

The Melbourne Assessment 2 Administration Guidelines



General instructions for administering

To ensure clarity of test instructions we have referred to the therapist/tester as 'she' and the child as 'he' throughout the administration guidelines.

Test environment

The Melbourne Assessment 2 should be administered individually in a quiet, well-lit room that is free of distractions.

Position of child

The child is seated comfortably at a chair and table appropriate to his size with feet flat on the floor, hips, knees and ankles at 90° and with elbows and forearms resting comfortably on the table top. If necessary, the child may be reminded to maintain appropriate posture before commencing each item.

For a child aged 2.5 to 4 years who maybe distressed to sit away from his parent encourage the child's parent or caregiver to sit or kneel next to the child's chair on the **non assessed** side to reassure him with their close contact. As a last resort a younger child may sit on the parent/caregiver's knee to complete the activities ensuring the table is raised to a height to allow the child to rest his elbow and forearm comfortably on the table top. If the child is sitting on his parent/caregiver's knee ensure the placement of the hands of the adult do not impede the child in performing any item. For example in *Item 11: Palm to bottom* ensure the child is turned sideways on his parent's knee with his assessed side towards the video camera and his parent is not holding him at the hip or thigh on his assessed side which may interfere with his reach to his bottom.

If the child is unable to sit independently, he may remain in his usual form of seating (e.g. wheelchair with supportive strapping or attachments) at a suitable height table or if necessary using his wheelchair tray as the testing surface. Note on the score sheet the seating and table/tray equipment used and also any supportive strapping or devices (e.g. thoracic pads on wheelchair, arms on chair, shoulder or thoracic straps).

A white sticker is to be placed on the table in the child's midline at a comfortable forearms distance from the child's chest. This position is referred to throughout the assessment instructions as the **marked position**.

If the child is unable to reach his midline the sticker should be placed on the side of the limb to be assessed. If the child cannot perform tasks at a forearms length from his body the sticker should be placed at the distance from his body at which he can reach tasks presented. For example, this may be either at a fully extended arms length for a child with marked extensor tone or within closer range for a child with flexor tone or contractures of his shoulder or elbow joints. Any variation to the placement of the marked position from the required midline and forearms length should be noted in the space provided on the score sheet and test stimuli should be placed on the modified marked position rather than in the midline as per the instructions.

The assessment is videotaped and items are scored from the videotape.

Language used

Prior to commencing the test with a child, particularly a young child (2.5 to 4 years) it may be necessary to establish the child understands the words used in the test instructions, for example 'wand' in *Item 12: Pronation/supination*, and the words 'around' and 'over' in *Item 8: Manipulation*. The therapist may need to first check with parents what words are used at home for these terms and for other naming words used such as, 'teddy bear, dog, bottom' etc. Therapists may incorporate the words used by the family when instructing the child on the test items.

For younger children, it is appropriate to use whatever language is familiar and known to the child as well as demonstration and imitation to elicit the desired movements. Parents may also be used to instruct the child in the actions required using phrasing or words common to the child.

Administration time

The assessment takes approximately 10 to 30 minutes to administer depending upon the child's level of ability and ease of following instructions. Prior to administering the assessment, the setting up of test equipment and marking of the positions for the placement of the video camera takes approximately ten minutes. Packing up requires about five minutes.

For younger children test administration may need to be flexible. If a younger child loses attention or chooses not to co-operate with instructions several short assessment sessions

may be needed to complete the full assessment however, these should be carried out within a two week period. Also if items need to be presented in a varied sequence to assist in engaging and maintaining the child's attention this is also allowable as it is not the child's level or duration of attention, or level of co-operation that is being assessed rather the quality of their upper limb movement.

Parents or caregivers assistance

Parents or caregivers may be used to demonstrate the action required or to engage children aged 2.5 to 4 years in performing the movement if necessary. For younger children therapists may need to demonstrate the required action to the parent in order for the parent to model the movement for their child and encourage their child in performing the task.

