Surveys

Global Rating of Change Scale

This survey will be provided to the participant in the Biodynamics Lab after walking on the treadmill using their current socket and each new socket that is worn as part of the research study.

"Please rate your overall perception of the comfort of this socket relative to your current socket on a scale ranging from -7 (a very great deal worse) to zero (about the same) to 7 (a very great deal better)."

-7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7

"Please rate your overall perception of the function of this socket relative to your current socket on a scale ranging from -7 (a very great deal worse) to zero (about the same) to 7 (a very great deal better)."

-7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7

Socket Comfort Score

This survey will be provided to the participant in the Biodynamics Lab after walking on the treadmill using their current socket and each new socket that is worn as part of the research study.

One a 0 to 10 scale, 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?

Prosthetic Limb Users Survey of Mobility (PLUS-M)

Version 1.2 – English (US)

12-item Short Form

PLUS™ MOBILITY

Name: _____ **Date:** _____

Instructions: Please respond to all questions as if you were wearing the prosthetic leg(s) you use most days. If you would normally use a cane, crutch, or walker to perform the task, please answer the questions as if you were using that device.

Please choose "unable to do" if you:

- Would need help from another person to complete the task,
- Would need a wheelchair or scooter to complete the task, or
- Feel the task may be unsafe for you

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?	☐ (5)	☐ (4)	☐ (3)	☐ (2)	☐ (1)
2. Are you able to step up and down curbs?	☐ (5)	☐ (4)	☐ (3)	☐ (2)	☐ (1)
3. Are you able to walk across a parking lot?	☐ (5)	☐ (4)	☐ (3)	☐ (2)	☐ (1)
4. Are you able to walk over gravel surfaces?	☐ (5)	☐ (4)	☐ (3)	☐ (2)	☐ (1)
5. Are you able to move a chair from one room to another?	☐ (5)	☐ (4)	☐ (3)	☐ (2)	☐ (1)
6. Are you able to walk while carrying a shopping basket in one hand?	☐ (5)	☐ (4)	☐ (3)	☐ (2)	☐ (1)
7. Are you able to keep walking when people bump into you?	☐ (5)	☐ (4)	☐ (3)	☐ (2)	☐ (1)
8. Are you able to walk on an unlit street or sidewalk?	☐ (5)	☐ (4)	☐ (3)	☐ (2)	☐ (1)
9. Are you able to keep up with others when walking?	☐ (5)	☐ (4)	☐ (3)	☐ (2)	☐ (1)
10. Are you able to walk across a slippery floor?	☐ (5)	☐ (4)	☐ (3)	☐ (2)	☐ (1)
11. Are you able to walk down a steep gravel driveway?	☐ (5)	☐ (4)	☐ (3)	☐ (2)	☐ (1)
12. Are you able to hike about 2 miles on uneven surfaces, including hills?	☐ (5)	☐ (4)	☐ (3)	☐ (2)	☐ (1)

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Scoring the PLUS-M™ 12-Item Short Form

PLUS-M™ short forms are scored with a T-score. To find the T-score, sum scores for all responses on the short form. This is the raw score. Do not use the raw score for any purpose other than to look up the T-score using the conversion table below. If any questions on the short form are unanswered, refer to the PLUS-M™ Short Form Users Guide for instructions on scoring *incomplete* short forms.

PLUS-M™ 12-item Short Form (v1.2) T-score Conversion Table

Raw Score	T-score	SE	Percentile
12	21.8	4.4	0.2%
13	25.2	3.4	0.7%
14	27.2	3.1	1.1%
15	28.7	2.9	1.6%
16	30.0	2.7	2.3%
17	31.2	2.5	3.0%
18	32.2	2.3	3.8%
19	33.2	2.2	4.6%
20	34.1	2.1	5.5%
21	34.9	2.1	6.5%
22	35.6	2.0	7.6%
23	36.4	2.0	8.6%
24	37.1	1.9	9.8%
25	37.7	1.9	11.0%
26	38.4	1.9	12.3%
27	39.0	1.9	13.6%
28	39.7	1.9	15.1%
29	40.3	1.9	16.6%
30	40.9	1.9	18.1%
31	41.5	1.9	19.8%
32	42.1	1.9	21.5%
33	42.7	1.9	23.3%
34	43.3	1.9	25.2%
35	43.9	1.9	27.2%
36	44.5	1.9	29.3%

Raw Score	T-score	SE	Percentile
37	45.2	1.9	31.5%
38	45.8	1.9	33.7%
39	46.4	1.9	36.1%
40	47.1	1.9	38.5%
41	47.7	1.9	41.1%
42	48.4	1.9	43.7%
43	49.1	2.0	46.4%
44	49.8	2.0	49.1%
45	50.5	2.0	51.9%
46	51.2	2.0	54.8%
47	52.0	2.1	57.8%
48	52.7	2.1	60.8%
49	53.6	2.1	63.9%
50	54.4	2.2	67.0%
51	55.3	2.3	70.2%
52	56.3	2.4	73.4%
53	57.3	2.5	76.7%
54	58.4	2.6	79.9%
55	59.6	2.8	83.2%
56	61.0	2.9	86.4%
57	62.5	3.1	89.5%
58	64.5	3.3	92.6%
59	67.1	3.8	95.6%
60	71.4	4.9	98.4%

Record the PLUS-M™ T-score here.

