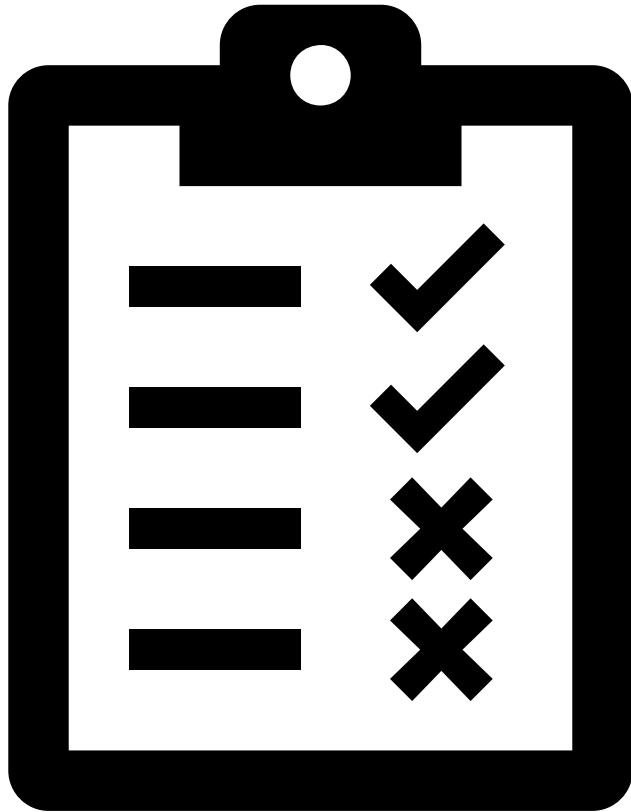
Pediatric ASD Diagnostic Flowchart

Refer to the checklist when making a diagnois via flowchart
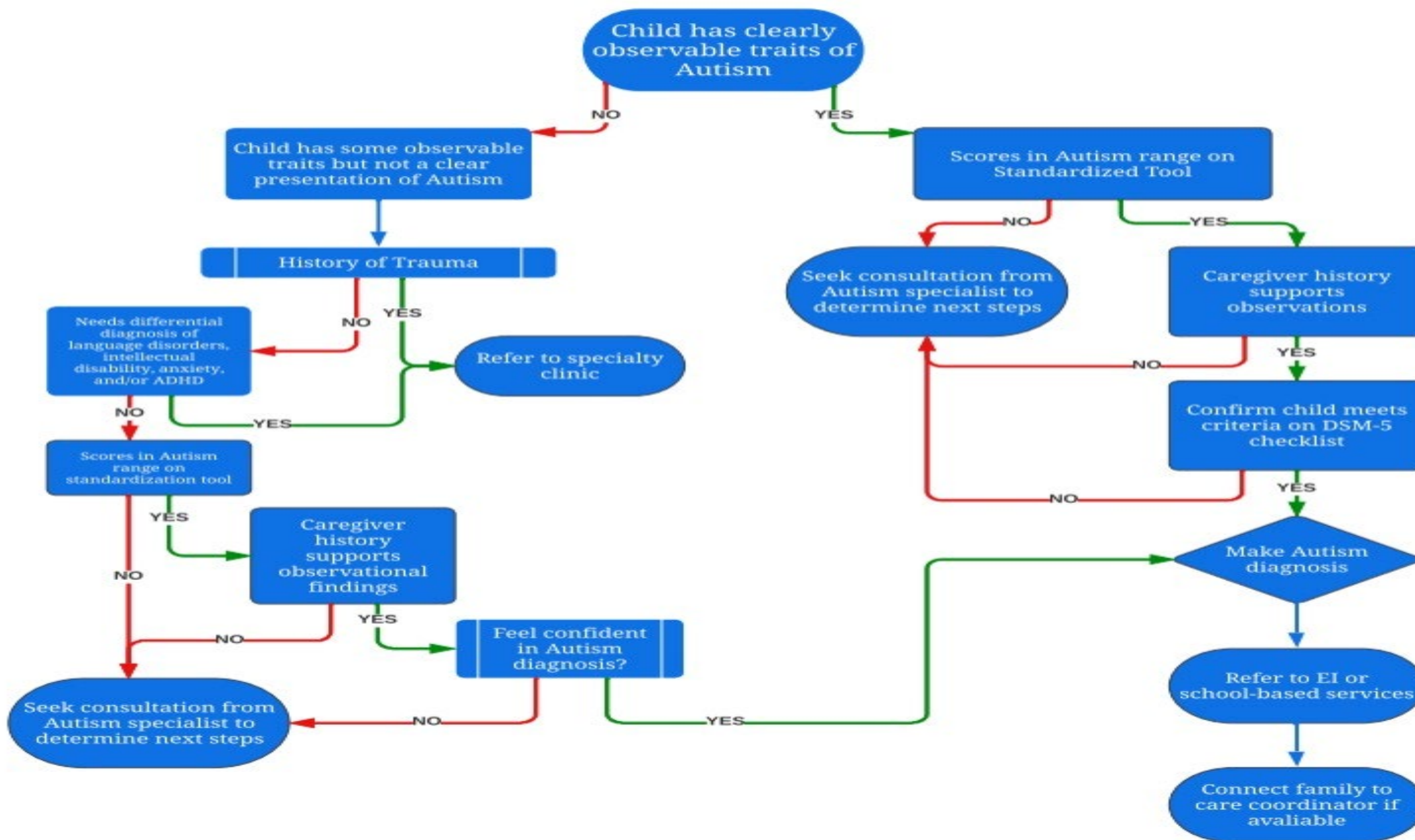
Description