Repeated attempts

When assessing children it is appropriate for the assessor to use repeated demonstration and verbal guidance to facilitate the child's performance of each of the test items. (For example, the assessor may show the child where the palm of their hand is for *Item 10: Reach to brush from forehead to back of neck*, *Item 11: Palm to bottom* and *Item 13: Reach to opposite shoulder*). The purpose of the test is to measure quality of upper limb movements and not level of cognition in following verbal commands thus repeated verbal instruction and demonstration is allowed.

Note: *Item 4: Drawing grasp* is administered only when the child's dominant hand is being assessed.

Qualifications of test administrators

Test administrators can be occupational therapists, physiotherapists, other allied health professionals or medical practitioners qualified in the assessment of upper limb motor control. Ideally, the test user should be familiar to the child and experienced in observing movements of children with neurological impairment.

It is essential that test users familiarise themselves with the Melbourne Assessment 2 administration and scoring guidelines and complete the 'Test yourself' component of the guidelines. In addition, scorer reliability should be established prior to using the tool as per the recommendations detailed in the guidelines.

Item 1: Reach forwards

Icon indicates instructions for placement of camera



1 metre behind and 1 metre to the assessed side of the child

The therapist stands in the child's midline in front of the table holding the switch at table height. The switch is held with the smiley face perpendicular to the floor so that it is in full view of the child and at a distance which requires maximum reach for the child to be able to touch the smiley face. Establish exact position prior to testing with a practice trial.

For children aged 5 to 15 years, say to the child:

Touch the smiley face with your fingers.

For a younger child say:

Touch the smiley face to play the music.

Item 2: Reach sideways to elevated position



1 metre behind and 1 metre to the non-assessed side of the child

The therapist moves to the side of the child being assessed and holds the switch at a height level with the child's shoulder and in line with the child's trunk. The switch is again held with the smiley face perpendicular to the floor so that it is in full view of the child and at a distance which requires maximum reach for the child to be able to touch the smiley face. Establish exact position prior to testing with a practice trial.

For children aged 5 to 15 years, say:

Touch the smiley face with your fingers.

For a younger child say:

Touch the smiley face to play the music.

Item 3: Grasp of crayon



1 metre to non-assessed side of child, level with marked position on table

Place the crayon on the marked position on the table in a plane horizontal to the child.

For all children say:

Pick up the crayon.

Item 4: Drawing grasp



1 metre to non-assessed side of child,
level with marked position on table

This item is to be administered only when the child's dominant hand is being assessed.

The child will be holding the crayon following item 3.

For children aged 5 to 15 years:

Place the blank piece of paper in front of the child. Position the paper with circles on it on the table for the child to copy from.

Say to the child:

Draw circles on the blank piece of paper like the ones shown on this piece of paper. (The therapist points to the paper with circles on it as she gives this instruction).

For children aged 3 to 4 years:

Place the paper with the single circle (8cm in diameter) on it in front of the child and position the blank piece of paper between the child and the sheet to be copied.

Say to the child:

Draw a circle on your paper just like the one here. (The therapist points to the paper with the single circle on it as she gives this instruction). If the child does not understand the required task then the therapist may demonstrate the task to the child. Continue to cue the child until he understands what is involved in the task. If the child is unable to make a circular scribble, encourage any drawing action that is possible for the child.

For children aged 2.5 years:

Place a blank piece of paper in front of the child in their midline. (The paper may be oriented either in landscape or portrait presentation). Using the second crayon the therapist may demonstrate a circular scribble/stroke approximately 8 cm in diameter on the paper.

Say to the child:

Draw like me.

Continue to cue the child until he understands what is involved in the task. If the child is unable to make a circular scribble, encourage any drawing action that is possible for the child. For example the therapist may demonstrate a vertical stroke or any scribbling action on the paper.

If the child is unable to voluntarily grasp the crayon in item 3 or is unable to manipulate the crayon in his hand to obtain his usual drawing grasp, the therapist may provide assistance and place the crayon in the child's hand. Note this assistance on the score sheet.

