

Med-Fit Tech Assistant

Medical-Fitness Assessment - Learning Module #7

Aerobic Fitness

Part A

Part A: Shuttle Test

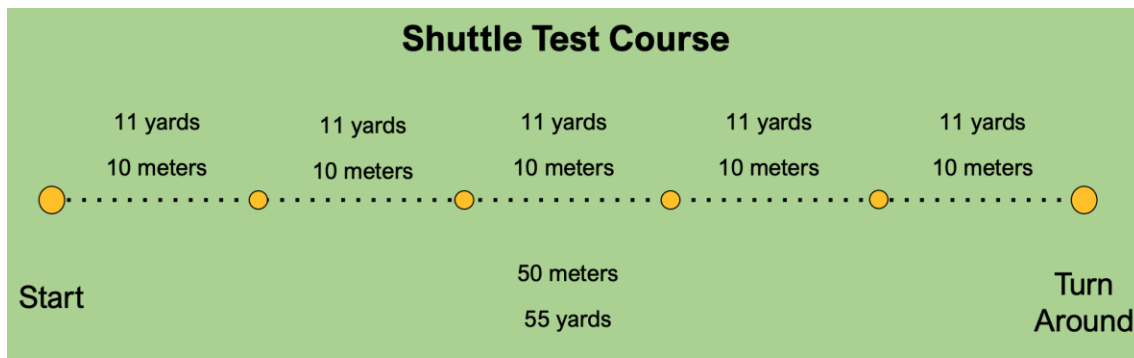
Learning Objective:

- Properly conduct the Shuttle Test
- Calculate the Aerobic Fitness Score

The Shuttle Test for Aerobic Fitness is a 4-minute Shuttle Run during which the participant tries to cover as much distance as possible by running, jogging, walking a 50-meter (55-yard) straight course back-and-forth until time runs out.

The Shuttle Test Course:

- Practice taking multiple 1-yard strides or measure off 11 yards (10 meters) and count how many regular strides it takes to walk that distance.
- Set a large safety cone at the start of the course.
- Drop 4 smaller safety cones every 11 yards (10 meters) for the first 44 yards (40 meters).
- Drop a large safety cone at the 55-yard (50 meters) mark for the "turn-around" point of the course.
- Make sure the course is straight, level, and clear of any debris or hazards.
- The course may be set up on a grass or dirt field or a smoothly paved asphalt or cement area.



Test Instructions:

- Demonstrate how to perform this test by taking a "warm-up" lap (out and back) with the participant.
- Stand behind the Starting Cone and slowly jog to the Turn-Around Cone.
- Point out that the smaller cones are placed at 10-meter (11-yard) intervals.
- Explain that both feet need to go beyond the Turn-Around Cone at each end of the course as they shuttle back-and-forth.
- Explain that they want to cover as much distance as possible in 4 minutes.
- Also explain that they can run, jog, or walk as they are able.
- Explain that they can stop and rest if needed, but if they do, the clock keeps running.
- Instruct the participant to "mentally mark the spot" when they are told their 4 minutes has expired, but that they should not stop immediately or collapse to the ground, but rather, they should keep walking for a few minutes as their heart rate recovers.

Test Protocol:

- Stand perpendicular to the Start Cone with space for the participant to pass in between you and the cone.
- Confirm that the participant understands the procedure and ask if he/she is ready to begin.

- When the participant is in place and indicates that he/she is ready, say out loud: "1, 2, 3, Go." and start the 4-minute timer.
- Observe the participant at all times and check their pace at each lap (out and back).
- Be sure to Count each lap out loud by stating: "100 meters." 200 meters." etc.
- Do not inform the participant how much time is remaining on the clock.
- At the end of the 4 minutes, say loud enough for the participant to hear, depending on where he/she is on the course: "3, 2, 1, Stop."
- Visually mark the spot where the participant is at the "stop" moment, and walk to that spot.
- Total the distance covered by the participant during the 4 minutes of the test.
- Record the total distance in METERS as accurately and precisely as possible (+/- 2 meters).

Distances:

- 1 lap (out and back) = 100 meters
- 1/2 lap = 50 meters
- Each cone interval = 10 meters
- Estimate in meters any partial distance past the last cone.

Scoring the Test Result:

- Divide the total number of meters by 800 and then multiply that number by 100.
- Round off to the nearest 0.1 decimal point.
- Example: Total Distance = 684 meters. $(684 / 800) \times 100 = 85.5$ (Aerobic Fitness Score)

Aerobic Fitness Score Interpretation:

- 800 meters (880 yards) = 1/2 mile
- Covering 1/2 mile in 4 minutes = 8-minute mile pace = 7.5 mph for 4 minutes in a stop-and-go pattern.
- An Aerobic Fitness Score of 100 (or more) indicates a Very High Fitness Level
- Scores above 100 are admirable, but they do not necessarily confer a health or longevity benefit.
- Since the fitness test is sub-maximal, scores above 120 are not necessarily comparable.
- An Aerobic Fitness Score below 100 indicates "room for improvement," depending on the age of the participant.

Score Interpretation

Score	Fitness Level
100+	Very High
80-99	High
60-79	Average
40-59	Low
20-39	Poor
0-19	Critical

Note: An "average" fitness level among an unfit and unhealthy population that is at increased risk for sedentary-related chronic disease resulting in premature disability and death is not satisfactory.