

PEDIATRIC ARM FUNCTION TEST (PAFT) MANUAL

UAB CI Therapy Research Group

written by:

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Instructions

The test items are structured to elicit various upper extremity (UE) movement patterns in a play situation. This testing should be performed in a different environment from the treatment. The examiner should not be the person administering treatment to the child. These steps are important to follow in order to avoid prompting the child on which UE to use. Prior to starting, the examiner should determine if the child appears willing to be directed in play by him/her or if the parent/guardian will need to be present in order to ensure the child's cooperation. If the parent is present during pre-testing, they must also be present during post-testing. The examiner will direct all activities. No physical prompts will be given to the child, unless they are needed to keep the child on task or as required by a specific test item.

The examiner will model each item (can repeat modeling if needed). Each unilateral item will be modeled with examiner alternating UE on each successive task, so as not to bias the subject to use a particular UE. The parent should be asked not to give any verbal directions to the child other than general praise such as "thanks for trying" or "good trying." The parent may also give physical or gestural comfort to maintain motivation (e.g., clap hands or pat on back).

The test should be administered twice. During the first administration, the child should not be directed to use either the right or left UE, but should be allowed to spontaneously use either one. After completion of performance on the first administration, unless the affected UE was used on *all* items, the test should be administered a second time only completing the tasks that the affected UE was not used on administration. The instruction before Administration 2 should be to use the involved UE on each task. If the child fails to attempt the task or fails to attempt it with the more affected UE, the request should be made up to three times. On the third time, the examiner is allowed to restrain the less affected UE. Items on which the child fails to attempt to perform on each of the 3 opportunities should receive a score of zero. If the child fails to perform (scores zero) on the first 5 test items, test administration can be terminated with the remaining items being assigned a score of zero.

Task Performance should be videotaped and then scored independently from the videotape by masked raters unfamiliar with the children being tested. Camera angles are specified in the Task Specific Instructions below.

Camera Angles:

Filming position (Side) - View of the whole body with profile shot. UE being tested should be visible for filming purposes. The activity the subject is engaging in should also be visible.

Filming position (Dynamic) - Camera follows child to the next activity being completed. The camera should be zoomed to include the child's upper torso and extremity being tested, to maximize the visibility of function.

Filming position (Front) - The camera view should include the subject's upper body. The camera is moved on the tripod so that it is facing the subject.

Filming position (Front-Close) – The camera tripod remains in the same position as the Front position. The camera view should be zoomed in to focus on fine motor skills.

Scoring-Only the involved UE should be scored. If the child uses the involved UE on administration 1, then that task is not repeated and the score is carried over. This applies to both unilateral and bilateral tasks. Each test item has 6 levels of achievement for scoring purposes, ranging from a score of zero (no movement) to five (normal movement). Raters should evaluate use of the UE from videotape, and then record the score closest to the child's actual performance. . If the child does not use the Involved UE for a task during Administration 1 and that task is not repeated during Administration 2, then the rater should score the item 'N.A.' and document it as "tester error" Raters should be masked as to pre- or post-treatment status and group membership. The tester should rate each task on the Functional Ability Scale so that a general idea of subject motor status can be obtained while the work is in progress. The scores to be recorded for Functional Ability will be the scores assigned by the masked raters. It will save time during the masked scoring if the video camera is turned off after each trial. It has been found that it often makes it easier for those rating from videotape if a piece of cardboard is placed in front of the cameral lens before the camera is turned off to indicate that the trial has ended.

The test is divided into two sections. The first section includes items that require unilateral arm use, and the second section includes items that require bilateral arm use. Three different sets of scores should be calculated, one for the unilateral section, one for the bilateral section, and a total score for the combination of both sections. As part of this process, a percent score will be calculated for the number of test items the child performs with the involved UE on the first administration of the test; this will be an indication of the child's spontaneous use of the involved UE. If the examiner feels that the child is being uncooperative or that performance does not represent an accurate portrayal of child's ability because of environmental distraction, illness or similar reasons, testing should be terminated and rescheduled.