Item 5: Release of crayon



1 metre to non-assessed side of child,
level with marked position on table

The child will be holding the crayon following item 3 or 4.

Place the small container (film capsule) in front of the child on the marked position.

NB. The therapist or child must not hold the container to stabilise it.

Emphasise to the child the importance of careful placement of the crayon. A practise trial is allowed.

For children aged 5 to 15 years, say:

Put the crayon into the small container.

For a younger child say:

Put the crayon in here (Indicating the small container).

If the child is successful and can release the crayon into the container without it tipping, stop the item at this stage.

If the attempt is unsuccessful, replace the small container with the medium sized container and repeat the item.

(If however the small container tips on the point of release, the therapist may use her clinical judgement and offer a second attempt with the small container before replacing it with the medium sized container).

For children aged 5 to 15 years, say:

Put the crayon into the medium sized container.

For a younger child say:

Put the crayon in here (Indicating the medium sized container).

If unsuccessful, remove all containers.

For all children say:

Put the crayon on the table (The therapist may tap the table surface to indicate release of the crayon).

Item 6: Grasp of pellet



1 metre to non-assessed side of child,
level with marked position on table

Place the pellet on the marked position.

For all children say:

Pick up the smartie (Sultana/pellet/M&M).

Item 7: Release of pellet



1 metre to non-assessed side of child,
level with marked position on table

The child will be holding the pellet following item 6.

If the child is unable to voluntarily grasp the pellet, place the pellet in the child's hand and note this on the score sheet.

Place the small container (film capsule) on the marked position.

For children aged 5 to 15 years, say:

Put the smartie (Sultana/pellet/M&M) into the small container.

For a younger child say:

Put the smartie in here (Indicating the small container).

If the child is not successful at releasing the pellet, continue as for item 5 (Release of crayon).

Item 8: Manipulation



1 metre to non-assessed side of child,
level with marked position on table

For children aged 5 to 15 years:

Place the cube with the different coloured faces in front of the child.

For children aged 2.5 to 4 years:

Place the cube with the pictures of the dog, car and teddy bear on three of the faces in front of the child.

For children aged 4 to 15 years:

The therapist demonstrates to the child the action of turning the cube over in a variety of directions while holding the cube in a supinated hand and using isolated movements of the thumb and fingers of that hand only. For children 4 years of age the therapist uses the pictures on the sides of the cube to cue children to the turning action required. For children 5 to 15 years of age the therapist uses the different coloured faces to cue children to the turning action required. The cube is then placed on the marked position.

For children aged 5 to 15 years, say:

Pick up and turn the cube over and around so that you can see each different coloured face on the cube, like I have shown you.

For a child aged 4 years say:

Pick up and turn the cube over and around like I did so that you can see the (dog, car...)

OR: *Find the dog, car, teddy bear.*

If the child is unable to manipulate the cube in his hand, then demonstrate turning the cube over on the table surface. Again emphasising the use of one hand only.

Say to the child:

Turn the cube over on the table so that you can see each different picture/coloured face on the cube like I have shown you.

For children aged 2.5 to 3 years:

Place the cube with the pictures on it on the table in front of the child. The therapist demonstrates the action of turning the cube over on the table using the table surface to assist in order to show the pictures on the different faces of the cube using only one hand.

Say to the child:

Turn the cube to find the teddy bear (dog, car etc.) like me.

OR: *Show me another picture.*

(Alternatively to simplify the instruction the therapist may show the picture of the dog and then place the face with the dog picture against the table surface saying: *Show me the dog.*

The therapist would need to ensure when administering this item that a child's lack of object permanence does not bias the scoring of their level of movement).

If the child is unable to turn the cube over on the table, then demonstrate if necessary, turning the cube around but not over on the table, so that only one picture or colour face remains upper most at all times. For younger children use the orientation of the picture to cue the child to the movement required. For example if the therapist is on the opposite side of the table to the child the therapist demonstrates turning the cube around so that the teddy bear is facing the child and then turning it through 180° so that it is facing the therapist.

