



# UNB TEST OF PROSTHETICS FUNCTION

A Test for Unilateral Upper Limb Amputees

Revised 2012

## **Purpose**

The UNB test of Prosthetics Function is designed to assist therapists in the fields of research and rehabilitation for upper limb loss. The test consists of a series of tasks and age-appropriate activities of daily living which can be used to determine an amputee's level of function and progress using their prosthesis. The scores are based on the therapist's observations of the child's skill and spontaneity in using the prosthesis while performing the activities, and can be compared with his or her earlier results, thereby providing a score correlating to the level of function. It is the first known assessment of prosthetics function developed using a dual rating scale, and was designed with multiple subtests of apparent equal difficulty for every age group, offering a choice to the child and the therapist. By compiling and discussing items with clinicians internationally, we hope that the test demonstrates the validity and reliability expected by the current standards of practice and that the items and tasks used are not culturally biased.

The UNB test is comprised of activities of daily living, categorized by age groups. The tasks presented in each subtest were selected to be age appropriate and readily available in a clinical setting. All items are normally carried out with two hands performing either symmetrical or unilateral functions. A unique feature to the UNB test is the creation of a relaxed atmosphere with no time constraints. The examining therapist should focus on determining the level of skill and the willingness to engage the use of the prosthesis (spontaneity) when performing the activities of daily living. The test is not timed, since most activities are normally executed under non-stressful conditions.

## **Test Population**

This test can be used with amputees from the ages of 2 to 21 years. It has been subdivided into four age groupings, as follows; 2-4, 5-7, 8-12, 13-21 years. The modified version of the current test has seen alterations to tasks and items of all age groups, as well as an extension of the last group from 11-13 to 13-21. These are necessary modifications to allow for a larger population to be tested. It is designed for unilateral amputees who have either a congenital or traumatic amputation level, below or above the elbow.

The test is designed to be used with children wearing both conventional (body-powered) and externally powered (myoelectric) prostheses. All tasks and items have been deemed suitable for both types of prostheses.

**Dual rating scale**

The dual rating scale is an important and unique feature of the UNB test of Prosthetics Function used to determine level of skill and spontaneity of prosthetics function. The use of this rating scale helps measure an individual’s functional capacity. In determining a person’s level of skill, it may be evident that the person is able to perform the requested task but demonstrates the need for additional training or motivation to refine their abilities when using their prosthesis. The measure of spontaneity defines a person’s tendency and impulse to use their prosthesis effectively when attempting a two-handed task. An amputee is unlikely to continue training or extensive use if they are unconvinced and unmotivated to do so despite therapists’ recommendations otherwise. We need to determine if an issue exists in the motivation or willingness to use the prosthesis or in the control or skill in using the prosthesis. The dual rating scale distinguishes measures of skill and spontaneity and helps address this issue.

<b>Spontaneity of prosthetics function</b>	<b>Score A</b>
Immediate, automatic, consistent use of terminal device for active grasp	4
Slightly delayed or inconsistent use of terminal device for active grasp	3
Very delayed, occasional or “last resort” use of terminal device (either grasp or used passively)	2
Use of prosthesis proximal to terminal device only	1
Prosthesis not used or used only on request	0

Skill of prosthetics function	Score B
Active use of terminal device quickly, skilled and smooth. Grasp is consistent.	4
Active use of terminal device, shows some degree of awkwardness, slowness or uncertainty, Grasp is readily regained when lost	3
Active use of terminal device is attempted, but looks very slow or awkward. Grasp is frequently lost or regained with difficulty.	2
No active terminal device function, although terminal device or some other part of prosthesis may be used passively to stabilize or support.	1
Prosthesis not used	0

### **Equipment**

The equipment used for administering this test has been selected to include many items found in an occupational therapy clinic setting. Some items may need to be purchased, including some food supplies. Since this is a test of everyday living and encourages use by all cultures, it is important that the equipment represent activities normally found within the community. Rather than specify a brand name, there are illustrations included beside every task, for each subtest, to be used as guidelines for the corresponding activity. These photographs are a representation of the task and objects in question. You may substitute any of the objects if the integrity of the movements remains unchanged and adhere to the modified task classification chart. Substitutions should be noted on the test form. All items must fit in the individual's terminal device so the person is never penalized for an object that slips out or is impossible to grasp.