- **RITA-T**: Level 2 interactive screening test
- **Nine semi-structured play-based presses** that examine constructs that are likely delayed in children with Autism
- **Constructs include:**
  - Joint Attention (JA),
  - visual problem solving,
  - Human Agency (HA),
  - Social Awareness (SA),
  - communication,
  - Self-Awareness (S-A).
  - Three items are also related to developmental level and are coded C for cognition.

  - **Sensitivity:** 1.00
  - **Specificity:** 0.84

Materials

- Red odorless, washable marker

- Small toy phone

- Magic ball and vase

- Color changing scarf

- Six laminated pictures (5 pictures of young children of different ethnicities and one picture of a railroad track all in black and white)

- Plastic mirror

- Bag

- RITA-T scoring sheets

Administration

Let the child warm up to you and briefly play independently.

Before administering any parts of the exam, mark a dot on the child's nose with the red marker.

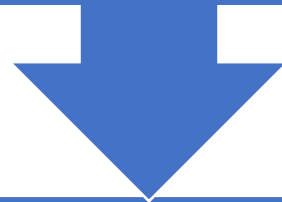Preferable that the items are administered in order, especially A, B, and C, and have the mirror test at the end.

The child is usually seated with the caregiver behind them on their left.

Score items directly after you administer them.

Scoring

Each item is scored depending on the child's response. ***The lower the score, the more typical the response.***

Based on current cut-off score studies:

| >16 is high risk/concerning for Autism Spectrum Disorder | 12-16 is grey area/moderate risk. Needs further evaluation. | <12 is low risk/ likely not associated with Autism Spectrum Disorder. |

A. Blocking of Toy Phone

Timed; maximum wait time of 10 seconds.

- Allow child to explore phone.
- While child is holding the phone, examiner blocks it with their hands
- Count seconds for child to look at the examiner's eyes.
- ***Repeat 3 times. Keep best score***

Scoring: (0-4)