For a younger child say:

Turn the cube like me. Make the teddy look at you.

Wait until the child has attempted/demonstrated this action then say: *Now turn the cube to make teddy look at me.*

(May want to use "Teddy bear, teddy bear turn around" rhyme to prompt child in turning the cube around).

For children aged 5 to 15 years, say:

Turn the cube around on the table like I have shown you.

Item 9: Pointing



1 metre to non-assessed side of child, level with marked position on table. Camera elevated to view initial point of hand/finger contact in each rectangle

For children aged 5 to 15 years:

Use the pointing sheet with the black centres in each coloured rectangle. Place the sheet in the child's midline on the table surface with the blue rectangle positioned closest to the child.

For children aged 2.5 to 4 years:

Use the side of the pointing sheet with the different pictures in the middle of each colour rectangle (dog and car). Again place the sheet in the child's midline with the picture of the car positioned closest to the child.

For all children say:

We are going to play a pointing game. Can you point your finger like this? (The therapist demonstrates pointing her index finger).

For children aged 5 to 15 years, say:

Point to the black centre of the green rectangle.

Point to the black centre of the blue rectangle.

The child may be cued to the centre of each rectangle if required.

For a younger child, say:

Now, point to the dog (The therapist may demonstrate pointing with her index finger to the picture of the dog).

Point to the car (The therapist may demonstrate pointing with her index finger to the picture of the car).

The therapist may use additional cues to prompt the child to point to the correct picture on the pointing board.

Item 10: Reach to brush from forehead to back of neck



1-1½ metres on assessed side of the child

The therapist stands in front of the child and demonstrates the action of moving her own hand -with an open palm, from forehead, over the top of her head to the back of her neck. For children aged 2.5 to 4 years the therapist may need to co-actively perform the movement with the child on their own head to indicate the requirements of the task.

The child is to start with his hand on his lap.

For children aged 5 to 15 years, say:

Show me the palm of your hand. Brush your hand from your forehead over your head to the back of your neck, as I have shown you.

For younger children, simplified instructions may be:

Move your hand over your head like me.

Brush your hair like me.

Do this like me

OR

Copy me.

If the child is unclear of the movement required the therapist (or parent) may initially co-actively perform the movement with him.

Ensure the child has the palmar surface of his hand contacting his head if possible.

Item 11: Palm to bottom



1-1½ metres on assessed side of the child

If the child has adequate sitting balance move the child's chair back from the table. Rotate the child's chair 90° (but keep the child facing forward) so that the back of the chair is on the child's non-assessed side. Allow adequate room between the table and the child so that he can reach his assessed arm around and under his bottom (assessed arm should be to the side of the video camera).

The therapist should also sit on a chair positioned in front of the child but side on to the child to demonstrate reaching under her own bottom to touch her ischial tuberosity (with supinated forearm and flexed wrist).

If the child is unable to sit independently, the therapist or parent may provide stabilisation at the shoulders or pelvis if minimal external support is required. Note this assistance on the score sheet. Alternatively the child might attempt the movement while sitting in his wheelchair or adapted seat without the armrest and supportive accessories attached (to allow access of his hand under his bottom). Note the child's seating on the score sheet and if support or assistance is required. The child is to start with his hand on his knee.

Say to the child:

Show me the palm of your hand. Place the palm of your hand underneath your bottom to touch the bone that you sit on. (That is, his ischial tuberosity).

For younger children, simplified instructions may be:

Sit on your hand like me/mummy.

Put your hand under your bottom like me.

Copy me/mummy

OR

Do what I do/mummy does.

All these instructions would be given with the therapist demonstrating the required movement. Continue to cue the child until the entire movement is achieved.

Item 12: Pronation/supination



1-1½ metres in front of the child

The child's chair is returned to its original position facing the table and the child resumes sitting at the table. The magic wand is placed on the marked position in front of the child in a horizontal plane to the child.