Tasks 1-17 are normally carried out by one hand and Tasks 18-26 are normally carried out by both hands. At the end of the Unilateral Task portion of the score sheets, there is a section for recording and calculating the percent of spontaneous use and quality of use of the involved arm, and similarly at the end of the Bilateral Task portion of the score sheet. In addition, at the end of the score sheets there is a section for combined Unilateral and Bilateral scores. These are obtained by taking a mean of the Unilateral and Bilateral scores. By doing this one is giving equal weight to use of the involved UE in unilateral and bilateral activities. The final score is intended to provide a measure of use of the involved arm in a laboratory motor function test situation. Since there is no data available on the extent to which young children use an arm in unilateral and bilateral activities, unilateral and bilateral use were taken to be equally frequent and important for the purposes of deriving a single score to characterize involved UE use. Should subsequent data show this to be inaccurate; the separate Unilateral and Bilateral scores can be weighted appropriately.

General Instructions to the Child

Test Set-Up: When the child arrives in the testing room, the examiner should set the target, bench, and hoop level to the appropriate height and indicate the setting on the score sheet under the Comments columns.

First administration: “We’re going to play some games. Sometimes we’ll use one hand and sometimes we’ll use 2 hands. See if you can do these like me.” As noted, the tester should model each task twice, but no physical prompts should be used.

Second administration: “Now we’re going to go through these games again, and I’ll tell you which arm I would like you to use for each game.” The examiner should point to the involved arm for each unilateral task that is retested and should tell the child to use both hands for all bilateral tasks. If the child fails to attempt the task, the request should be made three times. If a third repetition is necessary, the examiner should restrain the less affected arm.

Task Specific Instructions:

Unilateral Section:

Tasks 1-4 are performed while the child is sitting in a chair in front of a Velcroed target with balls or toy animals attached. The target is hung from a metal rail for movable shelves mounted vertically on the wall, with the top of the rail 63 inches from the floor with slots every ½ inch. The Velcro objects should be removable and easy to touch or grasp. The chair is positioned so that the front legs are 6 inches from the target. Only 1 ball is placed on the target at a time. The task is to reach toward and make contact with the ball. A small stuffed animal is placed on top of the target to encourage the child to pay attention and do well and is used in task nine.

*Filming position: Side, with a full-length mirror positioned so that the camera view includes both arms/hands.

Task 1: *Reach above head.*

Starting Position: One of the balls is placed at midline 6 inches directly above the top of the child’s head.

Examiner Model: Examiner touches the ball.

Examiner Request: “Touch the ball.”

Scoring: If the child reaches above the head, the task is considered complete. The child is not required to touch the ball.

Task 2: *Reach at waist level.*

Starting Position: One of the balls is placed at midline at level of child’s waist.

Examiner Model: Examiner touches the ball.

Examiner Request: “Touch the ball.”

Scoring: If the child reaches to within 1 inch of the ball, the task is considered complete.

Task 3: *Reach across midline at chest level.*

Starting Position: One of the balls is placed 3 inches from midline on the uninvolved side at mid-chest level.

Examiner Model: Examiner touches the ball (demonstrating reaching across midline with the UE that is the affected one in the child).

Examiner Request: “Touch the ball.”

Note: Do not allow the child to shift position of torso.

Scoring: If the child reaches to within 1 inch of the ball, the task is considered complete.

Tasks 4-7 are performed using the same vertical surface as in Tasks 1-3. These tasks involve grasp of a small plastic golf ball covered in loop Velcro (Task 4) carrying the ball (Task 5), releasing (Task 6) and throwing (Task 7) the ball. During the first administration of Tasks 5, 6, and 8, the examiner should place a ball in each of the child’s hands. For the second administration of those tasks, the examiner should place a ball only in the involved hand.

*Filming positions: Side (Task 4), Dynamic (Task 5), Side (Task 6-9), Front (Task 10)

Task 4: *Grasp of small ball.*

Starting Position: Velcro ball is placed on the target at midline and mid-chest level.

