

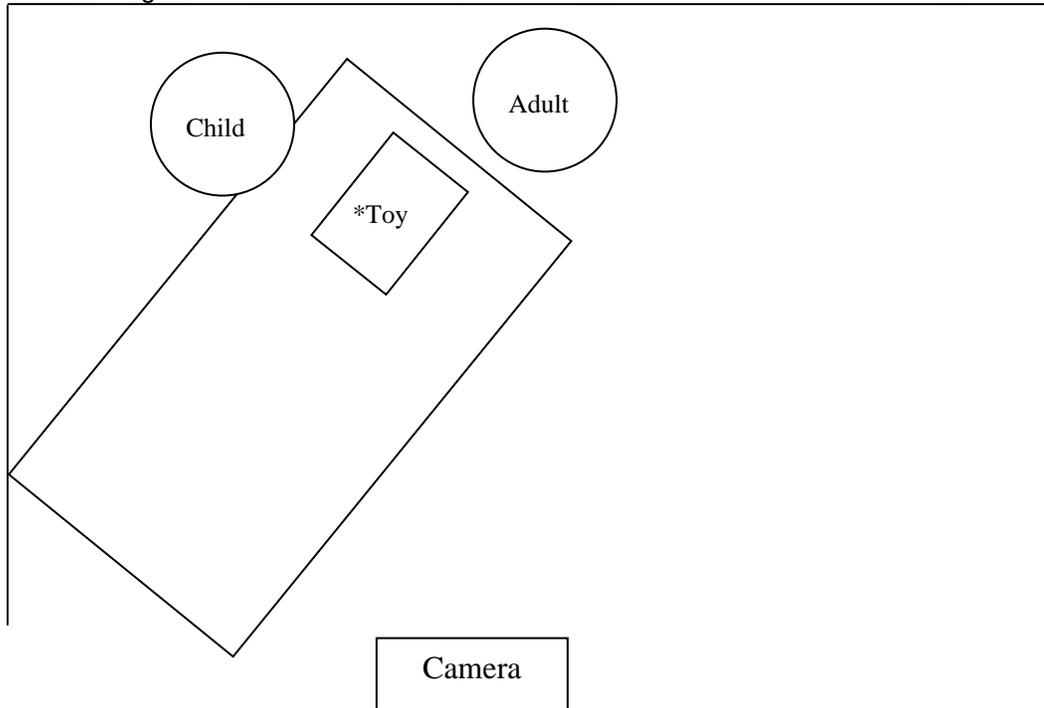
Motor Imitation Scale (MIS)

Updated 3/23/2009

Elicited imitations of actions that do not result in an "effect" are known to be particularly difficult for many nonverbal children with autism. Additionally, the MIS is to be scored while giving it. Thus it does not have to be videotaped. Therefore, we do not require the child to be seated during the MIS procedures. However, seated administration may result in a more efficient administration, if the child is cooperative. Seating can be a regular child chair, not the Tripp Trapp chair.

Therefore, the recommend BEGINNING positioning is below:

Corner of testing area



The general procedure involves, getting the child's attention, then making an arbitrary noise concurrent with demonstrating the action, and then telling the child, "you do it." The item is ended when an accurate imitation occurs within 5 seconds of the demonstration or when the child shuts down or actively rejects the item. Then a new action/item is presented. Items / actions are re-administered in a flexible sequence until the administrator gives 3 trials or until the child gives an accurate imitation.

1. This procedure should be presented in a playful, game-like style.
2. The experimenter should avoid touching the child.
3. Snacks may be used to engage the child in the activity. Reward cooperation, not correct responding.
4. It is helpful to make sounds while demonstrating each item to draw the child's attention to the action. The sounds should not match the content of the action (e.g., do not make a motor sound while pushing the car.)

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5. No gesture prompts or specific verbal directions for actions should be given (just general instructions, e.g., "you do it.").
6. If the child is looking away, move in front of the child to give a demonstration.
7. The child should not sit on the examiner's lap during administration because this position makes it more difficult for the child to see the adult's hands and actions. If there is another adult available, the child can sit on another adult's lap.
8. Items can be given in any order. It may be helpful to begin with some of the object items. Intersperse easy items with difficult ones. The experimenter may bring back easy items to keep the child engaged in the activity. Examiners may be switched in the middle of the procedure, if the child seems obsessed or upset by some aspect of the examiner (e.g., fizzy hair, glasses, etc.)
9. Make sure that the space near the child (e.g., table) is free from distracting items and that the child's hands are free from other objects. Remove the items from the previous imitation before proceeding to the next. Give the child the object, but have a second one in case the child will not return object to avoid power play.
10. For each item, give up to 3 trials or until the child passes the item. The start of a trial is marked by bringing out the item or beginning a new action. The end of a trial is marked by putting away the item and/or changing to a new item/action. The examiner should put away the item and/or change to a new item/action when (a) the child actively resists an item or actively "shuts down". The examiner must use their judgment in determining whether the item should be abandoned. Between the beginning and end of a trial, there might be several demonstrations of the actions and "you do it" commands. A new trial can be tried later in the procedure if the child does not attempt the action. However, if the examiner feels that presenting new trials result in jeopardizing the rest of the procedure or visit, an item can be abandoned.
11. The examiner will need to score the procedure as they give it so she/he will know which items have been completed.
12. Responses that are scored as "partially correct imitation" are not accurate but are approximations to the action. Individual items have conventions for scoring emerging items. If the examiner cannot tell whether the child's attempt was accurate, give the item again.
13. Whenever demonstrating an action that involves moving laterally, move from the child's to right, not from examiner to child and back.
14. Only immediate imitative responses are scored. Imitation of a previous action that occurs after presentation of the next item or after a 5 second delay is not given credit.
15. This measure usually takes 10 – 20 minutes to complete.

