Modified Spinal Cord Injury Functional Ambulation Profile (mSCI-FAP) instructions

Perform this test if patient meets the following stage: 2A) Therapeutic Walking Capacity – Maximum Assist: ability to stand and initiate reciprocal steps through voluntary L/E movement but requires maximal physical assistance (>50% of total effort) of at least one person and may include use of assistive devices and/or orthoses with the exception of bilateral KAFOs.

Time needed to complete test: 15-45 minutes

Equipment needed:
- Masking Tape
- Stopwatch
- Carpet – no less than 7m long and 2m wide (5m are timed)
- Standard armchair (44cm seat height)
- 2 standard bricks
- A trash can
- A step, 81-cm width, 122-cm length, 21-cm height

General Therapist Instructions:
- The modified SCI-FAP is composed of 4 tasks: (1) Carpet, (2) Up & Go, (3) Obstacles, and (4) Step. Each participant is given a rest period between tasks long enough for the tester to explain and demonstrate the next task. Each participant is instructed to use an assistive device and/or brace(s) as needed. The tester provides instructions and answers the participant’s questions.
- The tester provides physical assistance if needed. The tester times the participant during each task. The tester provides feedback/encouragement only after the task is completed.
- The tester records the performance time for all 4 tasks on a data collection table (see scoring table on testing sheet). If the participant cannot attempt a task, or does not complete a task, he/she is assigned the maximum time for that task, and an assistance rating of 6 (‘unable to complete’) (scoring table for assistance rating is below as well as on the testing sheet). If the participant takes longer than the maximum time to complete a task, he/she is assigned the maximum time, and the assistance rating that corresponds to the devices/assistance used for that task. Upon completion of all tasks, the tester calculates a total abbreviated SCI-FAP score (see Scoring the Spinal Cord Injury Functional Ambulation Profile below).
General Patient Instructions:
- The tester provides an explanatory overview of the 4 tasks comprising the abbreviated SCI-FAP. Prior to performance of each task, the tester explains and demonstrates the task. The participant is informed that performance of each task is timed and is instructed to ask for clarification at any time.

Instructions per test

#1 Carpet
Setup: Carpeted area or a piece of short pile carpet, no less than 7-m long and 2-m wide, securely taped to the floor. Starting point is marked with a 1-m strip of masking tape. End point is marked exactly 5-m from the starting point with a 2-cm piece of masking tape. Both starting point and end point are at least 1-m from the edge of the carpet.

Instructions: Tester explains while demonstrating the Carpet task: “When I say ‘go,’ walk at your normal, comfortable pace until I say ‘stop.’ “Tester assists participant as needed in placing toes on starting line tape. Tester says “go,” and presses stopwatch to begin timing. Participant walks toward the end point. Tester walks alongside the participant as the participant traverses the 5-m distance. Tester presses stopwatch to stop timing once both of the participant’s feet have crossed the end point. Tester tells the participant to stop when he or she is beyond the end point. Tester records time and assistance rating required for task.

#2 Up and Go
Setup: Standard armchair with a 44-cm seat height (from floor) is placed on the hard, non-carpeted floor. Three meters away from the start line, a 1-m strip of masking tape is placed on the floor.

Instructions: Tester explains while demonstrating the Up & Go task: “You will sit in this chair with your back against the back of the chair and your arms resting on the armrests. When I say ‘go,’ you will stand up from the chair, walk at your normal comfortable pace past this line, turn around, walk back to the chair, and sit down, making sure your back is against the back of the chair. You may use the arms of the chair if needed.” Participant assumes sitting position in the chair. Tester assists participant as needed in placing toes on starting line tape. Tester stands beside the chair and prepares to walk with the participant. Tester says “go,” and presses stopwatch to begin timing. Tester monitors line to ensure both
of participant’s feet cross the line before turning around. Tester stops timing when participant is fully seated with back against the chair. Tester records time and assistance rating required for task.

#3 Obstacles

Setup: A 1-m piece of masking tape is placed on a hard, non-carpeted floor to mark the starting point. A standard brick is placed on the floor at the 1.5-m mark and the 3-m mark. A trash can (diameter 56cm, height 70cm) is placed at the 5-m mark.

Instructions: Tester explains while demonstrating the Obstacles task: “When I say ‘go,’ walk forward at your normal, comfortable pace and step over each brick. Then, walk around the trash can from either the left or right. Then walk back stepping over the bricks again. Do not hit the bricks or bin with your body or walking aid, if possible. Continue walking until I say ‘stop.’” Tester assists participant as needed in placing toes on starting line. Tester says “go,” and presses stopwatch to begin timing. Tester walks with participant. When both of the participant’s feet have crossed the end line, tester presses stopwatch to stop timing. Tester tells the participant to “stop” when he or she is beyond the end line. Tester records time, assistance rating required for task, and completes the ‘C: Hit Obstacle’ row (by entering a “1” if the participant hit any obstacles with his/her body or walking aid while completing the task or a “0” if no obstacle was hit).

#4 Step

Setup: A step with the measurements shown in the diagram below is used. Two pieces of masking tape are placed on the floor to indicate the start and finish points. The first, 1-m in length, is placed 1-m in front of the step. The second piece, 2-cm in length, is placed 1-m behind the step.
**Instructions:** Tester explains while demonstrating the Step task: “When I say ‘go’, walk towards the step, up and over, and continue walking until I say stop.” Tester assists participant as needed in placing toes on the starting point. Tester says “go” and presses stopwatch to begin timing. Participant walks toward the end point. Tester follows participant through the task for safety. Tester presses stopwatch to stop timing when both of the participant’s feet have crossed the end point. Tester records time and assistance rating required for task.

**Assistance Ratings:** Each participant is instructed to use an assistive device and/or brace(s) as needed. If a therapist is required to use a transfer belt by their facility the assistance rating will be independent unless the therapist has to physically touch or assist a patient during the test. If a harness or overhead support is required for assistance and safety then an assistance level of 5 is assigned.

1 = independent (walking without any walking aids or assistance)
2 = 1 cane/crutch/rail
3 = 2 canes/crutches/rails
4 = walker (standard walker or 2- or 4-wheeled walker)
5 = assist of 1 (physical assistance of 1 person whether minimum, moderate or maximum assist)
6 = unable to complete

**Clinical Reference Values:**

**In SCI:**

**Minimal Detectable Change:** Carpet: 9.0; Up & Go: 14.0; Obstacles: 14.7; Step: 36.1 (total score reference values are not available because the full SCI-FAP includes seven items, whereas this version has only four)


**Normative, Able-bodied individuals:**

- Floor 4.4 + 0.6s
- Carpet 4.4+ 0.6s
- Up & Go 9.1 + 1.2s
- Obstacles 11.4 + 1.3s
- Stairs 6.2 + 0.8s
- Carry 4.4 + 0.5s
- Step 3.7 + 0.5s
- Ramp 6.2 +1.0s
- Door 5.0 + 0.7s

Mean times from the able-bodied data are used to normalize the task scores for the SCI-FAP.