

ADJUSTABLE SOCKET

## Outcome Measures Program

# Clinician

### OUTCOME MEASURES INCLUDED

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- User Input Form
- Donning Test
- Timed Up and Go
- 2 Minute Walk Test
- Amputee Mobility Predictor



# User Input Form

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User ID: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Clinician's Name Performing O/M :

\_\_\_\_\_

Gender:    ☐ Male    ☐ Female    DOB : \_\_\_\_\_    Age : \_\_\_\_\_    Weight: \_\_\_\_\_

Amputation:   ☐ Left      ☐ Right      ☐ Bilateral

Functional Level:   ☐ K1      ☐ K2      ☐ K3      ☐ K4

Assistive device or brace used in O/M:   ☐ Yes      ☐ No      Type: \_\_\_\_\_

Date of Amputation: \_\_\_\_\_    Initial Fitting Date of Prosthesis: \_\_\_\_\_

Amputation Level: \_\_\_\_\_

Cause of Amputation:   ☐ Trauma      ☐ Disease      ☐ Congenital

☐ Other: \_\_\_\_\_

Condition of Contralateral Limb: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Medical History/Comorbidities: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# User Input Form

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Prosthesis Description: \_\_\_\_\_

- Socket Design: \_\_\_\_\_
- Suspension: \_\_\_\_\_
- Foot: \_\_\_\_\_
- Knee: \_\_\_\_\_
- Components: \_\_\_\_\_

Any updates to patients health throughout the 6 month program timeline, please list here :

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Rehab Goals / Mobility Expectations :

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# Donning Test

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## Test Summary:

- Patient is seated in parallel bars
- Start timer when patient grabs prosthesis to put on
- Stop timer when patient is standing and socket is fully seated on limb in transverse plane

## Document donning time (minutes) :

Appointment 1 : \_\_\_\_\_

Appointment 2 : \_\_\_\_\_

Appointment 3 : \_\_\_\_\_

Appointment 4 : \_\_\_\_\_

Appointment 5 : \_\_\_\_\_

# Timed Up and Go Instructions

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## **General Information** *(derived from Podsiadlo and Richardson, 1991) :*

- The patient should sit on a standard armchair, placing his/her back against the chair and resting his/her arms on the chair's arms. Any assistive device used for walking should be nearby.
- Regular footwear and customary walking aids should be used.
- The patient should walk to a line that is 3 meters (9.8 feet) away, turn around at the line, walk back to the chair, and sit down.
- The test ends when the patient's buttocks touch the seat.
- Patients should be instructed to use a comfortable and safe walking speed.
- A stopwatch should be used to time the test (in seconds).
- Patient should practice at least once before performing the timed series.

## **Set Up**

- Measure and mark a 3 meter (9.8 feet) walkway
- Place a standard height chair (seat height 46cm, arm height 67cm) at the beginning of the walkway

## **Patient Instructions** *(derived from Podsiadlo and Richardson, 1991) :*

- Instruct the patient to sit on the chair and place his/her back against the chair and rest his/her arms on the chair's arms.
- The upper extremities should not be on the assistive device (if used for walking), but it should be nearby.
- Demonstrate the test to the patient.
- When the patient is ready, say "Go"
- The stopwatch should start when you say go, and should be stopped when the patient's buttocks touch the seat.

# Timed Up and Go Testing Form

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Name: \_\_\_\_\_

Assistive Device and/or Bracing Used: \_\_\_\_\_

**Appointment 1**      Date: \_\_\_\_\_      TUG Time: \_\_\_\_\_

**Appointment 2**      Date: \_\_\_\_\_      TUG Time: \_\_\_\_\_

**Appointment 3**      Date: \_\_\_\_\_      TUG Time: \_\_\_\_\_

**Appointment 4**      Date: \_\_\_\_\_      TUG Time: \_\_\_\_\_

**Appointment 5**      Date: \_\_\_\_\_      TUG Time: \_\_\_\_\_

# 2 Minute Walk Test Instructions

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## General Information

- Individual walks without assistance for 2 minutes and the distance is measured
  - Start timing when the individual is instructed to "Go"
  - Stop timing at 2 minutes
  - Assistive devices can be used but should be kept consistent and documented from test to test
  - If physical assistance is required to walk, this should not be performed
  - A measuring wheel is helpful to determine distance walked
- Should be performed at the fastest speed possible.