- 1. Looks at examiner's eyes Y(0) N(1)
- 2. Latency to look at examiner's eyes
  - 0- child looks in examiners eyes within 0-5s.
  - 1- looks at examiner 6-10s
  - 2- looks >10s
- 3. Abandonment Y(1) N(0)
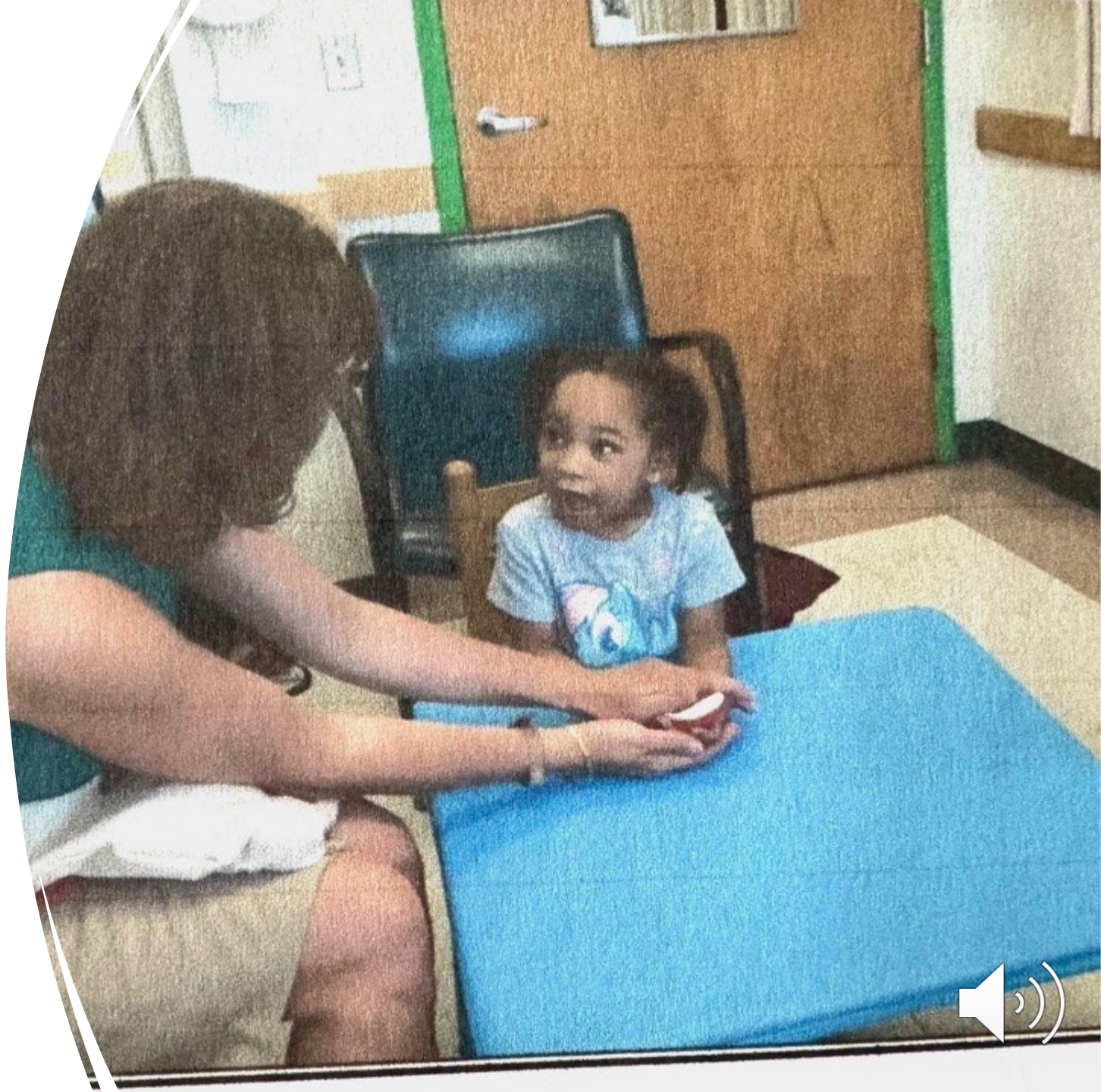
A. Blocking of Toy Phone

B. Phone Tease

- Present child with phone but do not let them take it.
- Present the toy closeup, then pull it back to the side so you can tell if the child looks at your eyes or the phone.
- ***Repeated 3 times***
- Scoring: (0-3)
  - 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)

B: Phone Tease

C. Blocked Vision

- Allow child to explore toy for a few seconds.
- While child explores toy, move behind them and block the phone with the non-picture side of one of the pictures
- Count seconds for child to look back at the examiner (Max 10s).