### **Environment**

To promote a spontaneous approach to bimanual tasks it is extremely important to avoid any changes to the normal routine which would alert the individual to the fact they are being tested. Test forms should be out of sight and scoring should be performed after the testing procedure is complete. Video recording is the preferred method for the purposes of this study so multiple raters can score the test. Parents should be present if they usually are for treatment sessions. Parents should also be notified that you are observing their child to see how he or she will use

the prosthesis and they should be requested to avoid instructing during this session. In cases involving young children, the room should be one in which they feel comfortable. A variety of objects and activities should be available so that test items can be integrated and transitioned from one activity to the next. The pace should be unhurried, and the individual should be allowed to manipulate each object for a reasonable amount of time if he or she wishes.

With older individuals, it is understandably more difficult to reduce awareness that they are being observed by a therapist. Their conscious desire to please you may increase the frequency of prosthesis use during any session when you are present, thus obtaining a misrepresentative score for spontaneity. It may be necessary to vocally reinforce the tasks at hand and maintain conversation throughout their actions as to increase chances of obtaining a natural reaction from the participant. Ask them to perform the task as they would at home while refraining from any approving or disapproving gestures. This is an alternative approach to the one recommended to younger populations but is an attempt to regain validity which has been lost because of their awareness of the testing situation.

### **Choosing a subtest**

For the scientific purpose of reviewing the current UNB test, clinicians will be asked to perform all three subtests based on the user's age. By referring to the list of the randomized order for subtest administration, clinicians should anticipate completing all three subtests within the shortest period; preferably within a day or two, but no more of a spread than two weeks. If it is not possible to complete all three subtests, we would still appreciate the data from the subtests that have been completed.

### **Order of Presentation**

Each subtest consists of ten tasks and they should be presented during one session, although they may be given in any order chosen by the examiner. Some activities are grouped together to form a meaningful activity, e.g. Make a necklace (cut length of string, thread small beads to make bracelet, tie knot in string to complete), and these should be presented as a unit. Other such as dressing activities, may be observed most naturally as the participant enters or leaves the clinic. Any items involving eating may be carried out part way as a "break", or at the end as a reward. If a participant refuses an activity, move on to another task and attempt another try later in the

session. If they are still unwilling to try, or show no interest in completing the activity, record a (-) on the Score Sheet. (Note that the total score should be adjusted so that the uncompleted items do not influence the overall score). Make sure to note and justify the score and associated task in the comments section of the score sheet.

**Instructions**

The examiner must administer the item without any expectation of how the participant will perform it. Only explanations directed towards capturing an interest in the activity may be necessary, e.g. “Let’s play with Lego. What would you like to build?” It would not be appropriate to add “Don’t forget to use your prosthesis” until after you have marked your score for spontaneity. If the participant does not initiate using the prosthesis initially, you may request that he/she tries it again using two hands. The scoring of spontaneity should be based on the initial approach to the task, but scoring of skill can then be done based on the request to use the prosthesis.

<b>Spontaneity</b>	<b>Skill</b>	<b>Implications for Therapy</b>
High	High	No need for training in prosthesis skills and one can assume the prosthesis will be used outside of clinical environment, to assist with bimanual tasks of daily living.
High	Low	Individuals who are willing to engage the use of their prosthesis but lack the proficiency to use it skillfully. These candidates need further prosthetic training.
Low	High	Individual displays a high level of functional skill when using their prosthesis, however demonstrates a low recognition of approach. These candidates require support and direction to help reinforce habitual prosthesis use for accomplishing tasks of daily living.
Low	Low	Individuals who receive low scores in both ratings require additional prosthetics training. Furthermore, the clinician should investigate any underlying factors related to poor use and habits outside of the clinical environment. This candidate should be encouraged to follow home training programs and attend follow ups, marking their progression.

## UNB Test Score Sheet

**Participant's Name:** \_\_\_\_\_

**Wearing Patterns:**

**Gender:**     Male     Female     Other

**Weekdays     Weekends**

**Date of Birth (M/D/Y):** \_\_\_\_\_

0-2 hrs     0-2 hrs

**Date of Testing (M/D/Y):** \_\_\_\_\_

3-5 hrs     3-5 hrs

**Cause of Amputation:**     Acquired     Congenital

6-10 hrs     6-10 hrs

**Prosthetic Level:**     Transhumeral     Transradial

11-15 hrs     11-15 hrs

16-20 hrs     16-20 hrs

21 hrs <     21 hrs <

**Year of First Fitting:** \_\_\_\_\_

**Type of Prosthesis Used for Assessment:**     Body Powered     Myoelectric

**Age Category:**     2-4     5-7     8-12     13-21

	Subtest # _____	
Item	A	B
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
<b>Totals</b>		

**Notes:** \_\_\_\_\_

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### Rating Scales:

