ACADEMY OF NEUROLOGIC PHYSICAL THERAPY

# 10 METER WALK TEST (10MWT)

Orange text indicates that the reference was also critically appraised and cited in the publication "A Core Set of Outcome Measures for Adults with Neurologic Conditions Undergoing Rehabilitation: A Clinical Practice Guideline". Journal of Neurologic Physical Therapy 2018; 42(2): 174-220.

### Instructions:1-5

- Please refer to the protocol for standardized administration of the 10mWT. This can be found at: <u>http://neuropt.org/practice-resources/anpt-clinical-practice-guidelines/core-outcome-measures-cpg</u>
- Two trials each are recommended: comfortable speed and fast speed. The two trials for each speed are averaged and the two gait speeds are documented in meters/second (m/s).
- Comfortable speed instructions:
  "Walk at your own comfortable walking pace and stop when you reach the far mark."
- Fast speed instructions:
  "Walk as fast as you can safely walk and stop when you reach the far mark."

#### Timing and conversion:1-5

- The time is started when any part of the leading foot crosses the plane of the 2 m mark.
- The time is stopped when any part of the leading foot crosses the plane of the 8 m mark.
- Divide 6 m by the seconds recorded to get a speed in m/s.

# Considerations:<sup>2-3, 5</sup>

- Document any assistive device/bracing used.
- Document the amount of assistance using the 7-point ordinal scale described in the standardized administration protocol.
- If a patient requires total assistance, is unable to ambulate, or requires assistance for limb swing or forward propulsion, a score of 0 should be documented.
- Avoid "pacing" the patient by not walking in front of or next to the patient. Instead, walk at least a half step behind the patient.

# What Does my Patient's Score Mean?

Cut-off scores and normative values may be used in conjunction with a complete evaluation to interpret the meaning of a patient's 10mWT score.

- Cutoff Scores (Stroke)
  - <0.4 m/s household ambulators<sup>6</sup>
- 0.4-0.8 m/s limited community ambulators<sup>6</sup>
- >0.8 m/s community ambulators<sup>6</sup>
- Cutoff Scores (Healthy older adults)
  - $\circ~<$  0.7 m/s is indicative of increased risk of adverse events (fall, hospitalization, need for caregiver, fracture, etc.)  $^7$

# What Constitutes a Change in Gait Speed?

Change can be determined using values of Minimal Detectable Change (MDC), Smallest Detectable Change (SDC) and Minimal Clinically Important Difference (MCID). MDC is the minimal change required to ensure the change is not the result of measurement error. SDC or MCID is the minimal change required for the patient to also feel an improvement in the construct being measured. \*Denotes that the MDC was calculated from the Standard Error of the Measure.

- Parkinson's Disease (Hoehn and Yahr 1-4, median score 2)
  - Parkinson's Disease (Hoehn and Yahr I MDC (comfortable): 0.18 m/s<sup>1</sup>
  - MDC (comfortable): 0.18
     MDC (fast): 0.25 m/s<sup>1</sup>
- Spinal Cord Injury (incomplete SCI < 12 months)</li>
   MDC: 0.13 m/s<sup>9</sup>
- Stroke
  - MDC<sup>+</sup> (acute) 0.11 m/s<sup>10</sup>
  - MDC<sup>+</sup> (chronic > 6months, comfortable): 0.18 m/s<sup>11</sup>
  - MDC<sup>+</sup> (chronic > 6months, fast): 0.13 m/s<sup>11</sup>
  - o MCID (subacute): 0.16 m/s<sup>12</sup>
- Huntington's Disease
  - MDC (pre-manifest HD, comfortable): 0.23 m/s<sup>13</sup>
  - o MDC (manifest HD, comfortable): 0.34 m/s<sup>13</sup>
  - MDC (early-stage HD, comfortable): 0.20 m/s<sup>13</sup>
  - MDC (middle-stage HD, comfortable): 0.46 m/s<sup>13</sup>
  - MDC (late-stage, comfortable): 0.29 m/s<sup>13</sup>
- Multiple Sclerosis
  - Smallest % difference change (EDSS 3.0-6.0, comfortable): -23%/+30%<sup>14</sup>
  - o MDC (EDSS 0-6.5, comfortable and fast): 0.26 m/s<sup>15</sup>

• Normative values (Healthy adults)<sup>8</sup>

Decade	Men (m/s)	Women (m/s)
20s	1.358	1.341
30s	1.433	1.337
40s	1.434	1.390
50s	1.433	1.313
60s	1.339	1.241
70s	1.262	1.132
80s/90s	0.968	0.943

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