

# **Unilateral Below Elbow Test (U-BET)**

## **Instruction Manual**

### **Instructions to Therapist**

As a therapist, we are asking that you use your expertise and knowledge in evaluating this child. Many of these questions will require judgments on your part. Trust your judgments. Your experience as a therapist will guide you through.

Try your best to have the child complete all of the tasks. Incomplete assessments are difficult (or impossible) to score. Please allow yourself ample time to do these assessments.

Please do the tasks in the order that they appear on this form.

### **Set-Up**

- The parent should be asked to wait in an area away from the patient while the evaluation is being conducted.
- The child should be seated at a table at an appropriate height so the child's hips and knees are flexed to 90 degrees with feet on the floor. A working table surface should be used with the height adjusted to slightly above the child's elbow when their arm is by their side. Tasks that should be performed with the child standing will be identified as such in the task description.
- Be sure to inform the patient that there is not a right or wrong way to perform any of the tasks. They should be told to do the tasks the same way they would do them at home if no one were watching.
- For children who wear a prosthesis, assign whether they will perform all the tasks first with the prosthesis or without it. Then all tasks are performed again in the other condition.
- Be sure to use the standardized materials while performing the assessment. You may want to check your materials beforehand.
- Except for a demonstration of the Rolling Racer, the bow and arrow and the making of a telescope, try to use only verbal instructions to get the child to perform the task. Document if you need to demonstrate any task to the child.

**Equipment:**

Standardized equipment is necessary for valid evaluation. This test was developed to incorporate common tasks thus all test items can be purchased to exact specifications as listed.

**Age 2-4 year old-**

Play Doh® -3 ¼ “ height, lid diameter 2 5/8”  
Plastic Baggie – pleated, non-zip lock  
Child cymbals 6 5/8” inches in diameter, knob 1 ¼”  
Tube sock size child large  
36” inches long string with three one inch square beads  
4 oz. jar of bubbles with 1 ½” diameter screw lid  
Rolling Racer®  
12” w x 11” h Drawstring bag with ¼ inch diameter string  
Duplos® three stacked together  
Box of eight Crayola® crayons, standard size

**Age 5-7 year old**

5”x 7” piece of construction paper, Fiskars® child scissors  
3 RoseArt™ chunky markers  
Hand held pencil sharpener, #2 pencil unsharpened  
Child medium size vest with three 1” buttons  
Tennis shoe size 1 bolted to a plexiglass base with long shoelaces  
Kaleidoscope  
Legos® three stacked together  
Nerf bow and arrow  
Rolling Racer®

**Age 8-10 year old**

Standard aluminum little league bat  
Yo-yo with 2 ½ foot string unwound  
Non-latex 3M Band-Aid in the wrapper  
Tennis shoe size 1 bolted to a plexiglass base with long shoelaces  
Child large size button down shirt with 3/8” buttons  
8 ½” x 11” paper, rubber band  
Garden glove, size large  
8 ½” x 11” paper, 12” ruler, #2 pencil  
Fleece vest with metal tag zipper, no zipper pull, size large

**Age 11-21 year old**

3’ wide roll of wrapping paper  
Adult sized scissors  
Hand held tape dispenser  
Medium grade therapy putty, fork, knife, melamine plate  
1” wide 3 ring binder  
Fleece vest with metal tag zipper, no zipper pull, size large  
Tennis shoe (size 8) bolted to a plexiglass base with long shoelaces  
Adult large size button down shirt with 1/2” buttons  
Hand held dustpan and broom set

## **Completion of Task Scores**

You will be asked to score the patient on each of the tasks. This score should be a reflection of how well you felt the patient did compared to how well an age matched child with no disability would have performed. Use your best judgment when assigning these scores. Use the following scale to make these assessments. In the description for each task, the criteria for completion of the task is underlined>.

4. Completes the task with no difficulty  
Movements are quick, smooth  
Stability is maintained throughout task
3. Completes task with minimal (25%) difficulty  
Movements are quick but slightly awkward  
Stability is readily regained when lost
2. Completes task with moderate (50%) difficulty  
Movements are slower and awkward
1. Completes task with maximal (75%) difficulty  
Movements are very slow and awkward  
Stability is frequently lost
0. Unable to complete task

## **Method of Use Codes**

There will be a **Use Code** requested on each task. Please use the following codes.

In some cases, you may feel that more than one code is appropriate. Please use the code that you feel best describes how they accomplished the task **the majority of the time**. If two or more methods are used equally, record the “higher” method. (Always choose only ONE answer.)