Spontaneity of prosthetics function	Score A
Immediate, automatic, consistent use of terminal device for active grasp	4
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Use of prosthesis proximal to terminal device only	1
Prosthesis not used or used only on request	0

Skill of prosthetics function	Score B
Active use of terminal device quickly, skilled and smooth. Grasp is consistent.	4
Active use of terminal device, shows some degree of awkwardness, slowness or uncertainty, Grasp is readily regained when lost	3
Active use of terminal device is attempted, but looks very slow or awkward. Grasp is frequently lost or regained with difficulty.	2
No active terminal device function, although terminal device or some other part of prosthesis may be used passively to stabilize or support.	1
Prosthesis not used	0



# UNB Test of Prosthetics Function (2012)

Subtest Items Manual

TD

Terminal Device



**1** **Item:** Steer ride on toy  
**Equipment:** Any age appropriate ride on toy  
**Score:** Maintain grasp of handle while in motion  
**Special Instructions:** Evaluate user's ability to turn left, right and steer straight



**2** **Item:** Pull apart links  
**Equipment:** Minimum of 6 plastic links to fit in TD  
**Score:** Method of stabilizing links with TD while pulling apart with sound hand  
**Special Instructions:** Clinician may show how links work prior to attempt



**3** **Item:** Tear sheet of paper into several pieces  
**Equipment:** One sheet of construction paper  
**Score:** Method of stabilizing paper with TD throughout tearing motion  
**Special Instructions:** Clinician may begin rips in paper if this proves too difficult for user



**4** **Item:** Open zippered pouch to remove scissors and glue  
**Equipment:** Zippered pouch (pencil case), scissors, and glue  
**Score:** Method of stabilizing pouch with TD during unzipping and removal of content  
**Special Instructions:** N/A



**5** **Item:** Snip paper with scissors  
**Equipment:** Construction paper and blunt scissors  
**Score:** Repeated grasp and release of paper with TD while moving along with snips  
**Special Instructions:** User may cut out small pieces to be glued on larger construction paper



**6** **Item:** Open glue bottle  
**Equipment:** Glue bottle small enough to fit TD  
**Score:** Method of stabilizing glue bottle with TD while opening top with sound hand  
**Special Instructions:** Can be twist top liquid glue or pull off cap from glue stick. User may glue pieces cut out earlier to larger sheet for artwork



**7** **Item:** Put scissors and glue back in zippered pouch from item 4  
**Equipment:** Zippered pouch (pencil case), scissors, and glue  
**Score:** Method of stabilizing pouch with TD during insertion of content and zipping process  
**Special Instructions:** N/A



**8** **Item:** Hang up artwork with magnet  
**Equipment:** Magnet, artwork from items 3-6, magnetic surface (cabinet, fridge)  
**Score:** Maintain grasp in motion of artwork or magnet with TD  
**Special Instructions:** N/A



**9** **Item:** Remove clothing from a stuffed animal or doll  
**Equipment:** Toy doll/animal, loose fitting clothes  
**Score:** Maintain grasp in motion with TD while pulling clothes off  
**Special Instructions:** N/A



**10** **Item:** Carry stuffed toy and zippered pouch across room  
**Equipment:** Zippered pouch and stuffed toy  
**Score:** Maintain grasp in motion  
**Special Instructions:** N/A



**1** Item: Carry two items across room using both hands  
Equipment: Bubble container and Play Doh  
Score: Maintain grasp in motion  
Special Instructions: N/A



**6** Item: Blow bubbles  
Equipment: Small container of bubbles  
Score: Maintain grasp of container or bubble wand with TD for blowing bubbles  
Special Instructions: Focus on grasp throughout dipping and blowing, not just opening container



**2** Item: Open bag of Play Doh  
Equipment: Bag (can be Ziploc) and Play Doh  
Score: Method of stabilizing bag with TD while sound hand opens bag up  
Special Instructions: Open up the bag in order to retrieve Play Doh for item 3



**7** Item: Pull apart Duplo blocks  
Equipment: Set of large blocks (Lego style)  
Score: Method of grasping blocks with TD while sound hand pulls in opposite direction  
Special Instructions: Pre-stack the blocks together so user can take them apart



**3** Item: Remove Play Doh from open bag  
Equipment: Content from item 2  
Score: Method of stabilizing bag with TD while sound hand reaches in to retrieve Play Doh  
Special Instructions: N/A



**8** Item: Ride a tricycle  
Equipment: Tricycle  
Score: Maintaining grasp on handle while in motion  
Special Instructions: Evaluate user's ability to turn left, right and steer straight