Examiner Model: Examiner removes the ball by grasping it between thumb and fingers.

Examiner Request: “Take the ball off the target.”

Scoring: If the child is able to remove the ball from the target in 3 attempts or less, the task is considered complete.

Task 5: *Carry ball.*

Starting Position: Both arms must be visible throughout the entire task for video rating. A ball is placed in each of child’s hands (Administration 1) or just the involved hand (Administration 2).

Examiner asks child to carry ball(s) at least 5 feet away to starting position of Task # 6.

Examiner Model: Examiner picks up ball(s) and carries it (them) to designated area.

Examiner Request: Examiner moves to designated area and says “Bring the ball(s) to me.”

Scoring: If the child walks to the starting position of Task #6 without dropping either ball, the task is considered complete. If the child’s more affected UE is positioned substantially higher than the less affected UE (because of increased tone), then they cannot receive a score higher than “3”.

Task 6: *Release ball into cup.*

Starting Position: The examiner places the cup 3 inches from the edge of the table. If the child is unable to comfortably reach the cup, then the examiner is allowed to move the cup, but must record the distance from the near edge of the table on the score sheet. A ball is placed in each of the child’s hands.

Examiner Model: Examiner picks up ball(s) and drops it (them) in the cup.

Examiner Request: Administration 1 - “Drop just one of the balls in the cup. Remember, drop only one ball in the cup.” Administration 2 - “Drop the ball in the cup.”

Scoring: If the ball is released into the cup, the task is considered complete.

Task 7: *Pour ball out of cup.*

Starting Position: After the child has dropped a ball into the cup, they are standing (or should be positioned to stand) directly in front of the cup on the table. The cup is offered to the child by the tester.

Examiner Model: Examiner demonstrates grasping the cup and pouring the ball out of the cup into tester’s hand.

Examiner Request: “Now pour the ball into my hand.”

Scoring: The task is considered complete if the ball comes out of cup during the attempt to pour if out. If the child does not use a cylindrical grasp, then they cannot receive a score higher than “3”.

Task 8: *Throw ball onto target.*

Starting Position: Child is standing beyond arm’s reach from the target, requiring the child to throw the ball rather than lean forward to place it.

Examiner Model: Examiner throws the ball towards a mark at the center of the target which is positioned at the child’s midline.

Examiner Request: Administration 1 - “Throw just one of the balls at the center of the target. Remember, throw only one of the balls.” Administration 2 – “Throw the ball at the center of the target.”

Scoring: Forward momentum of the ball is required for task completion. (The child cannot simply drop the ball.) The ball is not required to reach the target.

Task 9: *Wave bye-bye.*

This task has been dropped from the test because its item-total correlation is low (< .3).

Task 10: *Protective extension on involved side.*

This task has been dropped from the test because arm movement is elicited rather than being voluntary, as on all the other tasks and because it is difficult to administer.

Tasks 11-17 are performed with the child sitting in an adjustable chair with an attached horizontally adjustable tray. The chair is adjusted so that the child is sitting with his/her feet on the floor with hips and knees at 90° flexion; no other trunk support is provided. If the child is unable to sit comfortably in the adjustable chair, he/she should be allowed to sit on a chair at a child-sized table. The child’s hands should be positioned on the tray/table so that they are in equivalent positions on either side of the midline. Mark on score sheet which chair is used.

*Filming position: Front-close

Task 11: *Isolated index finger use.*

Starting Position: Child sits in the adjustable chair or at child-sized table. The examiner places a mini keyboard within comfortable reaching distance of child at midline and waist level. The child can press any key on the keyboard.

Examiner Model: Examiner uses his/her index finger to push the target key on the mini keyboard.

Examiner Request: “Push the key with your pointer (index) finger. Remember, use only your pointer (index) finger.”

Scoring: The task is considered complete when the child pushes any key on the keyboard. If the child uses any finger besides the index finger, then they cannot receive a score higher than “3”.