Scoring: (0-3)

- 1. Looks at examiner's eyes Y(0) N(1)
- 2. Latency to look
  - 0- child looks in examiners eyes within 0-5s.
  - 1- looks at examiner 6-10s
  - 2- looks >10s
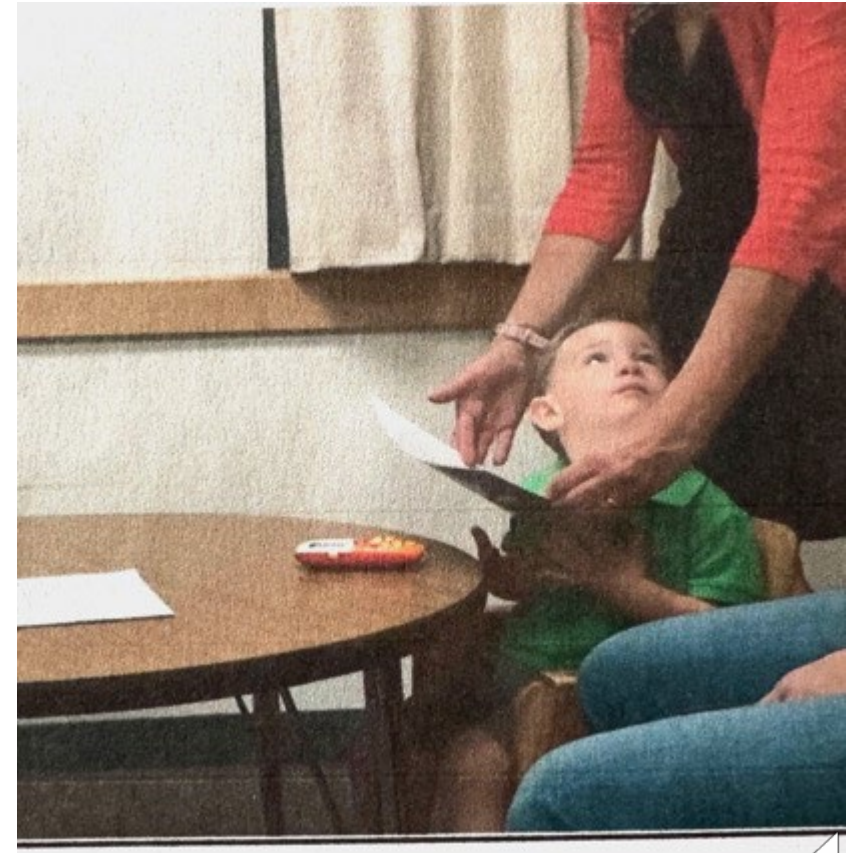
C: Blocked Vision

D. Magic Ball

- Small ball in magic cup shown to the child
- Examiner makes the ball quickly disappear
- Observe child's reaction.
- ***Item repeated 3 times.***

- Scoring: (0-3) ***Note: surprise can be very subtle...change in facial expression, vocalization, eyebrow lifting, clap, etc.***
  - 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)

D: Magic Ball

E. Color Constancy: Scarf

- Examiner holds the scarf in front of the child for 4 seconds
- Changes colors quickly
- *Repeated 3 times.*
- Scoring: (0-4)
  - 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)

F. Preference Objects vs. Faces

- Examiner holds one picture in each hand, **train rails on examiner's RIGHT.**
- Allow 10s for the child to look
- Observe whether child intentionally turns/reaches for one.
- Examiner asks, "do you want this or this?".
- Scoring: (0-2)
  - Preference for:
    - Face Y(0)
    - Object Y(2)
    - No preference Y(1)
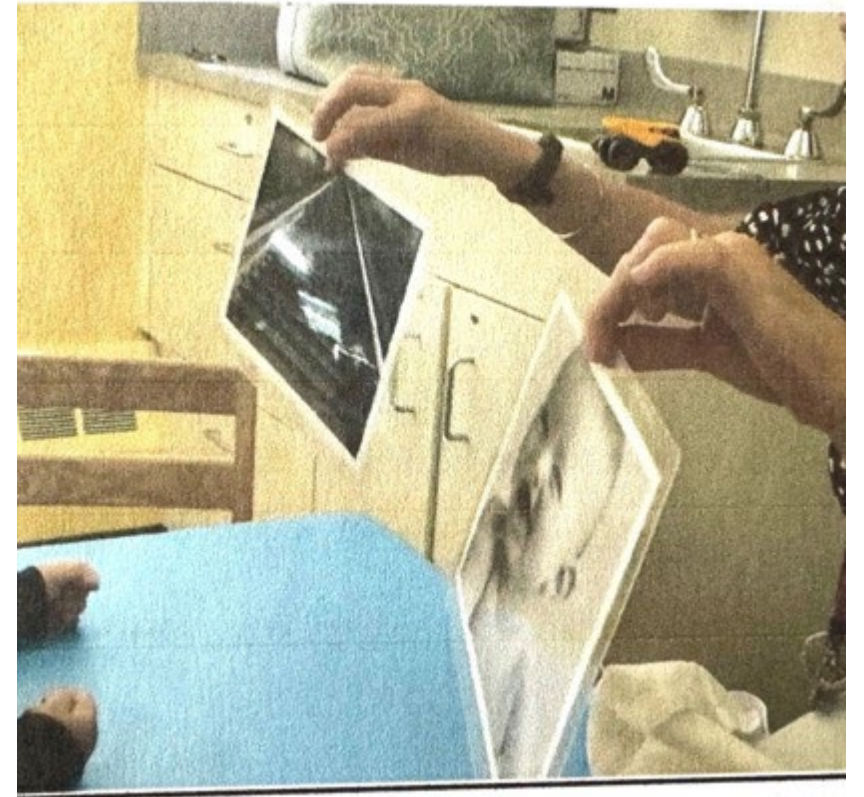
F: Preference Objects vs. Faces