**4** Item: Use rolling pin to flatten Play Doh  
Equipment: Play Doh and rolling pin  
Score: Maintain grasp of handle during rolling motion  
Special Instructions: Focus on rolling action, not how well Play Doh is flattened



**9** Item: Put on loose pair of pants or skirt  
Equipment: Oversized pants or skirt  
Score: Use of prosthesis to assist in pulling up clothing to waist  
Special Instructions: Clothes with elastic waist bands can be oversized and stay up on user



**5** Item: Pull apart pieces of Play Doh  
Equipment: Stringy piece of Play Doh  
Score: Repeated grasp and release of Play Doh with TD while pinching pieces away with sound hand  
Special Instructions: Should take place above table, not pinching off surface with one hand



**10** Item: Open small box of raisins  
Equipment: Regular small size raisin box  
Score: Method of stabilizing box with TD while using sound hand to open top and reach in  
Special Instructions: N/A



**1** Item: Push toy grocery cart or doll carriage  
Equipment: Any carriage style toy with a push bar at mid-height  
Score: Maintain grasp on handlebar with TD while pushing cart around room  
Special Instructions: N/A



**2** Item: Play a two-handed musical instrument  
Equipment: Bimanual instrument (triangle, maracas, cymbals, etc)  
Score: Maintain grasp of instrument or objects in motion  
Special Instructions: Avoid instruments that may be played unilaterally



**3** Item: Open box of crayons  
Equipment: Box of Crayola wax crayons, construction paper  
Score: Method of stabilizing box with TD  
Special Instructions: Can be asked to draw a shape on paper for a short time only



**4** Item: Remove adhesive sticker from sheet  
Equipment: Suitable sticker size >2cm in diameter  
Score: Method of stabilizing sheet with TD so that sound hand can peel off sticker  
Special Instructions: Sticker can be applied to drawing from item 3



**5** Item: Thread beads on pipe cleaners to make bracelet or keychain  
Equipment: Pipe cleaners and beads (~2cm in diameter)  
Score: Repeated grasp and release of beads or pipe cleaner while threading with TD  
Special Instructions: N/A



**6** Item: Snip pieces of straw with scissors  
Equipment: Straws and pair of blunt scissors  
Score: Repeated grasp and release of straw with TD  
Special Instructions: N/A



**7** Item: Hang up artwork at shoulder height  
Equipment: Artwork from items 3-4 and push-pin or magnet for magnetic surface  
Score: Maintain grasp in motion, then maintain grasp at shoulder height with TD while pressing pin with sound hand  
Special Instructions: N/A



**8** Item: Ride on a swing  
Equipment: Indoor or outdoor swing  
Score: Maintain heavy grasp throughout swinging motion  
Special Instructions: If noticeable, suggest user to relax their prosthetic side's shoulder



**9** Item: Wipe hands with cloth  
Equipment: Wet hand cloth  
Score: Maintain grasp in TD to clean sound hand  
Special Instructions: N/A



**10** Item: Put on loose pair of pants or skirt  
Equipment: Oversized pants or skirt  
Score: Use of prosthesis to assist in pulling up clothing to waist  
Special Instructions: Clothes with elastic waist bands can be oversized and stay up on user



**1** **Item:** Ride a tricycle  
**Equipment:** Tricycle  
**Score:** Maintaining grasp on handle while in motion  
**Special Instructions:** Evaluate user's ability to turn left, right and steer straight



**6** **Item:** Play a game of cards  
**Equipment:** Deck of cards, card holder to fit TD (if necessary)  
**Score:** Maintain grasp of cards in TD (~5 cards)  
**Special Instructions:** N/A



**2** **Item:** Skip with skipping rope  
**Equipment:** Skipping rope  
**Score:** Maintain grasp of rope in motion  
**Special Instructions:** Handles on rope should be large enough to fit TD to maintain grasp



**7** **Item:** Cut length of string for bracelet  
**Equipment:** Spool of string and scissors  
**Score:** Method of stabilizing the string with TD while cutting  
**Special Instructions:** N/A



**3** **Item:** Put toothpaste on a toothbrush  
**Equipment:** Tube of toothpaste and toothbrush  
**Score:** Method of stabilizing brush when squeezing toothpaste on  
**Special Instructions:** Child stands around sink area



**8** **Item:** Thread beads on string to make bracelet  
**Equipment:** String from item 6, beads (~1cm wide)  
**Score:** Repeated grasp and release of beads with TD  
**Special Instructions:** N/A



**4** **Item:** Squeeze out a wet cloth  
**Equipment:** Dish/face cloth  
**Score:** Maintain grasp with TD during twisting motion  
**Special Instructions:** Ask user to clean up any spills in/or around the sink after item 3