Task 12: *Grasp of large knob puzzle piece.*

Starting Position: Same as Task 11, with puzzle presented at child’s midline.

Examiner Model: Examiner uses his/her fingers to grasp and remove the puzzle piece.

Examiner Request: “Pick up the puzzle piece.”

Scoring: The task is considered complete when the entire puzzle piece is raised from the board.

Task 13: *Crayon grasp.*

Starting Position: Examiner tapes an 8½ X 11 inch sheet of paper on the tray at midline with a crayon placed horizontally at the center of the paper. The crayon size is based on the age of the child being

tested, not the child's ability. For a 2-4 year old child, the jumbo size crayon should be used; in children 4 to 6 years, a standard crayon should be used. The size of the crayon should be recorded on the score sheet. The paper contains a simple line drawing of 2 vertically aligned monkeys on the child's left hand side (one for the examiner's model and one for the child) and 2 vertically aligned bananas on the right hand side (or 2 dogs and 2 bones, or something similar).

Examiner Model: Examiner picks up the crayon from the tray and then replaces it for the child to pick up.

Examiner Request: "Pick up the crayon."

Scoring: The task is considered complete when the crayon is off the tray/table.

Task 14: *Crayon use.*

Starting Position: For the first administration examiner places crayon in each of the child's hands. For the second administration, examiner places a crayon only in the involved hand.

Examiner Model: Examiner draws a horizontal line from the monkey to the banana on the paper.

Examiner Request: "With one of your crayons make the monkey eat the banana. Remember use just one crayon"

Note: If child uses both crayons at first, ignore this trial and ask child to use just one crayon. Scoring of this task focuses on the functional position of the hand for crayon use and not on whether they draw a straight line. In order to obtain a model of a developmentally appropriate grasp on the more affected hand, compare it to the grasp of the crayon in the less affected hand if the deficit is unilateral.

Scoring: The task is considered complete if the crayon is in contact with the paper and the child is moving the hand and/or forearm to make a mark.

For feeding tasks 15-17, if the child exhibits a strong desire to eat the food but is unable to perform the task independently, the examiner can feed it to him/her after the task is scored to prevent frustration.

*Filming position: Front-close with camera on the child's less affected side.

Task 15: *Grasp cracker-sized food item (animal cracker, graham cracker, vanilla wafer).*

Starting Position: A cracker-sized food item (1/2 graham cracker or 1 whole saltine cracker) is placed on the tray or table within comfortable reach at the child's midline.

Examiner Model: Examiner picks up the cookie and pretends to take a bite of it.

Examiner Request: "Eat the cookie" or "Give me the cookie" if the child does not want to eat it.

Note: The child is given two attempts to pick the cracker up off the tray. If the child is unsuccessful, then the tester may hold the cracker in the palm of her hand and instruct the child to pick it up. When this adjustment is needed, then the FAS scoring cannot be higher than "2". The tester may hand the cracker to the child from the fingers in order to give the child some success. If this occurs, the FAS score can be no higher than "1".

Scoring: The task is considered complete when the food is in the hand and off of the table surface.

A radial or pincer grasp using the thumb and forefinger, or thumb and first 2 fingers is required to receive a score of "4" or greater. If a whole hand or "raking" grasp is used, the score can be no higher than "3".

Task 16: *Grasp small food item (cheerio).*

Starting Position: A cheerio is placed on the tray within comfortable reaching distance at the child's midline.

Examiner Model: Examiner picks up the cheerio (~~raisin~~) between thumb and forefinger in a pincer grasp and pretends to eat it.

Examiner Request: “Pick up the cheerio like I did and eat it” or “Pick up the cheerio (~~raisin~~) like I did, and give it to me” if the child does not want to eat it.

Note: The child is given two attempts to pick up the cheerio off the tray. If the child is unsuccessful, then the tester may hold the cheerio in the palm of her hand and instruct the child to pick it up. When this adjustment is needed then the FAS scoring cannot be higher than “2”.

Scoring: The task is considered complete when the child picks up the cheerio from the surface of the table.