Begin this item with the therapist demonstrating to the child the action required. The therapist should position herself next to the assessed side of the child and reach with a pronated forearm to grasp the end of the wand closest to the ulnar side of her hand.

For children aged 5 to 15 years:

The therapist then demonstrates to the child the action of supinating her forearm to turn the wand over, pointing out that the desired result is the palm facing upward.

When the child performs this movement the child's arm should be stabilised by the therapist at the elbow joint at the distal aspect of the upper arm if needed. The child should also grasp the end of the wand closest to the ulnar side of his hand.

If the child is unable to grasp the wand, place the wand in the child's hand.

Say to the child:

Turn the magic wand over as I have shown you.

For children aged 2.5 to 4 years:

Attach the picture of a dog (approximately 4 cm × 4 cm) on the end of the wand to be placed to the thumb side of the child's hand. The picture should be attached so that when the wand is placed in front of the child the picture will be facing down towards the surface of the table and will not be visible to the child.

The therapist demonstrates grasping the wand and supinating their forearm to turn the wand over and reveal the picture of the dog on the underside of the wand, saying to the child as the picture of the dog becomes visible *See the dog*. The therapist uses the picture of the dog to cue the child to the full movement of supination required rather than instructing the child to have their palm facing upward as stated for children aged 5 to 15 years above.

For a younger child say:

Find the dog like I did (The therapist may need to monitor for and cue the child to achieving the maximum range of supination possible and not stopping at mid-range when the dog is partially visible). Again the child's arm should be stabilised by the therapist at the elbow joint at the distal aspect of the upper arm if needed.

Item 13: Reach to opposite shoulder



1-1½ metres in front of the child

Move the table forward from the child to allow easier movement of the child's arm forward.

For children aged 5 to 15 years:

The therapist stands in front of the child and demonstrates the action of taking her own arm from a starting position by her side to placing her open palm flat on the top of her opposite shoulder (not on the anterior surface of the shoulder).

The child is to start with his hand on his lap or the table surface.

Say to the child:

Show me the palm of your hand. Place the palm of your hand on top of your opposite shoulder. (The therapist may indicate to the top of the appropriate shoulder if the child is unsure).

For the child aged 4 years:

If the therapist considers the child has sufficient comprehension and is co-operative, this item may be presented as for older children.

For children who do not understand or who are not responding to the instruction it may be necessary to follow the instructions below for children aged 2.5 to 3 years.

For children aged 2.5 to 3 years:

If needed the therapist may use a small soft toy or puppet to cue the child to the 'top' of their opposite shoulder. If such a cue is used the therapist would demonstrate placing the toy/puppet on her own opposite shoulder and reaching to touch it. Care needs to be taken that the toy is small enough to ensure the child's point of touch remains 'in contact with the top of the shoulder' and not the top of the toy which may be above shoulder level.

For younger children, simplified instructions may be:

Touch the (name the toy) (Said while the therapist places the toy on the top of the child's opposite shoulder).

Do what I do (Said while the therapist demonstrates the action required).

Or: *Touch here* (Said while the therapist or parent touches the child's opposite shoulder to indicate the point the child has to reach to).

Ensure the child has the palmar surface of his hand contacting his opposite shoulder if possible.

Item 14: Hand to mouth and down



1-1½ metres in front of the child

Place either a fruit bar/half a scotch finger biscuit/cheese stick on the marked position in front of the child and in a horizontal plane to the child. The therapist may demonstrate picking up the biscuit and taking it to her mouth (The therapist does not need to actually bite the biscuit but indicates to the child that this action is required).

Say to all children:

Pick up the fruit bar/biscuit/cheese stick, take it to your mouth and bite it.

Another type of biscuit/food of similar size maybe exchanged for the food item if the child refuses to do the task.

If the child refuses to bite the food item used, encourage him to go through the action of picking up the item and taking it to his mouth without biting it.

Wipe the child's hand and mouth and the table surface if necessary following completion of the task.

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