**9** **Item:** Tie knot in string to complete bracelet  
**Equipment:** Threaded beads from item 7  
**Score:** Use of TD to assist with manipulating string to accomplish knot  
**Special Instructions:** N/A



**5** **Item:** Put on dress-up clothes  
**Equipment:** Skirt or pants  
**Score:** Maintain grasp in upward motion  
**Special Instructions:** N/A



**10** **Item:** Unwrap gum or candy  
**Equipment:** One stick of paper-wrapped gum or one twist-wrapped candy  
**Score:** Method of stabilizing to open  
**Special Instructions:** N/A



**1** Item: Ride a three-wheeled scooter  
Equipment: Three-wheeled scooter  
Score: Method of stabilizing TD on handle  
Special Instructions: N/A



**6** Item: Cut out a shape with scissors  
Equipment: Heavy construction paper, left or right handed scissors  
Score: Ability to manipulate paper in TD while cutting out shape drawn in task #5  
Special Instructions: N/A



**2** Item: Peel banana once started with a slit at the top  
Equipment: One banana (not too soft)  
Score: Method of holding banana while peeling  
Special Instructions: Therapist may start first section of peel, if necessary



**7** Item: Remove stickers from adhesive sheet  
Equipment: Suitable sticker approx. 1" (2.5cm) diameter on paper backing  
Score: Method of grasping backing to lift off decal/sticker  
Special Instructions: Can be asked to apply sticker to cut out drawing



**3** Item: Dismantle a Lego construction  
Equipment: Pre-built Lego construction  
Score: Repeated grasp and release motion with TD  
Special Instructions: N/A



**8** Item: Open bottle of glitter glue for art project  
Equipment: Bottle of glitter glue (Twist top)  
Score: Method of stabilizing bottle with TD while twisting cap off  
Special Instructions: N/A



**4** Item: Peel back paper on Crayola crayon (wax)  
Equipment: Used/broken tip of Crayola wax crayon  
Score: Stabilize crayon with TD while peeling off layer with sound hand  
Special Instructions: N/A



**9** Item: Hang up artwork at shoulder height  
Equipment: Completed artwork  
Score: Maintain grasp throughout motion, pin up artwork at shoulder  
Special Instructions: Can be drawing with stickers or just picture



**5** Item: Use a handheld pencil sharpener  
Equipment: Any crayon or pencil handheld sharpener  
Score: Method of stabilizing sharpener with TD  
Special Instructions: Ask to draw a simple specific shape (square, trapeze, must be ~8cm in diameter)



**10** Item: Unwrap gum or candy  
Equipment: One stick of paper-wrapped gum or one twist-wrapped candy  
Score: Method of stabilizing to open  
Special Instructions: N/A



- 1** Item: Open zippered pencil case  
Equipment: School pencil case with zipper  
Score: Method of stabilizing case with TD while pulling zipper with sound hand  
Special Instructions: N/A



- 2** Item: Uncap large marker  
Equipment: Marker (~2cm in diameter)  
Score: Method of stabilizing marker with TD to remove cap  
Special Instructions: Marker is taken out of pencil case from item 1



- 3** Item: Ball and parachute/blanket game  
Equipment: Light ball and parachute or blanket  
Score: Method of holding fabric in motion  
Special Instructions: Two players facing each other hold the fabric open and wave their hands up and down making the ball jump in the middle. Avoid dropping the ball on the ground.



- 4** Item: Extract sleeve of cookies and remove one  
Equipment: Box of Oreos, crackers, etc  
Score: Maintain grasp of cookie box or inside tray with TD to access snacks  
Special Instructions: Must be a box with a pull-out tray of cookies or snacks



- 5** Item: Remove coins from change purse  
Equipment: Small twist top, clip, or zippered coin purse  
Score: Method of stabilizing coin pouch with TD  
Special Instructions: N/A



- 6** Item: Blow bubbles  
Equipment: Small container of bubbles  
Score: Maintain grasp of container or bubble wand with TD for blowing bubbles  
Special Instructions: Focus on grasp throughout dipping and blowing, not just opening container



- 7** Item: Wind-up toy  
Equipment: Small toy with wind up mechanism (car, spinning top)  
Score: Method of stabilizing toy with TD while winding up with sound hand  
Special Instructions: N/A



- 8** Item: Build a simple construction  
Equipment: Use any construction play set (Lego, K'Nex, etc)  
Score: Repeated grasp and release of pieces with TD while manipulating pieces together  
Special Instructions: N/A