Task 17: *Eat with a spoon.*

Starting Position: A cup of applesauce is placed within comfortable reach of the child at midline with a spoon placed in the cup with handle on the side of the involved UE. The tester should place the spoon on top of the applesauce. For ages 2-4, a child-sized spoon should be used (1 inch diameter for the handle). For ages 4-6 a standard spoon should be used. The type of spoon used should be based on the child’s age and not their ability. If the child is unable to independently grasp the spoon, the examiner should place it in the child’s hand, and the FA score cannot be higher than a 2. Be sure to record which type of spoon is used on score sheet.

Examiner Model: Examiner picks up the spoon and pretends to scoop food and bring it to his/her mouth. The spoon is then placed back on top of the applesauce.

Examiner Request: “Eat the applesauce with the spoon.” or “Pretend to eat the applesauce with the spoon” if the child does not want to eat it.

Scoring: The task is considered complete if the child brings the spoon to within 1 inch of his/her mouth. If the child chooses to feed someone else, he/she must bring the spoon to within 1 inch of that person’s mouth.

Bilateral Section:

Task 18: *Separate pull-apart toy.*

Starting Position: Child is still seated at the chair with a tray or at the table. Two plastic oval connecting shapes are handed to the child at midline in front of the child, already connected.

Examiner Model: Examiner demonstrates pulling apart the oval toy.

Examiner Request: “Pull the toy apart.”

*Filming position: Front-close

Scoring: The task is considered complete when the child pulls the toy apart using both hands.

Items 19-20 are performed together, can be modeled at the same time, and can be carried out as a single task, though scored individually. At the start a large ball (6 inches in diameter) is placed on the floor adjacent to the chair used in Task 18. A basketball hoop is located 3 feet from the ball’s position and is adjusted to the child’s chin level. A line is taped on the floor 6 inches in front of the hoop.

*Filming position: Dynamic (Task 19), Side (Task 20) The affected UE should be visible throughout these two tasks in order to be rated.

Task 19: *Carry large ball.*

Starting Position: At the end of Task 16, the child is sitting in a chair. The child stands, picks up the ball and carries it to the line 6 inches in front of the hoop.

Examiner Model: Examiner picks up and carries the ball with both hands to the line in front of the hoop. The examiner holds the ball at midline, being careful not to allow ball to touch trunk, and then throws it through the hoop.

Examiner Request: “Pick up the ball and bring it over here”

Scoring: The task is considered complete when the ball is carried to within 6 inches of the hoop.

Task 20: *Throw large ball through hoop.*

Starting Position: At the end of Task 19, the child is standing with his/her toes at the line 6 inches from the basketball hoop. Note which vertical setting the hoop is on.

Examiner Model: As described above in the Task 19 instructions, the examiner has thrown the ball with both hands through the basketball hoop.

Examiner Request: “Now throw the ball in the hoop.”

Scoring: The task is considered complete when the ball is thrown toward the hoop. The ball is not required to go through the hoop.

Tasks 21-22 the examiner holds the fireman’s hat at the child’s midline. The child-sized fireman boots are placed next to the child on the floor. For modeling purposes, an adult-sized fireman’s hat and boots are placed in a cabinet out of the child’s reach. A child-sized adjustable bench is placed parallel to the wall with a mirror placed perpendicular to the bench. The bench should be at a height such that the child’s feet can reach the floor when comfortably sitting. The purpose of the mirror is to be able to view both UE’s throughout the task and to enhance the play-like character of the task.

*Filming position: Side (Tasks 21-23), Tasks 21-22 should be filmed with a full-length mirror positioned so that the camera view includes both arms/hands.

Task 21: *Place hat on head.*

Starting Position: The child sits on the bench perpendicular to the mirror and the examiner presents hat to child at mid-line.

Examiner Model: Examiner places adult-sized hat on his/her head using both hands equally.

Examiner Request: “Put the hat on.”

Task 22: *Put on boots.*

Starting Position: Child can adopt any position comfortable for performing task. This may be sitting on the bench or floor.