## Set Up & Equipment

- Ensure the hallway free of obstacles
- Stopwatch

## Patient Instructions *(derived from references below)* :

*"Cover as much ground as possible over 2 minutes. Walk continuously if possible, but do not be concerned if you need to slow down or stop to rest. The goal is to feel at the end of the test that more ground could not have been covered in the 2 minutes."*

# 2 Minute Walk Test

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Name: \_\_\_\_\_

Assistive Device and/or Bracing Used: \_\_\_\_\_

**Appointment 1**    Date: \_\_\_\_\_    Distance ambulated in 2 minutes: \_\_\_\_\_

**Appointment 2**    Date: \_\_\_\_\_    Distance ambulated in 2 minutes: \_\_\_\_\_

**Appointment 3**    Date: \_\_\_\_\_    Distance ambulated in 2 minutes: \_\_\_\_\_

**Appointment 4**    Date: \_\_\_\_\_    Distance ambulated in 2 minutes: \_\_\_\_\_

**Appointment 5**    Date: \_\_\_\_\_    Distance ambulated in 2 minutes: \_\_\_\_\_



# Amputee Mobility Predictor Assessment Tool

**Initial instructions:** Client is seated in a hard chair with arms. The following maneuvers are tested with or without the use of the prosthesis. Advise the person of each task or group of tasks prior to performance. Please avoid unnecessary chatter throughout the test.

Safety First, no task should be performed if either the tester or client is uncertain of a safe outcome.

**The Right Limb is :** ☐ PF ☐ TT ☐ KD ☐ TF ☐ HD ☐ intact

**The Left Limb is :** ☐ PF ☐ TT ☐ KD ☐ TF ☐ HD ☐ intact

Assessment Task	Rating		Appointment				
			1	2	3	4	5
<b>1. Sitting Balance:</b> Sit forward in a chair with arms folded across chest for 60s.	Cannot sit upright independently for 60s	= 0					
	Can sit upright independently for 60s	= 1					
<b>2. Sitting reach:</b> Reach forwards and grasp the ruler. (Tester holds ruler 12in beyond extended arms midline to the sternum)	Does not attempt	= 0					
	Cannot grasp or requires arm support	= 1					
	Reaches forward and successfully grasps item	= 2					
<b>3. Chair to chair transfer:</b> 2 chairs at 90°. Pt. may choose direction and use their upper limbs.	Cannot do or requires physical assistance	= 0					
	Performs independently, but appears unsteady	= 1					
	Performs independently, appears to be steady and safe	= 2					
<b>4. Arises from a chair:</b> Ask pt. to fold arms across chest and stand. If unable, use arms or assistive device.	Unable without help (physical assistance)	= 0					
	Able, uses arms/assist device to help	= 1					
	Able, without using arms	= 2					
<b>5. Attempts to arise from a chair:</b> (stopwatch ready) If attempt in no. 4. was without arms then ignore and allow another attempt without penalty.	Unable without help (physical assistance)	= 0					
	Able requires >1 attempt	= 1					
	Able to rise one attempt	= 2					
<b>6. Immediate Standing Balance:</b> (first 5s) Begin timing immediately.	Unsteady (staggers, moves foot, sways )	= 0					
	Steady using walking aid or other support	= 1					
	Steady without walker or other support	= 2					

Assessment Task	Rating		Appointment				
			1	2	3	4	5
<b>7. Standing Balance (30s):</b> (stopwatch ready) For item no.'s 7 & 8, first attempt is without assistive device. If support is required allow after first attempt  If a patient does not use a device, please use the first timed result. If a patient needs to use a device to stand, please use the second timed result.	Unsteady Steady but uses walking aid or other support Standing without support	= 0 = 1 = 2					
<b>8. Single limb standing balance:</b> (stopwatch ready) Time the duration of single limb standing on both the sound and prosthetic limb up to 30s.  Grade the quality, not the time.  *Eliminate item 8 for AMPnoPRO*  Sound side _____ seconds  Prosthetic side _____ seconds  If a patient does not use a device, please use the first timed result. If a patient needs to use a device to stand, please use the second timed result.	<b>Non-prosthetic side</b>  Unsteady Steady but uses walking aid or other support for 30s Single-limb standing without support for 30s	= 0 = 1 = 2					
	<b>Prosthetic Side</b>  Unsteady Steady but uses walking aid or other support for 30s Single-limb standing without support for 30s	= 0 = 1 = 2					
<b>9. Standing reach:</b> Reach forward and grasp the ruler. (Tester holds ruler 12in beyond extended arm(s) midline to the sternum)	Does not attempt Cannot grasp or requires arm support on assistive device Reaches forward and successfully grasps item no support	= 0 = 1 = 2					
<b>10. Nudge test:</b> With feet as close together as possible, examiner pushes lightly on pt.'s sternum with palm of hand 3 times (toes should rise) Record the average response after 3 pushes.	Begins to fall Staggers, grabs, catches self ore uses assistive device Steady	= 0 = 1 = 2					
<b>11. Eyes Closed:</b> (at maximum position #7) If support is required grade as unsteady.	Unsteady or grips assistive device Steady without any use of assistive device	= 0 = 1					
<b>12. Pick up objects off the floor:</b> Pick up a pencil off the floor placed midline 12in in front of foot.	Unable to pick up object and return to standing Performs with some help (table, chair, walking aid etc) Performs independently (without help)	= 0 = 1 = 2					