During the dressing tasks (buttoning a shirt or vest; zipping a vest) when the child is standing and **not wearing** a prosthesis, record an **A** for the method of use if it is clear that the child is using the residual limb **end tip** for manipulation. If it is not clear that the end tip is being used (for example, if the child has a very short residual limb), record an **E** for the method of use.

For the standing tasks, the thigh is considered an extension of the trunk.

For the yo-yo task and the shoe tying tasks, if the child wraps the string around his/her residual limb, record a **P** for method of use.

For a child wearing a passive prosthesis, it is not possible to record an **A** score.

<b>Coding</b>	<b>For Patients Wearing Prosthesis</b>	<b>For Patients Not Wearing Prosthesis</b>
<b>A</b>	Active Grasp of Terminal Device	Residual Limb End Manipulation and/or Stabilization
<b>P</b>	Passive Use of Prosthetic Forearm or Terminal Device	Forearm Stabilization
<b>E</b>	Elbow or Trunk Grasp	Elbow or Trunk Grasp
<b>N</b>	No Use of Affected Limb	No Use of Affected Limb

**Patient Information**

Patient Number \_\_\_\_\_

Name of Therapist Doing Evaluation \_\_\_\_\_

Date (mm-dd-yyyy) \_\_\_\_\_

Time \_\_\_\_\_

**Tasks (The Assessment)**

Will a prosthesis be used on the tasks of this assessment?

**YES**      **NO**      (circle one)

If yes, will the testing be done **first** with or without the prosthesis?

**WITH**    **WITHOUT**    (circle one)

Describe the type of prosthesis: \_\_\_\_\_

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We would like to acknowledge the authors of the UNB for their invaluable work previously done with this patient population, E.R. Sanderson, OT & R.N. Scott, P.E., C.C.E.

## For the 2-4 year old

1. **Take Play-Doh<sup>®</sup> out of a plastic baggie.** (Use the amount of Play-Doh<sup>®</sup> from a full can. Make sure the Play-Doh<sup>®</sup> is fresh. Flatten the Play-Doh<sup>®</sup> and place it in the baggie with the top folded over so the Play-Doh<sup>®</sup> will not simply fall out when the bag is turned over.)

Score how baggie is stabilized.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

2. **Bang cymbals together.**

Score how cymbal is held or stabilized.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

3. **Put sock on foot.** (Child should get sock over toes; okay if foot is on floor; provide tube sock.)

Score how sock is opened to initiate task.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

4. **Thread beads.** (Child should string at least one 1 inch square bead.)

Score how items are stabilized.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

5. **Open a jar of bubbles.** (Child should hold bottle and cap should be removed clear of bottle.)

Score how the bottle is stabilized.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

6. **Ride on a rolling racer.** (Demonstrate for child: “Can you ride this like me?” Not on carpet. Child should hold handles and propel racer forward. If the child cannot propel the racer forward, the task is scored as “unable to complete”. If the child can propel the racer forward, judge the method based on the first 5 feet of successful motion.)

Score how handle is held.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration	<b>X</b>	<b>X</b>

7. **Open bag with drawstring and dump Duplos<sup>®</sup> out.** (Bag has two-sided string.)

Score how bag is opened.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

8. **Separate Duplos<sup>®</sup>.** (Attach both of the two smaller blocks onto the one larger block such that the larger block is completely covered and the arrangement is one rectangular shape [no uneven edges]. Child will separate three blocks.)

Score how blocks are stabilized.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

9. **Open a new box of 8 crayons and remove one.** (Child should hold box and remove a crayon from the box. The cover can be opened, or the box can be torn or the crayon can be taken out of the box “window”.)

Score how the box is stabilized.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

## For the 5-7 year old

1. **Cut a paper circle from construction paper.** (Draw a circle 3" in diameter on a 5" by 7" piece of paper. Have the child use Fiskar scissors with symmetrical holes. Child should hold paper while cutting and should cut ¾ of the circle.)

Score how paper is stabilizing while cutting.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

2. **Remove cap from felt tip marker** (Use Rose Art marker. Child should stabilize marker and remove cap.)

Score how marker is stabilized.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

3. **Sharpen pencil.** (Use hand held pencil sharpener and #2 pencil. Child can hold either item steady and make two turns of the other item.)

Score how item is stabilized.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

4. **Do buttons on vest.** (Use gender appropriate vest with 1 inch buttons. **Have the child stand.** Child has the vest on and should complete the top button [get it through the buttonhole]. Make sure the button can pass through the buttonhole with reasonable ease.)

Score how the clothing is stabilized.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		



5. **Tie shoelaces into a knot.** (Shoe is bolted to Plexiglass base and has long laces. Shoe is positioned on tabletop with toe pointing away from child. Child should tie knot.)