- 9** Item: Tie shoelaces  
Equipment: Sneaker with laces of adequate length  
Score: Repetitive grasp and release when tying knot  
Special Instructions: Performed from user's point of view. Preferably with their shoe, if not, provide one. Score on use of prosthesis rather than quality of end knot



- 10** Item: Put on loose pair of pants or skirt  
Equipment: Oversized pants or skirt  
Score: Use of prosthesis to assist in pulling up clothing to waist  
Special Instructions: Clothes with elastic waist bands can be oversized and stay up on user



- 1** Item: Start a zipper on a sweatshirt or jacket  
Equipment: Zippered clothing (type with opening at the bottom)  
Score: Use of prosthesis to stabilize one side of zipper  
Special Instructions: N/A



- 2** Item: Hang jacket on coat hanger  
Equipment: jacket or coat and a hanger  
Score: Method of holding the top while hanging  
Special Instructions: N/A



- 3** Item: Put on a pair of drawstring pants  
Equipment: a pair a drawstring pants  
Score: Method of holding the pants  
Special Instructions: N/A



- 4** Item: Tie the sting on a pair of drawstring pants while wearing them  
Equipment: A pair of drawstring pants  
Score: Method of grasping the strings with the TD while tying them  
Special Instructions: N/A



- 5** Item: Carry tray with several items on it  
Equipment: Tray with items used for tasks 4 to 8  
Score: Method of stabilizing tray while in motion across room  
Special Instructions: If tray is too heavy, remove certain items and score method of carrying tray



- 6** Item: Put temporary tattoo on sound arm  
Equipment: Water tattoo  
Score: Delicate grasp and manipulation of wet tattoo and application to sound arm with TD  
Special Instructions: N/A



- 7** Item: Play a game of cards  
Equipment: Deck of cards, card holder to fit TD (if necessary)  
Score: Maintain grasp of cards in TD (~5 cards)  
Special Instructions: N/A



- 8** Item: Put cards away in Ziploc bag  
Equipment: Ziploc bag with slide seal and seal  
Score: Method of stabilizing bag with TD when inserting objects in and then while closing seal with sound hand  
Special Instructions: N/A



- 9** Item: Open small sealed container of jam/butter  
Equipment: Restaurant style butter pack, jam pack (restaurant small size)  
Score: Method of stabilizing small packet with TD while peeling off the top without crushing or spilling content  
Special Instructions: N/A



- 10** Item: Spread content from item 9 onto crackers or bread  
Equipment: Butter or jam, knife, crackers or bread  
Score: Method of stabilizing butter/jam and then cracker/bread  
Special Instructions: N/A



- 1** **Item:** Carry laundry basket across the room  
**Equipment:** Laundry basket containing objects for upcoming items  
**Score:** Maintaining grasp of heavy object in motion  
**Special Instructions:** Basket should contain objects from items 2 to 5



- 2** **Item:** Put on buttoned top  
**Equipment:** Shirt, sweater, cardigan with buttons  
**Score:** Method of stabilizing button areas with TD to button up  
**Special Instructions:** N/A



- 3** **Item:** Unbutton top and remove  
**Equipment:** Same top from item 2  
**Score:** Method of stabilizing button areas with TD to unbutton, then grasping and holding cuff/sleeve with TD while slipping sound arm out  
**Special Instructions:** N/A



- 4** **Item:** Fold shirt and towels  
**Equipment:** T-shirt and towels of any size  
**Score:** Grasp and release while folding  
**Special Instructions:** Attempt to fold towels without using flat surface



- 5** **Item:** Hit ball with bat  
**Equipment:** Light ball and baseball bat  
**Score:** Method of grasping bat in motion  
**Special Instructions:** Can be a foam bat, cricket club, golf club (must simulate two-handed swinging motion)



- 6** **Item:** Fill paper cup with water  
**Equipment:** Styrofoam or paper cup, sink  
**Score:** Method of grasping cup without crushing it when filling it with water  
**Special Instructions:** Suggest to use both hands in conjunction if not used first try



- 7** **Item:** Make a "telescope" out of paper  
**Equipment:** Construction paper and elastic bands  
**Score:** Method of grasping delicate rolled paper to slip on the elastic bands on each end  
**Special Instructions:** N/A



- 8** **Item:** Open Band-Aid and apply to sound arm  
**Equipment:** Paper-wrapped Band-Aid strip  
**Score:** Method of tearing off adhesive layer off Band-Aid, then manipulating strip onto sound arm  
**Special Instructions:** N/A