↓↓↓↓

PLUS-M™ T-score

For T-scores with standard error (SE) greater than 3.0, use of the PLUS-M™ CAT (www.plus-m.org) is recommended to obtain better measurement precision. Percentile indicates the percent of the PLUS-M™ development sample that reported lower mobility than is reflected by the corresponding T-Score. For more information on interpretation of PLUS-M™ T-scores, please refer to the PLUS-M™ Short Form Users Guide.

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Appendix V: Amputee Mobility Predictor (AMP) scoring form[19]

Amputee Mobility Predictor Questionnaire

Initial instructions: Testee 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 testee 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.

1. Sitting balance: sit forward in a chair with arms folded across chest for 60s.	Cannot sit upright independently for 60s Can sit upright independently for 60s	=0 =1	
2. Sitting reach: reach forward and grasp the ruler. (Tester holds ruler 12in beyond extended arms midline to the sternum.)	Does not attempt Cannot grasp or requires arm support Reaches forward and successfully grasps item	=0 =1 =2	
3. Chair to chair transfer: 2 chairs at 900. Pt may choose direction and use their upper extremities.	Cannot do or requires physical assistance Performs independently, but appears unsteady Performs independently, appears to be steady and safe	=0 =1 =2	
4. Arises from a chair: ask pt to fold arms across chest and stand. If unable, use arms or assistive device.	Unable without help (physical assistance) Able, uses arms/assist device to help Able, without using arms	=0 =1 =2	
5. Attempts to arise from a chair (stopwatch ready): if attempt in no. 4was without arms then ignore and allow another attempt without penalty.	Unable without help (physical assistance) Able requires>1 attempt Able to rise 1 attempt	=0 =1 =2	
6. Immediate standing balance (first 5s): begin timing immediately.	Unsteady (staggers, moves foot, sways) Steady using walking aid or other support Steady without walker or other support	=0 =1 =2	
7. Standing balance (30s) (stopwatch ready): For items nos. 7 & 8, first attempt is without assistive device. If support is required, allow after first attempt.	Unsteady Steady but uses walking aid or other support Standing without support	=0 =1 =2	
8. Single-limb standing balance (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. Sound side ____seconds Prosthetic side ____seconds	Nonprosthetic side Unsteady Steady but uses walking aid or other support for 30s Single-limb standing without support for 30s Prosthetic Side Unsteady Steady but uses walking aid or other support for 30s Single-limb standing without support for 30s	 =0 =1 =2 =0 =1 =2	
9. Standing reach: 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	
10. Nudge test (subject at maximum position #7): with feet as close together as possible, examiner pushes firmly on subject's sternum with palm of hand 3 times (toes should rise).	Begins to fall Staggers, grabs, catches self, or uses assistive device Steady	=0 =1 =2	

Content has been exerpted from Gailey RS, Roach KE, Applegate EB, et al. The amputee mobility predictor: an instrument to assess determinants of the lower-limb amputee's ability to ambulate. *Arch Phys Med Rehabil*. 2002;83(5):613-627.

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11. Eyes closed (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	
12. Picking up objects off the floor (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 from object or person)	=0 =1 =2	
13. Sitting down: 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	
14. Initiation of gait (immediately after told to "go").	Any hesitancy or multiple attempts to start No hesitancy	=0 =1	
15. Step length and height: walk a measured distance of 12ft twice (up and back). Four scores are required or 2 scores (a & b) for each leg. "Marked deviation" is defined as extreme substitute movements to permit clearing the floor.	a. Swing foot Does not advance a minimum of 12in Advances a minimum of 12in	= 0 = 1	Prosthesis Sound
b. Foot clearance	Foot does not completely clear floor without deviation Foot completely clears floor without marked deviation	= 0 = 1	Prosthesis Sound
16. Step continuity.	Stopping or discontinuity between steps (stop & go gait) Steps appear continuous	= 0 = 1	
17. Turning: 1800 turn when returning to chair.	Unable to turn, requires intervention to prevent falling Greater than 3 steps but completes task without intervention No more than 3 continuous steps with or without assistive aid	= 0 = 1 = 2	
18. Variable cadence: walk a distance of 12ft fast as safely as possible 4 times. (Speeds may vary from slow to fast and fast to slow, varying cadence.)	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	
19. Stepping over obstacle: 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	
20. Stairs (must have at least 2 steps): 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 in involved omit and score as 0.	Ascending Unsteady, cannot do One step at a time, or must hold on to railing or device Steps over step, does not hold onto the railing or device Descending Unsteady, cannot do One step at a time, or must hold on to railing or device Steps over step, does not hold onto the railing or device	= 0 = 1 = 2 = 0 = 1 = 2	
21. Assistive device selection: add points for the use of an assistive device if used for 2 or more items. If testing without prosthesis use of appropriate assistive device is mandatory.	Bed bound Wheelchair Walker Crutches (axillary or forearm) Cane (straight or quad) None	= 0 = 1 = 2 = 3 = 4 = 5	

	AMPPro	AMPnoPro
K0	N/A	0-8
K1	15-26	9-20
K2	27-36	21-28
K3	37-42	29-36
K4	43-47	37-43

Total Score 0 /47 K level =

Trial ☺no prosthesis ☺with prosthesis Observer

Date Abbreviation: PF, partial foot; TT, transtibial; KD, knee disarticulation; TF, transfemoral; HD, hip disarticulation; Pt, patient.

Content has been exerpted from Gailey RS, Roach KE, Applegate EB, et al. The amputee mobility predictor: an instrument to assess determinants of the lower-limb amputee's ability to ambulate. *Arch Phys Med Rehabil.* 2002;83(5):613-627.

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