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6 Minute Walk Test

Availability	**Freely available at this website:** 6 Minute Walk Test The protocol is freely available here: 6 Minute Walk Test Protocol
Classification	**Supplemental - Highly Recommended**: Sickle Cell Disease (SCD) ***Recommendations on Use**: Indicated for studies targeted at walking function where the intended population is less severely impaired (i.e., AIS D) and may be able to walk 6 minutes. Consider a shorter test (i.e., 2 Minute Walk Test) for patients with more severe injuries or less endurance.
Short Description of Instrument	**Background:** This test was originally developed for use in patients with cardiopulmonary disease, but has since been used in a variety of neurological conditions including MS. The 6-minute walk test (6MWT) measures the distance a patient can quickly walk on a flat, hard surface in a period of 6 minutes (the 6MWD). This evaluates the global and integrated responses of all the systems involved during exercise, including pulmonary and cardiovascular systems, systemic circulation, peripheral circulation, blood, neuromuscular units, and muscle metabolism. The 6MWT does not provide specific information on the function of each of the different organs and systems involved in exercise, or the mechanism of exercise limitation as is possible with maximal cardiopulmonary exercise testing. The self-paced 6MWT assesses the submaximal level of functional capacity. Most patients do not achieve maximal exercise capacity during the 6MWT; instead, they choose their own intensity of exercise and can stop and rest during the test. However, because most activities of daily living are performed at submaximal levels of exertion, the 6MWD may better reflect the functional exercise level for daily physical activities. **Construct measured:** Walking speed **Generic vs. disease specific**: Generic **Means of administration:** Administered in-person by a trained examiner. **Intended respondent:** Patient
Comments/Special Instructions	**Administration:** Administration time will vary depending on the patient's ability. Total administration time should be approximately 6 minutes.

Rationale/Justification	**Strengths/Weaknesses:** Sources of variability include the following: Factors reducing the 6MWD - Shorter height, Older age, Higher body weight, Female sex, Impaired cognition, A shorter corridor (more turns), Pulmonary disease (COPD, asthma, cystic fibrosis, interstitial lung disease), Cardiovascular disease (angina, MI, CHF, stroke, TIA, PVD, AAI), Musculoskeletal disorders (arthritis, ankle, knee, or hip injuries, muscle wasting, fatigue, etc.); Factors increasing the 6MWD - Taller height (longer legs), Male sex, High motivation, A patient who has previously performed the test, Medication for a disabling disease taken just before the test, Oxygen supplementation in patients with exercise-induced hypoxemia.
Scoring and Psychometric Properties	**Scoring:** Record the number of laps from the counter (or tick marks on the worksheet). Record the additional distance covered (the number of meters in the final partial lap) using the markers on the wall as distance guides. Calculate the total distance walked, rounding to the nearest meter, and record it on the worksheet. Most 6MWTs will be done before and after intervention, and the primary question to be answered after both tests have been completed is whether the patient has experienced a clinically significant improvement. Assistive devices can be used but should be recorded at each test. **Psychometric Properties:** The 6-min walk has good test-retest reliability in older populations ($.88 < R < .94$). particularly when a practice trial preceded the test trial. Convergent validity of the 6-min walk was demonstrated by its moderate correlation ($.71 < r < .82$) with treadmill performance. Construct validity was assessed by determining the ability of the test to detect differences between different age and activity level groups. As expected, walking scores decreased significantly across decades and were significantly lower for low-active subjects compared to high-active subjects. There was a moderate relationship between 6-min walk scores and self-reported functional ability. It was concluded that the 6-min walk can be used to obtain reasonably reliable and valid measures of physical endurance in older adults and that it moderately reflects overall physical functional performance. In healthy children, the 6-min walk test is a reliable and valid functional test for assessing exercise tolerance and endurance.
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