



## Guidelines for the Six-minute Walk Test

As part of the STOP-ACEi trial, participants will perform the 6-minute walk test (6MWT) as a measure of their physical function. This guide is based on guidelines for the 6MWT issued by the American Thoracic Society (Am J Respir Crit Care Med. 2002 Jul 1;166(1):111-7).

### Identifying a space for the 6MWT

- The same space/corridor should be used for each assessment.
- The space should have a level floor (i.e. no steps or slopes) and be straight (i.e. no corners).
- The space should have no obstacles (doors, chairs, people etc.)
- Ideally, the walking course should be 30 metres long so that 1 lap is 60 metres. This will keep the distance consistent across the participating hospitals and standardise the number of turns required. If a 30 metre space isn't available, this can be compromised and you can still perform the 6MWT for the STOP-ACEi trial. Please contact the STOP-ACEi trial office at BCTU if the walking course will be a different length.
- The space should be quiet enough for the participant to clearly hear your instructions.
- Any clocks or timers should not be visible to the participant while the test is being conducted.
- You will need to pre-measure the walking distance. The turning points at either end should be marked e.g. with a cone or stationary IV pole. If it's possible to do so, marking intervals (e.g. every 3 metres) will help you count any partially completed laps.
- When initially setting up the area for the 6MWT, be as accurate as possible with your measurements.
- A chair should be available for the participant to rest if they are struggling with the test or for after the test has been completed. Also see safety considerations below.
- There should be easy access to a telephone and appropriate equipment in case of an emergency, e.g. resuscitation trolley, oxygen, BP machine. Please consider the requirements of your patient population and prepare appropriately.

### Equipment

- A 30 metre level, straight corridor with no obstructions to perform the test in (see above).
- Cones (or similar) to mark the turning points at either end.
- Stopwatch or timer.
- Lap counter (or you can just tick these off on a sheet of paper).
- Worksheet, casenotes or paper CRF to record the results on (the source data).
- A pen
- A chair that can be easily moved along the walking course.
- Measuring tape

### Before the test

- It is a good idea to warn the participant that they will be doing the 6MWT ahead of an upcoming trial assessment. They should wear comfortable clothing and appropriate footwear and should continue with their normal medical treatments as usual. The participant should also have any of their normal medications with them (e.g. inhalers, GTN spray etc.).
- Make sure the area is prepared and you have all the equipment required (see Identifying a space for the 6MWT above).
- Consider whether the 6MWT is clinically appropriate for the participant (see Safety Considerations).

## Performing the 6MWT

1. Set the timer to 6 minutes.
2. Prepare any other materials (cones, worksheets, chair etc.) and go to the test area.
3. Prepare the participant for the test by giving the following instructions. Please don't deviate from this script so that all participants have had the same information. This text has been approved by the ATS following consensus conference.

"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 tired. 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 (or poles). You should walk around the cones (or poles) and continue back the other way without hesitation.

Now I'm going to show you. Please watch the way I turn without hesitation."

Demonstrate by walking one lap yourself.

"Are you ready to do that? I am going to keep track of the number of laps you complete. I will mark on the worksheet each time you turn around at this starting line. Remember that the object is to walk AS FAR AS POSSIBLE for 6 minutes, but don't run or jog."

Position the participant at the starting line.

"Start now, or whenever you are ready."

4. Start the timer as soon as the participant starts walking.
5. Keep track of the laps by marking on the worksheet.
6. During the test, use the following script:

5 minutes remaining	"You are doing well. You have 5 minutes to go".
4 minutes remaining	"Keep up the good work. You have 4 minutes to go".
3 minutes remaining	"You are doing well. You are half way done".
2 minutes remaining	"Keep up the good work. You have only 2 minutes left".
1 minute remaining	"You are doing well. You have only 1 minute to go".
15 seconds remaining	"In a moment I'm going to tell you to stop. When I do, just stop right where you are and I will come to you."
After 6 minutes (when the timer rings)	Say "Stop!" Walk over to the patient. Consider taking the chair if they look tired. Mark the spot where they stopped using a piece of tape on the floor or similar.

If the participant stops walking during the test, say "You can lean against the wall if you would like; then continue walking whenever you feel able." Do not stop the timer.

If the participant stops before the 6 minutes are up and refuses to continue (or you decide that they should not continue), take the chair over for them to sit on, discontinue the walk, and note on the worksheet the distance, the time stopped, and the reason for stopping prematurely. If the participant decides to sit on the chair, the test is stopped.