Examiner Model: Examiner holds onto both boot loops and pulls one boot on using both hands equally. If the child’s right side is more affected, the examiner asks the child to don the left boot. If the child’s left side is more affected, the examiner asks the child to don the right boot.

Examiner Request: “Put the boot on, like I did.”

Scoring: The task is considered complete when the child places the boot on his/her foot.

Task 23: *Come to sit.*

This task has been dropped from the test because its item-total correlation is low (< .3).

Tasks 24-26 The child should be asked to crawl to the bench placed 6 feet away. This activity is scored separately for: Task 23- Weightbearing, Task 24 - Reciprocal crawling (quadruped or belly).

*Filming position: Side with the affected arm facing the camera.

Task 24. *Quadruped weightbearing (to prepare for crawling) for at least 3 seconds.*

Starting Position: Sitting or standing.

Examiner Model: Examiner gets on his/her hands and knees bearing weight on all four extremities equally and holds that position for at least 3 seconds.

Examiner Request: “Get on your hands and knees.”

Scoring: The task is considered complete if the child assumes a position on hands and knees independently.

Task 25. *Crawling (quadruped or belly).*

Starting Position: Child has assumed either a quadruped or prone position.

Examiner Model: Examiner has assumed a quadruped position (from Task 24) and crawls to the bench.

Examiner Request: “Crawl to the bench.”

Scoring: The task is considered complete if the child crawls to the bench. If the child does not exhibit reciprocal arm positioning, then they cannot receive a score higher than “3” (e.g., bunny hopping).

Task 26: *Come to stand from floor using an adjustable bench.*

This task has been dropped from the test because its item-total correlation is low ($< .3$).

These instructions are repeated for the tasks on the second administration with the request to use the involved UE. The child should be given 3 opportunities (and requests) to perform task.

Pediatric Arm Function Test (PAFT) Itemized Test Object List

For duplication of the Pediatric Arm Function Test (PAFT), the measurements of the test items do not have to be exactly the same as those noted below. However, if you choose to alter the item list, then be sure to use the same items for every child being tested.

1. Hook Velcro Target: 23.5” diameter with a loop attached at the top of the target for hanging. Can be ordered from a therapy catalog.
2. Loop Velcro balls: 2.25” in diameter and soft to the touch. The balls should come with the target.
3. Metal rail for movable shelves: 39” in length, 1” width, mounted on wall with the top reaching 63.25” from the floor. Slots are every .5”, with 31 slots.
4. Adjustable chair with horizontal tray. For this study a Rifton chair ordered from a therapy catalog was used.
5. Child size table: 21” in height, table top surface 42” X 30”.
6. Child size chair: seat is 13” high, back height 10.5”, seat length 14”.
7. Stuffed animal placed on top of target
8. Small balls: 1.4” in diameter and hard to the touch, then covered with loop Velcro. Can be a light plastic golf ball (Wal-Mart).
9. Cup: 3.6” high and 2.5” in diameter at the top.
10. Position sticker — one is placed 3” from the near edge of the child size table.
11. Mini keyboard: See and Learn Piano with small sticker placed on the key to be pressed by child. The piano key width is 1.5” and height is 1.5”.
12. Large wooden knob puzzle. Can be purchased at any toy store.
13. Crayons: three jumbo for children 2yr to 3yr.; three standard for children 4yr to 6yr.

14. 8"x11" sheet of paper with 2 vertically aligned monkeys on child's left and 2 vertically aligned bananas on right, (or dogs and bones, etc.)
15. Cracker size food item: animal crackers, graham crackers, or vanilla wafers.
16. Small food items: cheerios, raisins, or fruit loops
17. Prepackaged cup of applesauce or pudding
18. Child-size spoon: handle 1" in diameter for children 2yr to 3yr.
19. Standard metal spoon for children 4 yr to 6yr.
20. Pull-apart plastic toy (large oval connecting shapes, e.g., large pop beads)
21. Large ball: 6" in diameter, (e.g., child size basketball)
22. Basketball hoop: made by Little Tikes, can be raised from 2.5ft. to 4ft. with 5 settings each 4.5" apart. Can be purchased from Toys R' Us.
23. Child-size fireman hat.
24. Child size fireman boots.
25. Adult-size fireman hat.
26. Adult-size fireman boots.
27. Full-length mirror: approximately 69" in length and 27" wide (portable, on casters)
28. Adjustable bench: must allow a child from age 2 to age 6 to sit with legs at 90 degrees.
Can be purchased from a therapy catalog.