Assessment Task	Rating		Appointment					
			1	2	3	4	5	
<b>13. Sitting down:</b> Ask pt. to fold arms across chest and sit. If unable, use arm or assistive device.	Unsafe (misjudged distance, falls into chair ) Uses arms, assistive device or not a smooth motion Safe, smooth motion	= 0 = 1 = 2						
<b>14. Initiation of gait:</b> (immediately after told to “go”)	Any hesitancy or multiple attempts to start No hesitancy	= 0 = 1						
<b>15. Step length and height:</b> Walk a measured distance of 12ft twice (up and back).  Four scores are required or two scores (a. & b.) for each leg. “Marked deviation” is defined as extreme substitute movements to avoid clearing the floor.  <b>P</b> = Prosthesis <b>S</b> = Sound	<b>a. Swing Foot</b>  Does not advance a minimum of 12in Advances a minimum of 12in	= 0 = 1	<b>P</b>	<b>S</b>	<b>P</b>	<b>S</b>	<b>P</b>	<b>S</b>
	<b>b. Foot Clearance</b>  Foot does not completely clear floor without deviation Foot completely clears floor without marked deviation	= 0 = 1						
	<b>16. Step Continuity</b>	Stopping or discontinuity between steps (stop & go gait) Steps appear continuous	= 0 = 1					
<b>17. Turning:</b> 180 degree turn when returning to chair.	Unable to turn, requires intervention to prevent falling Greater than three steps but completes task without intervention No more than three continuous steps with or without assistive aid	= 0 = 1 = 2						
<b>18. Variable cadence:</b> Walk a distance of 12ft fast as possible safely 4 times. (Speeds may vary from slow to fast and fast to slow varying cadence) Please grade the average after 4 times.	Unable to vary cadence in a controlled manner Asymmetrical increase in cadence controlled manner Symmetrical increase in speed in a controlled manner	= 0 = 1 = 2						
<b>19. Stepping over an obstacle:</b> Place a movable box of 4in in height in the walking path.	Cannot step over the box Catches foot, interrupts stride Steps over without interrupting stride	= 0 = 1 = 2						

<b>20. Stairs (must have at least 2 steps):</b> Try to go up and down these stairs without holding on to the railing. Don't hesitate to permit pt. to hold on to rail. Safety First, if examiner feels that any risk is involved omit and score as 0.	<b>Ascending</b>  Unsteady, cannot do One step at a time, or must hold on to railing or device Step over step, does not hold onto the railing or device	= 0  = 1  = 2							
			<b>Descending</b>  Unsteady, cannot do One step at a time, or must hold on to railing or device Step over step, does not hold onto the railing or device	= 0  = 1  = 2					
	<b>21. Assistive device selection:</b> Add points for the use of an assistive device if used for two or more items. If testing without prosthesis use of appropriate assistive device is mandatory.	Bed bound Wheelchair / Parallel Bars Walker Crutches (axillary or forearm) Cane (straight or quad) None			= 0  = 1  = 2  = 3  = 4  = 5				
			<b>Total Score</b> AMPnoPRO	43		43	43	43	43
				<b>AMPPRO</b>		47	47	47	47

**Abbreviation:** PF = partial foot; TT = transtibial; KD = knee disarticulation; TF = transfemoral; HD = hip disarticulation

**Test:** ☐ no prosthesis   ☐ with prosthesis   **Observer:** \_\_\_\_\_ **Date:** \_\_\_\_\_

### K LEVEL (converted from AMP score)

**AMPnoPRO**   ☐ K0 (0-8)   ☐ K1 (9-20)   ☐ K2 (21-28)   ☐ K3 (29-36)   ☐ K4 (37-43)

**AMPPRO**   ☐ K1 (15-26)   ☐ K2 (27-36)   ☐ K3 (37-42)   ☐ K4 (43-47)

ADJUSTABLE SOCKET

## Outcome Measures Program

# Patient

### OUTCOME MEASURES INCLUDED

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- PLUS-M Short Forms
- Socket Fit Comfort Test



**Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Instructions:** We want to know how well you can move around using your prosthetic leg. Please respond to all questions as if you were wearing the prosthesis you would normally use to perform the task.