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Motor Imitation Scale Scoring Examples

General rule for scoring the MIS; score of 2 reflects a complete imitation, score of 1 reflects a partial imitation or an attempt but unsuccessful similar action, and a score of 0 reflects no imitation. If fewer than 8 items (50%) are presented, the child is scored as “un-testable” and the missing data code is entered into the spreadsheet for that period and participant.

1. Bang spoon on table

2 = purposefully bangs spoon on table one or more times

1 = purposefully shakes but doesn't touch table with spoon, and holds spoon and performs another action with object (not mouthing).

0 = none of the above

2. Shake noisemaker

2 = purposefully shakes noisemaker back and forth at least once to make “rattle” noise

1 = purposefully holds rattle and/or performs another action with it

0 = none of the above

3. Clap hands (more than once)

2 = purposefully puts hands together to clap at least once and then separates them

1 = purposefully puts hands together but does not clap (i.e. puts hands together but does not move apart) or manipulates examiner's hand to clap, moves hands in clap but hand shape is different

0 = none of the above

4. Wave hand

2 = purposefully copies wave of examiner – at least one motion required

1 = purposefully produces wave that does not match examiner's (i.e. different pace or direction)

or manipulates examiner's hand to wave, hand shape is different

0 = none of the above

5. Push car across the tabletop

2 = purposefully moves car in at least one direction across tabletop (keeps car in hand)

1 = purposefully “hopped” car across tabletop or rolled it an obviously different motion, releases car (shoves across table), moves car on roof, rolls on own or examiner's body

0 = none of the above

6. Slides teacup across the tabletop

2 = purposefully slides cup in at least one direction across tabletop (keeps cup in hand)

1 = purposefully “hopped” cup across tabletop or pushes it an obviously different motion, releases cup resulting in shoving it across table)

0 = none of the above

7. Walk toy dog across tabletop

2 = purposefully “hops” toy dog in at least one direction across tabletop

1 = purposefully “hops” toy dog in place

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0 = none of the above

8. Walk hairbrush across the tabletop

2 = purposefully "hops" brush in at least one direction across tabletop

1 = purposefully "hops" brush in place

0 = none of the above

9. Bend index finger up and down

2= purposefully isolates one or two fingers and bends at wrist or at joint in an up and down" motion

1= not as clear as above, but attempt to isolate finger is made or manipulates examiner's finger to bend, moves whole arm up and down

0 = none of the above

10. Scratch tabletop with fingers in left to right motion

2 = purposefully uses both hands in "scratching" motion moving back and forth on table

1 = purposefully uses one hand in "scratching" motion or moves hands in one direction only or manipulates examiner's hands to "scratch", pats table

0 = none of the above

11. Open and close fist

2 = purposefully uses one hand to open and close fist at least one complete cycle.

1 = purposefully attempts motion (i.e., closes fist without opening or vice versa), or manipulates examiner's hand to open and close

0 = none of the above

12. Drum with hands on tabletop in alternating action

2 = purposefully uses two hands to "drum" more than once on tabletop

1 = purposefully uses one hand to "drum" more than once, uses both hands to "drum" once on tabletop or manipulates examiner's hands to "drum", drums with fists

0 = none of the above

13. Pull on earlobe

2 = purposefully brings one hand to ear and grasps lobe (i.e. pulling motion may not be evident)

1 = purposefully touches another part of head, puts finger in ear, or pulls on examiner's ear

0 = none of the above

14. Pat cheek

2 = purposefully brings hand to touch cheek (i.e. patting motion may not be evident)

1 = purposefully pats another part of head or pats examiner's cheek

0 = none of the above

15. Place small block on top of head

2 = purposefully places block on top of own head using one or both hands

1 = purposefully lifts block but does not place on head or puts on examiner's head

0 = none of the above

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16. Hold string of play beads behind neck

2 = purposefully lifts beads to front of neck and puts ends at or behind plane defined by shoulders

1 = purposefully lefts beads to back of neck holding ends in front (i.e. clasp in front) or puts beads to examiners neck

0 = none of the above