*In addition to these items the tester will also need a tape measure and a method to place position markings on the floor (e.g., colored dots).

PEDIATRIC ARM FUNCTION TEST (PAFT)
SCORE SHEET

CI Therapy Research Group
University of Alabama at Birmingham and
The Children's Hospital of Alabama

Name _____ Examiner: _____

Date _____ Diagnosis _____ Pre Post F/U (Month) _____
(Please circle one)

Group (circle):

Research: *Experimental* *Control* *Crossover* _____ weeks

Clinic: *Initial* *Brush-up* _____ weeks

Affected UE: R L

Parent Present: Yes No

If the parent is present for pre-testing they must be present at post-testing.

Please indicate Administration number and Functional Ability score by circling the appropriate number.

<u>Unilateral Tasks</u>	<u>Administration</u>	<u>Functional Ability</u>	<u>Setting</u>
1. Reach above head	1 or 2	0 1 2 3 4 5	_____
2. Reach at waist level	1 or 2	0 1 2 3 4 5	
3. Reach across midline	1 or 2	0 1 2 3 4 5	
4. Grasp ball	1 or 2	0 1 2 3 4 5	
5. Carry ball	1 or 2	0 1 2 3 4 5	
6. Release ball into cup	1 or 2	0 1 2 3 4 5	
7. Pour ball out of cup	1 or 2	0 1 2 3 4 5	
8. Throw ball onto target	1 or 2	0 1 2 3 4 5	
9. This item has been dropped from test.			
10. This item has been dropped from test.			

Unilateral Tasks	Administration	Time	Functional Ability	Comments
11. Isolated finger use	1 or 2	_____	0 1 2 3 4 5	
12. Remove big-knob puzzle piece	1 or 2	_____	0 1 2 3 4 5	
13. Crayon grasp	1 or 2	_____	0 1 2 3 4 5	Jumbo/Standard
14. Crayon use	1 or 2	_____	0 1 2 3 4 5	
15. Grasp cracker-sized food (e.g., animal or graham cracker, saltine)	1 or 2	_____	0 1 2 3 4 5	_____
16. Grasp small food item (e.g., cheerio or raisin)	1 or 2	_____	0 1 2 3 4 5	_____
17. Eat with a spoon	1 or 2	_____	0 1 2 3 4 5	Thick handle/ Standard

Circle type of chair used for Items 11-17: small rifton medium rifton regular chair

UNILATERAL SECTION SCORES

1. Amount of Use of Affected Arm

[Note. Only consider behavior on Items 1-4, 7, 12, 15, and 16 when completing this section. Items 5, 6, 8-11, 13, 14, and 17 are excluded because they have item-total correlations or test-retest reliability correlations < .3, which is the lower bound for a correlation of moderate size. Admin = Administration]

- a. Number of tasks on which affected UE used on Admin. 1 _____
- b. Number of tasks on which affected UE used on Admin. 2 _____
- c. Number of tasks on which affected UE not used _____
- d. Percent spontaneous use of affected UE on Admin. 1 _____
(line a/total tasks tested; e.g., a/6)
- This quantity (i.e., Line d) is reported as the Limb Preference score.**
- e. Percent tasks affected UE used on Admin. 2 (e.g., line b/2) _____
- f. Percent tasks affected UE not used (e.g., line c/2) _____

2. Quality of Use of Affected Arm

[The note under the heading for section 1 does not apply here, i.e., scores on all tasks in the Unilateral section of the test are included here.]