Score how shoelace is held.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

6. **Turn kaleidoscope.** (Child should hold and rotate while eye is looking through kaleidoscope. Observation of any amount of rotation with the lens portion rotating *separately* from the body of the kaleidoscope that is sufficient for task completion.)

Score how item is held.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

7. **Separate Legos<sup>®</sup>.** (Child to separate three medium size [8 dot] blocks. Have the three blocks attached directly on top of each other.)

Score how blocks are stabilized.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

8. **Use bow and arrow** (Demonstrate for child: “Can you shoot an arrow like this?” **Have child stand.** Child will hold bow and pull string back. The bow can be held in either hand. Any amount of string pull that is seen by the observer is sufficient. )

Score how the item is stabilized.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration	<b>X</b>	<b>X</b>

9. **Ride on rolling racer.** (Demonstrate for child: “Can you ride this like me?” Not on carpet. Child should hold handles and propel racer forward. If the child cannot propel the racer forward, the task is scored as “unable to complete”. If the child can propel the racer forward, judge the method based on the first 5 feet of successful motion.)

Score how handle is held.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration	<b>X</b>	<b>X</b>

## For the 8-10 year old

1. **Swing a bat.** (Use a standard Little League aluminum bat, average size. **Have the child stand.** Child should swing across mid-line.)

Score how bat is held during the swing.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

2. **Wind a yo-yo string onto the yo-yo.** (The child is seated. Present the yo-yo with 2 ½ feet of string unwound. Child should wind two times.)

Score how yo-yo or string (whichever is held by affected side) is held while winding.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

3. **Open a Band-Aid.** (Use a non-latex 3M Band-Aid. Child should open the package.)

Score how package is opened.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

4. **Tie shoelaces into a bow.** (Shoe is bolted to Plexiglas base and has long laces. Shoe is positioned on tabletop with toe pointing away from child. Child should tie a bow.)

Score how shoelace is held.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

5. **Do buttons on shirt.** (Use gender appropriate shirt. **Have child stand.** Child has shirt on and should complete the third button from the top [get the button through the buttonhole.].)

Score how clothing is held.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

6. **Make a telescope with paper and a rubber band.** (Demonstrate. Child should roll paper into a tube and slip a rubber band around the tube.)

Score how rubber band is put onto the tube.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration	<b>X</b>	<b>X</b>

7. **Place glove on unaffected hand.** (Child places glove on hand completely.)

Score how glove is held.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

8. **Draw a line with a ruler.** (Use a #2 pencil. Child draws a 6 inch line on a piece of 8 ½” by 11” paper.)

Score how ruler is stabilized.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

9. **Start zipper on vest.** (Use a large size fleece type reversible vest with NO zipper pull, just metal tag. **Have child stand.** Child has vest on and starts zipper up vest. Any amount of zipper progress up the vest that is seen by the observer is sufficient.)

Score how clothing is held.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

## For the 11-21 year old

1. **Cut paper from a roll to wrap a video tape.** (For children 16 years old or older, use adult scissors instead of Fiskar scissors. Child should cut a piece of paper from the roll.)

Score how paper is stabilized.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

2. **Tear a piece of tape.** (Use a hand held dispenser. Remove any paper backing from the dispenser.)

Score how dispenser is stabilized.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

3. **Secure wrap on video tape with tape.** (Child should get the tape onto the paper.)

Score how wrap is stabilized as tape is place on it.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

4. **Cut putty on plate with knife and fork.** (Use soft grade Thera-putty. Child should cut the putty into two pieces. No adhesive on bottom of plate.)

Score how the fork is stabilized.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

5. **Open a three ring binder.**

Score how the binder is opened or stabilized (depending on which task is done with affected side.)

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

6. **Start zipper on vest.** (Use a large size fleece type reversible vest with NO zipper pull, just metal tag. **Have child stand.** Child has vest on and starts zipper up vest. Any amount of zipper progress up the vest that is seen by the observer is sufficient)

Score how clothing is held.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

7. **Tie shoelaces into a bow.** (Shoe is bolted to Plexiglas base and has long laces. Shoe is positioned on tabletop with toe pointing away from child. Child should tie a bow.)

Score how shoelace is held.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

8. **Do buttons on shirt.** (Use gender appropriate shirt. **Have child stand.** Child has shirt on and should complete the third button from the top [get the button through the buttonhole.].)

Score how clothing is held.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		

9. **Use dust pan and small broom.** (**Have child stand.** Hand the dust pan and broom together to the child. Sweep Legos<sup>®</sup> up off the floor.)

Score how dustpan is held during sweeping.

	WITH PROSTHESIS	WITHOUT PROSTHESIS
Completion of Task Score		
Method of Use Score		
Demonstration		