7. Record the number of laps on the counter (or tick marks on your worksheet).
8. Record the additional distance covered from the final partial lap.
9. Calculate the total distance walked and round to the nearest metre. Record this in the participant's source data and on the STOP-ACEi CRF.
10. Congratulate the participant on a good effort and offer them some water.

## **Dos and Don'ts**

- Do keep to the script above when verbally encouraging the participant.
- Do use an even tone of voice when instructing or encouraging the participant.
- Do watch the participant closely while they perform the test.
- Do focus and avoid losing count of the laps.
- Do ensure the area is free from obstacles/trip hazards before performing the test
- Don't physically assist the participant during the test.
- Don't use words or body language to speed up the participant. They should set their own pace.
- Don't walk alongside the participant. Stay near the starting line during the test.
- Don't allow any observers (family members etc.) to encourage or walk alongside the participant.
- Don't use an area that is likely to be unavailable for some trial visits.
- Don't talk to anyone else during the test.
- Don't perform practice tests with the participant. This will affect the results of the second 'real' test.

## **Safety Considerations**

- Contraindications: The ATS guidelines state: "Absolute contraindications for the 6MWT include the following: unstable angina during the previous month and myocardial infarction during the previous month. Relative contraindications include a resting heart rate of more than 120, a systolic blood pressure of more than 180 mmHg, and a diastolic blood pressure of more than 100 mmHg."
- Consider monitoring BP before and after the test. NB this is not required for STOP-ACEi, but may be sensible clinical monitoring for some patients.
- Testing should be performed in a location where a rapid, appropriate response to an emergency is possible. A telephone or other means to call for help should be easily accessible.
- The person administering the test should be trained in basic life support and supporting colleagues should be easily reachable in case of an emergency. Ideally, 2 people will administer the test.
- A chair should be within easy reach for the participant while they perform the test.

## **Questions and Answers**

### Should the 6MWT be performed for all participants?

A reasonable effort should be made to perform the test for all participants. However, if the responsible clinician feels the test is inappropriate or unsafe for any particular participants, the decision to perform the test is at their discretion. There is guidance on specific medical conditions in the ATS guidelines (also see safety considerations above). If a participant is unable to complete the 6MWT, they are still able to continue their participation in the STOP-ACEi trial.

### When should the 6MWT be performed?

The 6MWT should be performed at each annual visit (i.e. at baseline and the 12, 24 and 36 month visits). The 6MWT is a trial procedure and should not be performed before the participant has provided written informed consent.

### When in the study visit should the 6MWT be performed?

The test can be performed at any point during the visit, when it is most convenient for the participant and research team. The participant should be at rest for measurement of blood pressure and the ECG so it might be more convenient to perform the 6MWT after these assessments to avoid any interference.

Should a participant use their normal walking aids during the 6MWT?

If a participant would normally walk with an aid (e.g. cane, walking frame etc.), they should use this equipment during the test.

Can a participant use a GTN spray / oxygen / other medication during the 6MWT?

If a participant normally uses a GTN spray (glyceryl trinitrate), chronic oxygen or any other inhalers/medications, the participant should have these with them for the 6MWT and any medications should be used as normal during the 6MWT. In case of any clinical concern or emergency, standard clinical practice should be followed for use of any medications.

Please contact the STOP-ACEi trial office if you have any other questions.

# Source Document Worksheet for STOP-ACEi 6MWT

You can use this worksheet to help record the details of the 6MWT. NB Only the details on the study CRFs are required for the trial, but you can photocopy and use this for your source documents.

Trial No.: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	Assessment date: <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Assessment point:	
<input type="checkbox"/> Visit 1 (baseline)	<input type="checkbox"/> Visit 5 (month 12)
<input type="checkbox"/> Visit 9 (month 24)	<input type="checkbox"/> Visit 13 (month 36)
People administering test:	
Is lap length 60 m?	No <input type="checkbox"/> Yes <input type="checkbox"/> If no, lap length: _____ m

Clinical observations before test: e.g. BP, heart rate, participant fit to perform test etc.	
Test performed?	No <input type="checkbox"/> Yes <input type="checkbox"/>
Reason not performed: where applicable	
Lap counts:	
Distance of final partial lap:	_____ m
Total distance walked: rounded to nearest metre	_____ m
6 minutes completed?	No <input type="checkbox"/> Yes <input type="checkbox"/> If no, stopped after: _____ min _____ sec
Reason for stopping prematurely: where applicable	
Clinical observations after test: e.g. BP, angina, breathlessness etc.	
Walking aids and medications used during the test: e.g. cane, walker, oxygen, inhaler etc.	
Other notes:	

Signature: \_\_\_\_\_

Date:   /    /