G. Response to Rapid Joint Attention

- Examiner positions themselves at ear level with child.
- Call child's name & point suddenly at the light saying "X, look!"
- Note child's response & looking at where the examiner is pointing.
- *This trial may be repeated if no response is obtained after the first try*
- Scoring: (0-1)
  - 1. Child looks same direction Y(0) N(1)

G: Response to Rapid Joint Attention

H. Reaction to Caregiver's Emotions (Sad/Neutral) Part 1

- Caregiver asked to pretend to cry for 10s. (Count for time)
- Observe child: looking towards caregiver, interest (sustained looking), distress/degree of concern, and/or coming closer to caregiver.
- Examiner directs attention to the caregiver, NOT the caregiver calling the child.

- Scoring: Part 1 (0-4)
    - A. Sad (pretend to cry).
        - 1. Proximity seeking Y(0) N(1)
        - 2. Looking (child looks to caregiver) Y(0) N(1)
        - 3. Distress/concern Y(0) N(1)
        - 4. Interest (sustained looking) Y(0) N(1)

H: Reaction to Caregiver's Emotion/Sad

Reaction to Caregiver's Emotions (Sad/Neutral) Part 2

This is the second part, or part B, of exam H.

- Ask the caregiver to call the child one time, look away, and have a neutral face.
- Wait for 10s. Before scoring reaction of child.

Scoring:

- B. Neutral (no emotion)
  - 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)

H: Reaction to Caregiver's Emotion/Neutral

I. Mirror: Self-Recognition

- Examiner presents a mirror to the child and observes their reaction.
- Observe if the child enjoys looking at themselves in the mirror and/or will notice the mark on their nose.
- Scoring: (0-2)
  - 1. Child looks at the mirror and self Y(0) N(1)
  - 2. Child recognizes dot AND tries to take it off Y(0) N(1)

I: Mirror: Self-Recognition

Behavioral Observations

Qualitative observations can be made and scored from 0 (none) to 2 (frequently observed) with 1 being sometimes observed.

The categories are:

Hyperactivity	Sensory seeking behaviors	Repetitive behaviors	Difficult to get attention	Other

Selected References

Boston Children's Hospital. (n.d.). *RITA-T (rapid interactive screening test for autism in toddlers).* https://www.childrenshospital.org/research/labs/rita-t-research/about-test

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Choueiri R, Wagner S. A new interactive screening test for autism Spectrum disorders in toddlers. J Pediatr. 2015;167(2):460–466. doi:10.1016/j.jpeds.2015.05.029

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Choueiri R, Garrison W, Tokatli V, Ravi M, Prashad E. Screening for autism with the telehealth Rapid Interactive Screening Test for Autism in Toddlers (RITA-T). Pas-meeting.org. Published 2021. Accessed April 26, 2023. https://virtual2021.pas-meeting.org/ 2021/PAS/fsPopup.asp?efp=WldIRlFRV1gxNDAzOA&PosterID=367603&rnd=0.8299802&mode=posterinfo.

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