- 9** **Item:** Open a twist top jar  
**Equipment:** Glass jar with twist lid (<4cm in diameter)  
**Score:** Method of stabilizing jar with TD  
**Special Instructions:** Jar can contain candies needed for next item



- 10** **Item:** Unwrap a candy with close-fitting wrapper  
**Equipment:** Any small individually wrapped candy  
**Score:** Method of grasping wrapper with TD  
**Special Instructions:** N/A





**1** Item: Spread tablecloth on table  
Equipment: Folded table cloth and table  
Score: Method of grasping cloth in motion  
Special Instructions: N/A



**6** Item: Perform badminton serve  
Equipment: Badminton racket and birdie  
Score: Grasp and release of birdie for serve  
Special Instructions: Can be a combination of any type of racket and ball (Must simulate serving)



**2** Item: Play a game of cards  
Equipment: Deck of cards  
Score: Maintain grasp of cards in TD (~5 cards)  
Special Instructions: Card holder may be used, if necessary



**7** Item: Tie shoelaces  
Equipment: Sneaker with laces of adequate length  
Score: Repetitive grasp and release when tying knot  
Special Instructions: Performed from user's point of view. Preferably with their shoe, if not, provide one. Score on use of prosthesis rather than quality of end knot



**3** Item: Remove tissue from pocket-sized package  
Equipment: Small pocket-sized Kleenex pouch  
Score: Method of stabilizing pouch while taking out facial tissue  
Special Instructions: N/A



**8** Item: Tie scarf around neck  
Equipment: Wool or silk scarf (long enough to tie around neck)  
Score: Repeated grasp and release with TD while tying the scarf around neck  
Special Instructions: N/A



**4** Item: Tear pieces of masking tape off roll  
Equipment: Roll of masking tape (~2cm thick)  
Score: Repeated grasp and release of roll with TD while tearing multiple pieces of tape with sound hand  
Special Instructions: N/A



**9** Item: Pull gloves on  
Equipment: Pair of gloves  
Score: Method of grasping and pulling glove on sound hand  
Special Instructions: Can be any glove appropriate for activity (gardening, winter, user's choice)



**5** Item: Lift end of table to help move  
Equipment: Small table  
Score: Maintain grasp of heavy object while in motion  
Special Instructions: Table being moved to make room for upcoming badminton game



**10** Item: Open bag of chips  
Equipment: Small bag of snacks (chips, cookies)  
Score: Maintain grasp of bag with TD while pulling apart with sound hand  
Special Instructions: N/A



**1** Item: Carry milk crate of tools/wood across room(s)  
Equipment: Milk crate, items used for tasks 2 to 4  
Score: Maintain grasp of heavy object in motion  
Special Instructions: Begin in one room and move to workshop area



**2** Item: Measure length of wood with measuring tape and mark the middle for item 4's nail and hammer  
Equipment: Narrow strip of wood (1"x2"), retractable measuring tape, pencil  
Score: Method of pulling out length of tape and marking the cut with pencil  
Special Instructions: N/A



**3** Item: Place wood in a table vice  
Equipment: Piece of wood and vice mounted on work station  
Score: Method of stabilizing wood in place while tightening vice  
Special Instructions: N/A



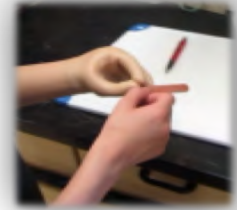
**4** Item: Hammer nail in wood (pencil mark)  
Equipment: Piece of wood from 2, hammer, nail (~5cm) long  
Score: Method of stabilizing nail in place with TD for first few initial hits  
Special Instructions: N/A



**5** Item: Sweep up dust with handheld brush or regular broom and dust pan  
Equipment: Broom, dust pan  
Score: Method of stabilizing dust pan or brush with TD  
Special Instructions: N/A



**6** Item: Groom fingernails with nail file  
Equipment: Nail file  
Score: Method of stabilizing file with TD  
Special Instructions: N/A



**7** Item: Fold a letter and put it in envelope  
Equipment: Piece of paper and regular size envelope  
Score: Method of inserting paper in envelope  
Special Instructions: N/A



**8** Item: Chop up an apple (hard food)  
Equipment: Any hard food  
Score: Method of stabilizing food when cutting  
Special Instructions: Can be any type of hard food for gripping



**9** Item: Make kebobs alternating hard and soft foods  
Equipment: Hard food used from item 8 and soft food (banana, marshmallow, grapes, etc)  
Score: Method of delicately grasping soft food items with TD when cutting or inserting item on skewer  
Special Instructions: N/A



**10** Item: Put up an umbrella  
Equipment: Umbrella  
Score: Method of grasping handle or sliding part to open the umbrella  
Special Instructions: N/A



