

# 12-Minute Walk Test: Guidelines

For people with McArdle disease this 12-Minute Walk Test must be used in preference to the more common 6-Minute Walk Test. This is because “second-wind” usually becomes apparent at approx. 6 to 10 minutes.

## Equipment required

- Treadmill
- Heart rate monitor †
- Stopwatch \*
- Scale for rating of perceived pain (download from web site)
- Clipboard with data log sheet

† It is possible to use the heart rate feedback on the treadmill, but a chest-strap type with output under the control of the supervisor may be more convenient.

\* Do not use the timer on the treadmill as it will pause if and when the participant pauses the treadmill for a rest.

## Preparation

- Confirm that participant has sought medical advice on starting exercise and knows their baseline CK.
- Agree start speed with the participant (may need to be as low as 0.1 kmph for the very unfit). Better to start too slow than too fast.
- Calculate the participant’s advised maximum heart rate as:  $208 - (0.7 \times \text{age})$ .
- Confirm that the participant has no impairment of pain sensations and understands the scale of Ratings of Perceived Pain.
- If the participant is anxious about walking on a treadmill, offer a brief trial session. †
- The participant must be rested for at least 30 minutes prior to commencement of the test. This is in order to ensure that they are not already in “second-wind”.

† If the participant remains resistant to using the treadmill it is possible to undertake this test as a shuttle walk on a corridor. Please contact us for details.

## Premature cessation of test

If the participant wishes to stop at any time, or becomes distressed, stop the treadmill immediately and check that the participant is OK. Help them off the treadmill and to a chair where they can rest. Provide water to drink and check on any symptoms. (See guidance on the back of the “At the Gym” leaflet.)

## Set-up for start

- Participant fitted with heart rate monitor.
- Treadmill set to a 12 minute manual workout, no incline, slow speed (see Preparation above).
- Participant standing on treadmill holding the handles.
- Pain scale on display in front of participant (or on supervisor’s clipboard).

## Logging data during the test

As each minute passes, log:

- Participant’s heart rate
- Participant’s self-reported pain scale
- Treadmill speed
- Distance walked (preferably in metres but treadmill may only report km).

## Briefing of participant by supervisor

I am going to ask you to walk on the treadmill for 12 minutes and the object of this test is two-fold:

- To help you to identify the start of “second-wind”.
- To assess your aerobic fitness by means of how far you walk in 12 minutes.

Please look at the ratings of perceived pain and note that zero is no pain and 10 is maximum pain. You may start to get some heaviness, fatigue or pain in your legs after a minute or two. We want you to slow your pace to reduce your pain if it goes above 3 (described as “moderate”) to 4.

Here is the control to increase or decrease the speed of the treadmill. We will start the treadmill at an agreed, slow speed. Then you may increase or decrease the speed when you like. †

You should be sensitive to your body signals and slow down, or pause for a rest, at any time. Better to ease off early than leave it late and get pain. You can even stop and abandon the test if you so wish.

You will be exerting yourself so will probably get a bit overheated and out of breath, this is normal. I shall be monitoring your heart rate and will slow the treadmill if needed.

† When this test is undertaken in a clinical setting or for research purposes, it is usual for the supervisor to control the treadmill speed in liaison with you.

## During the test

On each minute give a few words of *gentle* encouragement (avoid strongly motivational statements), let the participant know how many minutes they have done, and ask what their pain scale is. Log the results.

- If pain goes above 3 to 4, slow the treadmill at the same time as advising them that you are doing so.
- If the pain is 3 or below, prompt them to increase the treadmill speed if they wish to.
- If the participant’s heart rate is above 50% to 75% of their advised maximum (see Preparation), slow down the treadmill and explain to the participant.
- With 15 seconds to go, advise the participant that the test will finish in 15 seconds and the treadmill will come to a stop.

## Interpreting the results

It is possible to identify the results purely from the data log without the need to plot any graphs.

- The increase (or decrease) in aerobic fitness is identified simply by comparing the distance walked in 12 minutes to the distance walked on the previous test.
- In McArdle studies the range has been from around 200m to 1200m, with a median of approx. 800m.

To illustrate “second-wind” to the participant, point out the following on the log sheet:

- Identify peak pain which is likely to be at around minutes 3 to 7.
- Note the walking speed and heart rate at peak pain.
- Note the walking speed, and heart rate at 12 minutes.
- Comparison of these two points is likely to show a faster walking speed at minute 12, yet with a lower heart rate and lower (or zero) pain rating than at peak pain – illustrating “second-wind” has been achieved.