- a. Sum of scores on tasks on which affected UE used on Admin. 1 _____
- b. Sum of score on tasks on which affected UE used on Admin. 2 _____
- c. Sum of lines a and b divided by total tasks tested (e.g., [a+b]/15) _____
- This quantity is reported as the Unilateral Functional Ability score.**

Bilateral Tasks	Administration	Functional Ability	Comments
18. Separate pull-apart toy	1 or 2	0 1 2 3 4 5	
19. Carry large ball (e.g., basketball)	1 or 2	0 1 2 3 4 5	
20. Throw ball into hoop	1 or 2	0 1 2 3 4 5	Hoop:_____
21. Place hat on head	1 or 2	0 1 2 3 4 5	
22. Put on boots (using hands)	1 or 2	0 1 2 3 4 5	
23. This item has been dropped from test.			
24. Quadruped weight-bearing	1 or 2	0 1 2 3 4 5	
25. Crawling	1 or 2	0 1 2 3 4 5	
26. This item has been dropped from test.			

BILATERAL SECTION SCORES (Admin = Administration)

1. **Amount of Use of Affected Arm**
 - a. Number of tasks on which affected UE used on Admin. 1 _____
 - b. Number of tasks on which affected UE used on Admin. 2 _____
 - c. Number of tasks on which affected UE not used _____
 - d. Percent spontaneous use of affected UE on Admin. 1 (a/total tasks tested; e.g., a/5) _____
 - e. Percent tasks affected UE used on Admin. 2 (e.g., b/2) _____
 - f. Percent tasks affected UE not used (e.g., c/2) _____

2. **Quality of Use of Affected Arm**
 - a. Sum of scores on tasks on which affected UE used on Admin. 1 _____
 - b. Sum of scores on tasks on which affected UE used on Admin. 2 _____
 - c. Sum of lines a and b divided by total tasks tested $([a+b]/7)$ _____

This quantity is reported as the Bilateral Functional Ability score.

TOTAL SCORE (Unilateral Plus Bilateral Scores; Admin = Administration)

1. Amount of Use of Affected Arm

- d. Percent spontaneous use of affected UE on Admin. 1**
([line d from Unilateral section + line d from Bilateral section]/2) _____
- e. Percent tasks affected UE used on Administration 2**
([line e from Unilateral section + line e from Bilateral section]/2) _____
- f. Percent tasks involved UE not used**
([line f from Unilateral section + line f from Bilateral section]/2) _____

Please note that Steps a-c in the Unilateral and Bilateral sections are not relevant here. Only Steps d-f listed immediately above are relevant for the calculation of the Amount of Use total score.

2. Quality of Use of Affected Arm

- c. Add line 2c from the Unilateral section and Line 2c from Bilateral section.**
Divide this sum by 2. _____
- This quantity is reported as the Functional Ability total score.**

Please note that Steps a & b in the Unilateral and Bilateral sections are not relevant here. Only Step c listed immediately above is relevant for the calculation of the Quality of Use total score.

Functional Ability Scale:

0 – Does not attempt with UE being tested.

1 – Affected UE does not participate functionally; however, an attempt is made, or the less affected UE is used to move the UE being tested. In bilateral tasks, the more affected UE serves as a helper but through only part of the task. (Very Poor function)

2 – Requires assistance of the less affected UE, another body part, or therapist for minor readjustments or change of position; or requires more than two attempts to complete; or accomplishes very slowly. Movement is governed by synergy. In bilateral tasks, the more affected UE serves only as a helper. (Poor function)

3 – A moderate amount of synergy is seen (i.e., synergistic pattern observed with some involuntary posture or movement); and/or lack of control of movement; compensatory strategies with trunk/shoulder/elbows observed; or task performed somewhat slowly or with effort. In unilateral tasks, does not require assistance from other UE. (Fair function)

4 – Movement is slightly slower than normal; may lack precision, fine coordination, or fluidity. Some synergy may be present, but isolation of movement is predominant. (Good function)

5 – Movement appears to be normal.