**1** Item: Carry laundry basket with clothing/towels and items for tasks to a different room  
Equipment: Laundry basket, clothes, towels, box of objects for upcoming tasks  
Score: Maintain a grasp on a heavy object  
Special Instructions: Could use tablecloth or anything requiring two hands to hang on clothesline



**6** Item: Open tube of hand cream and apply  
Equipment: Tube of cream small enough to fit TD  
Score: Method of using TD to assist with opening and application of cream  
Special Instructions: Pay attention to delicate grasp as to avoid spilling



**2** Item: Hang clothes, towels  
Equipment: Various linens, clothesline, clothespins  
Score: Method of stabilizing fabrics while pinning onto clothesline  
Special Instructions: Any small rope across room strung up at shoulder height is fine. If not, folding large cloth or sheet will simulate grasping at shoulder height



**7** Item: Use Scotch tape dispenser  
Equipment: Handheld tape dispenser  
Score: Method of stabilizing dispenser  
Special Instructions: User can fold button shirt from item 5 and place inside parcel box then tear a few pieces of tape to close box



**3** Item: Cut length of thread for needle  
Equipment: Spool of thread and scissors  
Score: Method of stabilizing spool/thread while cutting  
Special Instructions: N/A



**8** Item: Tie up parcel with ribbon/string  
Equipment: Small parcel box, twine/ribbon, scissors  
Score: Method of stabilizing ribbon during cut, then use of prosthesis to assist with tying of parcel  
Special Instructions: N/A



**4** Item: Thread needle  
Equipment: Sewing needle, thread  
Score: Method of stabilizing needle  
Special Instructions: N/A



**9** Item: Place money in billfold/wallet  
Equipment: Billfold/wallet and paper money  
Score: Method of placing money in wallet  
Special Instructions: N/A



**5** Item: Sew button on shirt  
Equipment: Threaded needle, shirt, button  
Score: Grasp and release of shirt, needle, and thread  
Special Instructions: N/A



**10** Item: Sweep floor and pile up dirt in dust pan  
Equipment: Broom, dust pan  
Score: Maintaining grasp of broom in motion, then stabilizing dust pan with TD while brushing dirt in with sound hand  
Special Instructions: N/A



**1** **Item:** Carry tray of items across the kitchen  
**Equipment:** Tray with items 2 to 7 present  
**Score:** Ability to maintain grasp and balance of heavy object while in motion  
**Special Instructions:** N/A



**2** **Item:** Scrub carrot with vegetable brush  
**Equipment:** Vegetable with peel and sink area  
**Score:** Maintain grasp of vegetable while cleaning  
**Special Instructions:** N/A



**3** **Item:** Peel carrot  
**Equipment:** Vegetable from item 2 and vegetable peeler (handle must fit in TD)  
**Score:** Use of prosthesis to hold vegetable or peeler  
**Special Instructions:** N/A



**4** **Item:** Open a bottle of salad dressing  
**Equipment:** Bottle of salad dressing (body or top of bottle must fit in TD)  
**Score:** Method of stabilizing bottle while opening  
**Special Instructions:** N/A



**5** **Item:** Slice a tomato (soft food)  
**Equipment:** Soft food and sharp knife  
**Score:** Repeated grasp and release of delicate object  
**Special Instructions:** Can be a banana or any other soft object for delicate manipulation



**6** **Item:** Cut meat (or simulated meat) with knife and fork  
**Equipment:** Piece of food to cut, knife, fork  
**Score:** Method of maintaining grasp while in resistive motion  
**Special Instructions:** Simulation can be any matter to cut (carrot, tomato, or even Play Doh)



**7** **Item:** Wash dishes  
**Equipment:** Any dirty items from current subtest  
**Score:** Method of stabilizing items or dish cloth/sponge while washing  
**Special Instructions:** N/A



**8** **Item:** Repackage leftovers  
**Equipment:** Plate with sliced foods and wrap (aluminum or saran/plastic)  
**Score:** Repeated grasp and release to complete wrapping process  
**Special Instructions:** N/A



**9** **Item:** Open a can with a tab  
**Equipment:** Can of soda or can of fruits (small enough to fit TD)  
**Score:** Use prosthesis to stabilize can without crushing it  
**Special Instructions:** N/A



**10** **Item:** Open creamer to make coffee or hot chocolate  
**Equipment:** Creamer (restaurant small size)  
**Score:** Method of stabilizing small packet with TD while peeling off the top without crushing or spilling content  
**Special Instructions:** Can prepare a hot drink for clinician