If you choose not to do an activity because it is not safe for you to do, please choose “unable to do.” If you normally use a device that helps you walk or balance (e.g., a cane, crutch, or walker) while performing the task, please answer the questions as though you were using that device. Do not answer questions as if you are sitting in a wheelchair or receiving support from another person.

**Please mark one box per row.**

Question	Without any difficulty	With a little difficulty	With some difficulty	With much difficulty	Unable to do
1. Are you able to walk a short distance in your home?	<input type="checkbox"/> (5)	<input type="checkbox"/> (4)	<input type="checkbox"/> (3)	<input type="checkbox"/> (2)	<input type="checkbox"/> (1)
2. Are you able to step up and down curbs?	<input type="checkbox"/> (5)	<input type="checkbox"/> (4)	<input type="checkbox"/> (3)	<input type="checkbox"/> (2)	<input type="checkbox"/> (1)
3. Are you able to walk across a parking lot?	<input type="checkbox"/> (5)	<input type="checkbox"/> (4)	<input type="checkbox"/> (3)	<input type="checkbox"/> (2)	<input type="checkbox"/> (1)
4. Are you able to walk over gravel surfaces?	<input type="checkbox"/> (5)	<input type="checkbox"/> (4)	<input type="checkbox"/> (3)	<input type="checkbox"/> (2)	<input type="checkbox"/> (1)
5. Are you able to move a chair from one room to another?	<input type="checkbox"/> (5)	<input type="checkbox"/> (4)	<input type="checkbox"/> (3)	<input type="checkbox"/> (2)	<input type="checkbox"/> (1)
6. Are you able to walk while carrying a shopping basket in one hand?	<input type="checkbox"/> (5)	<input type="checkbox"/> (4)	<input type="checkbox"/> (3)	<input type="checkbox"/> (2)	<input type="checkbox"/> (1)
7. Are you able to keep walking when people bump into you?	<input type="checkbox"/> (5)	<input type="checkbox"/> (4)	<input type="checkbox"/> (3)	<input type="checkbox"/> (2)	<input type="checkbox"/> (1)
8. Are you able to walk on an unlit street or sidewalk?	<input type="checkbox"/> (5)	<input type="checkbox"/> (4)	<input type="checkbox"/> (3)	<input type="checkbox"/> (2)	<input type="checkbox"/> (1)
9. Are you able to keep up with others when walking?	<input type="checkbox"/> (5)	<input type="checkbox"/> (4)	<input type="checkbox"/> (3)	<input type="checkbox"/> (2)	<input type="checkbox"/> (1)
10. Are you able to walk across a slippery floor?	<input type="checkbox"/> (5)	<input type="checkbox"/> (4)	<input type="checkbox"/> (3)	<input type="checkbox"/> (2)	<input type="checkbox"/> (1)
11. Are you able to walk down a steep gravel driveway?	<input type="checkbox"/> (5)	<input type="checkbox"/> (4)	<input type="checkbox"/> (3)	<input type="checkbox"/> (2)	<input type="checkbox"/> (1)
12. Are you able to hike about 2 miles on uneven surfaces, including hills?	<input type="checkbox"/> (5)	<input type="checkbox"/> (4)	<input type="checkbox"/> (3)	<input type="checkbox"/> (2)	<input type="checkbox"/> (1)

# Socket Fit Comfort Test (SFCS)

Test : Socket Fit Comfort Score

Measure of : Socket Comfort

Administered : Self-report

Equipment : Instrument and pencil

Time : < 1 Minute

Scoring : most uncomfortable 0-10 most comfortable VAS

Author: Hanspal R S 2003

Metrics :

Additional data:

“If 0 represents the most uncomfortable socket fit you can imagine and 10 represents the most comfortable socket fit, how would you score the comfort of the socket fit of your artificial limb at the moment?”

Socket Fit Comfort Score

Most Uncomfortable

Most Comfortable

0

1

2

3

4

5

6

7

8

9

10

Four characteristics concerning your prosthesis are listed below. Please indicate your degree of satisfaction for each one of these characteristics

« Check one box for each characteristic »

	Not At All Satisfied	Slightly Satisfied	Moderately Satisfied	Quite Well Satisfied	Completely Satisfied
a. Comfort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Appearance (the look of your prosthesis)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Weight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. The way you walk with the prosthesis (appearance of your gait)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>