

Six Minute Walk Test (6MWT)

instructions

Set up

Ideally the test should be conducted on a straight 30 metre track¹. If the track needs to be adapted or shortened due to lack of space, ensure that the patient walks the same course on each re-test.

Suggested Equipment:

- [6MWT recording form](#)
- [Rate of perceived exertion - Borg scale](#)
- Pulse oximeter with appropriate sensor
- Stop watch or timer
- Chairs (number will depend on patient's condition and risk)
- Sphygmomanometer and stethoscope, or similar method of accurately assessing BP
- Trundle wheel for measuring the 6MWT track and the distance walked
- Clip board and recording sheet
- Portable oxygen if required

Repeat measures

Two 6MWTs are often recommended for initial assessments due to a learning effect when performing the test. Recent studies have demonstrated however that a single measure is often acceptable^{2,3}.

Should you choose to do repeat measures in succession, this should be done each time so that measures are consistent and a duration of at least 15 minutes provided between tests to allow adequate recovery.

Administering test

1. Prior to walking say to patient:

The object of this test is to walk as FAR AS POSSIBLE for 6 minutes. You will walk back and forth along this course (demonstrate one lap) for six minutes.

You may slow down if necessary. If you stop, I want you to continue to walk again as soon as possible.

You will be informed of the time and encouraged each minute.

Please do not talk during the test unless you have a problem or I ask you a question. You must let know if you have any chest pain or dizziness.

When six minutes is up I will ask you to STOP where you are. Do you have any questions?

2. To begin say to patient:

Start now, or whenever you are ready (start stopwatch when walking starts).

3. During the test:

Provide the following standard encouragements in even tones. Do not use other words of encouragement or body language to speed up.

- At 1 minute: *You are doing well. You have 5 minutes to go.*
- At 2nd minute: *Keep up the good work. You have 4 minutes to go.*
- At 3rd minute: *You are doing well. You are halfway done.*
- At 4th minute: *Keep up the good work. You have only 2 minutes left.*
- At 5th minute: *You are doing well. You have only 1 minute to go.*
- At 6th minute: *Please stop where you are.*

If the patient stops during the test:

Allow the patient to rest or sit in a chair if they wish, and check SpO₂ and heart rate. Ask the patient why they stopped.

Keep the stopwatch running and advise: *Please resume walking whenever you feel able.*

Six Minute Walk Test (6MWT) instructions continued...

4. At the end of the test:

Record the total distance walked.

Record, heart rate, blood pressure and Rating of Perceived Exertion (RPE). Record recovery time to gain additional information.

The patient should remain in a clinical area for at least 15 minutes following an uncomplicated test.

Scoring

Change in 6MWT distance can be measured in several ways. The most common include:

- Absolute change (post program distance – pre-program distance). The minimum important distance (MID) is 25 metres in patients with coronary artery disease and chronic respiratory disease^{4,5}.
- Percentage change may be a more relevant measure for frail patients whose baseline distance is very short eg. < 100 metres. Calculate as follows: $\frac{\text{post program distance} - \text{pre-program distance}}{\text{pre-program distance}} \times 100$.

Reference equations (to adjust for variables such as height, weight, age and gender predict clinical progress) are available however are no better than simply using 6MWT distance alone⁶.

References

1. Holland, A., Spruit, M., Troosters, T., Puhan, M., Pepin, V., Saey, D., ... Singh, S. (2014). *An official European Respiratory Society/American Thoracic Society Technical Standard: field walking tests in chronic respiratory disease* Eur Respir J
2. Bellet, R. N., Francis, R., Jacob, J. S., Healy, K. M., Bartlett, H. J., Adams, H. J., & Morris, M. (2011). *Repeated six-minute walk tests for outcome measurement and exercise prescription in outpatient cardiac rehabilitation: a longitudinal study*. Arch Phys Med Rehabil, 92(9), 1388-1394
3. Adsett, J., Mullins, R., Hwang, R., Hogden, A., Gibson, E., Houlihan, K., ... Mudge, A. (2011). *Repeated Six Minute Walk Tests in Patients with Chronic Heart Failure: Are They Clinically Necessary?* Eur J Cardiovasc Prev Rehabil.; 18 (4): 601-606
4. Shoemaker, M. J., Curtis, A. B., Vangsnes, E., & Dickinson, M. G. (2013). *Clinically meaningful change estimates for the six-minute walk test and daily activity in individuals with chronic heart failure*. Cardiopulm Phys Ther J Sep; 24(3): 21-9.
5. Gremeaux, V., Troisgros, O., Benaim, S., Hannequin, A., Laurent, Y., Casillas, J. M., & Benaim, C. (2011). *Determining the Minimal Clinically Important Difference for the Six-minute Walk Test and the 200-Meter Fast-Walk Test During Cardiac Rehabilitation Program in Coronary Artery Disease Patients after Acute Coronary Syndrome*. Arch Phys Med Rehabil. 92, 611-619.
6. Frankenstein, L., Zugck, C., Nelles, M., Schellberg, D., Katus, H., & Remis, A. (2008). *Sex-specific predictive power of 6 minute walk test in chronic heart failure is not enhanced using percent achieved of published reference equations*. J Heart Lung Transplant. 27(4), 427-434.