

YMCA 3 Minute Step Test

The 3-Minute Step Test measures your aerobic (cardiovascular) fitness level based on how quickly your heart rate returns to normal after exercise.

Equipment needed:

Stopwatch or clock with a second hand;

12-inch bench, box, or step;

a metronome (if you don't have one, search for a free app e.g. www.MetronomeOnline.com)

Process: Client steps on and off the bench for 3 minutes while keeping a consistent pace. After 3 minutes the heart rate is measured for one minute. NB do not be tempted to take the pulse over 15 seconds and multiply by 4. This test uses recovery rate as the measure and so the HR will be highest in those first 15 seconds. Make sure you use the full 1 minute to get an accurate figure.

Execution: This test is based on a 12-inch step, so use one as close to 12 inches as possible to ensure best (most valid) results. Set the metronome to 96 beats per minute and make sure your client can hear the beat.

Before you begin, ensure that there are no medical reasons that may prevent someone from taking a test. The person being tested should fill in the PARQ physical readiness questionnaire. If they answer yes to any of the questions, then the exercise testing should not take place. Medical clearance may also be necessary

Ensure that the client is not recovering from illness and ensure they are injury free.

Cue in the client, start the clock or stopwatch. Client should use the beat to step up and down (up, up, down, down) for 3 consecutive minutes.

Usual protocols apply – the client is free to stop the test at any time. The test should be ended if the client feels any discomfort, or you notice any signs which concern you. Client should be reminded of the Informed Consent process (which they should have read and signed prior to any testing).

After 3 minutes ask the client to stop, sit down on the step, and count their pulse (using the wrist or neck) for one full minute. You can do this for the client with permission.

What this measures: This test assesses your fitness level based on how quickly your heart rate recovers after exercise. The fitter you are, the quicker your heart rate will return to normal after exercise.

Scoring tables are on the next page

Scoring: tables give age-adjusted standards based on guidelines published by YMCA.

Ratings for Men, Based on Age

| | 18-25 | 26-35 | 36-45 | 46-55 | 56-65 | 65+ |
|----------------------|--------------|--------------|--------------|--------------|--------------|------------|
| Excellent | 50-76 | 51-76 | 49-76 | 56-82 | 60-77 | 59-81 |
| Good | 79-84 | 79-85 | 80-88 | 87-93 | 86-94 | 87-92 |
| Above Average | 88-93 | 88-94 | 92-88 | 95-101 | 97-100 | 94-102 |
| Average | 95-100 | 96-102 | 100-105 | 103-111 | 103-109 | 104-110 |
| Below Average | 102-107 | 104-110 | 108-113 | 113-119 | 111-117 | 114-118 |
| Poor | 111-119 | 114-121 | 116-124 | 121-126 | 119-128 | 121-126 |
| Very Poor | 124-157 | 126-161 | 130-163 | 131-159 | 131-154 | 130-151 |

Ratings for Women, Based on Age

| | 18-25 | 26-35 | 36-45 | 46-55 | 56-65 | 65+ |
|----------------------|--------------|--------------|--------------|--------------|--------------|------------|
| Excellent | 52-81 | 58-80 | 51-84 | 63-91 | 60-92 | 70-92 |
| Good | 85-93 | 85-92 | 89-96 | 95-101 | 97-103 | 96-101 |
| Above Average | 96-102 | 95-101 | 100-104 | 104-110 | 106-111 | 104-111 |
| Average | 104-110 | 104-110 | 107-112 | 113-118 | 113-118 | 116-121 |
| Below Average | 113-120 | 113-119 | 115-120 | 120-124 | 119-127 | 123-126 |
| Poor | 122-131 | 122-129 | 124-132 | 126-132 | 129-135 | 128-133 |
| Very Poor | 135-169 | 134-171 | 137-169 | 137-171 | 141-174 | 135-155 |

Simple table

| | MALE | FEMALE |
|----------------------|-------------|---------------|
| Excellent | < 112 | <109 |
| Above Average | 113 – 119 | 110 - 117 |
| Average | 120 – 130 | 118 - 134 |
| Below Average | 131-135 | 135-137 |
| Poor | >136 | >137 |

VARTEC analysis

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| Validity | It is a CV fitness test and the activity will measure this component of fitness |
| Accuracy | Protocols must be adhered to. If the step is not 12 inches – the metronome is not set correctly – or pulse / time not measured correctly then the results will not be accurate against the tables |
| Reliability | Yes – the elements of the test can easily be repeated and variables can be controlled |
| Time | The whole test will take around 5 minutes. This can have benefits when compared to other tests such as Cooper, Rockport etc. |
| Equipment | Steps or boxes should be available at any gym/studio. Stopwatch and metronome apps are freely available. |
| Cost | A step would cost around £50 - £100 if one needed to be purchased. |