

## **Six-Minute Walk Test**

**Equipment:** Blood pressure cuff, stethoscope, stopwatch, Rate of Perceived Exertion Scale

**Facility:** 30 meter indoor walkway, mark every 3 meters

**In Home:** long hallway, marker for turns, rolling tape measure or other way of calculating distance walked (may not be directly comparable to norms due to variation in testing procedure). Try to minimize number of turns, make turns wide if possible.

**Purpose:** Evaluate aerobic capacity

### **Procedure:**

1. Assess vitals: HR, BP, RR, Rate of Perceived Exertion.  
*If participant is taking a BETA BLOCKER it will blunt their HR response to exercise, therefore HR is not a reliable measure. Rely on RPE, dyspnea scales and BP response.*
2. Instruct individual to walk as FAR as they can in 6 minutes
  - Use of an assistive device and/or oxygen allowed if needed
  - Stops and rests allowed at any time, but not allowed to sit
  - Do not walk with the patient. If balance is an issue, the walk behind and to the side.
3. Give standard words of encouragement every minute: "You are doing well, 5 minutes to go"
  - Do not converse during test other than standard words of encouragement
4. At the end of time, have the individual sit and take HR, BP, RR, and RPE
5. Measure the distance they completed

### **Scripted Instructions to the Participant:**

"The object of this test is to **walk as far as possible** for 6 minutes. You will walk back and forth in this hallway. Six minutes is a long time to walk, so you will be exerting yourself. You will probably get out of breath or become exhausted. You are permitted to slow down, to stop, and to rest as necessary. You may lean against the wall while resting, but resume walking as soon as you are able.

You will be walking back and forth around the cones. You should pivot briskly around the cones and continue back the other way without hesitation. Now I'm going to show you. Please watch the way I turn without hesitation." (ATS, 2002) We will avoid having a conversation so that you can save your wind for walking. You can begin when I say 'go'.

### **Guidelines for the Tester:**

"If the patient stops walking during the test and needs a rest, say this: 'You can lean against the wall if you would like; then continue walking whenever you feel able.' Do not stop the timer. If the patient stops before the 6 minutes are up and refuses to continue (or you decide that they should not continue) ... the chair over for the patient to sit on, discontinue the walk, and note on the worksheet the distance, the time stopped, and the reason for stopping prematurely." (ATS, 2002)

VARIATION: Walk the 6 minutes as **fast** as you can (*Rikli & Jones in Senior Fitness Manual*)

<b>Absolute contraindications:</b> <ul style="list-style-type: none"> <li>• unstable angina during the previous month</li> <li>• myocardial infarction during the previous month.</li> </ul>	<b>Relative contraindications:</b> <ul style="list-style-type: none"> <li>• Resting HR &gt; 120</li> <li>• SBP &gt; 180 mm Hg</li> <li>• DBP &gt; 100 mm Hg</li> </ul>
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**Terminate exercise if:**

Angina, light-headedness, confusion, ataxia, staggering unsteadiness, pallor, cyanosis, nausea, marked dyspnea, unusual fatigue, claudication or other significant pain, facial expressions signifying distress.

**Safety:** Monitor vital signs before after the test. If there is an unexpected vital sign response, continue monitoring and documenting every 5 minutes until SBP and HR returns to within about 10-20 of pre-exercise values. Note heart rhythm, especially if it changes from a regular rhythm in pre-exercise to an irregular rhythm in post-exercise.

**Norms**

Category	Total Sample	Feet Walked
Women 60-69	1176	1952 feet (1509-1801)
Men 60-69	582	1909 feet (1677-1998)
Women 70-79	1426	1607 feet (1450-1765)
Men 70-79	661	1738 feet (1581-1896)
Women 80-89	499	1253 feet (1036-1473)
Men 80-89	228	1463 feet (1263-1663)

**Clinimetrics**

Population/Study	MDC		Sample/Study	MCID
<b>Alzheimer's</b> (Reis 2009)	109 ft (33.5 m)		<b>CAD</b> (Gremeaux –Patient Rating)	82 ft (25m)
<b>Older Adults</b> (Perera 2006)	190 ft (58.2 m)		<b>Pulmonary Fibrosis</b> (duBois—Mortality)	82 ft (25m)
<b>COPD</b> (Redemeier 1997)	177 ft (54 m)		<b>COPD</b> (Holland—Patient Rating)	80 ft (24.5m)
<b>Parkinson's</b> (Steffen 2008)	268 ft (82 m)		<b>COPD</b> (Polkey—Mortality)	98 ft (30m)
<b>Chronic Stroke</b> (Eng/Flasbjer 2004/5)	112-119 ft (34.4-36.3m )		<b>Older Adults with Fear of Falling</b> (Kwok—Patient Rating)	58 ft (17.8m)

Date	Score	Notes (device, gt quality, etc.)

**Aging of the Cardiovascular system:**

- Resting HR in the elderly does not vary significantly from resting HR in normal, young population.
- In the elderly population, HR response to exercise can be less brisk, and also will not rise to as high of a maximal HR (compared to young normal),
- For the person with cardiac risk factors, if graded exercise stress test results are not available (the gold standard for establishing a target HR), keep the peak exercise HR under 120-130 bpm. Alternatively, only allow a HR rise of 20 bpm.