

## ENDURANCE TEST – TWELVE MINUTE COOPER



### Purpose

This test is done to measure the client's agility and overall cardiovascular fitness. This test is suitable for endurance athletes and should not be performed where running is contraindicated.

VO<sub>2</sub>max is the maximum amount of oxygen (in mL) that a person can use in one minute per kg of body weight and can be found with the use of this test. To find the VO<sub>2</sub>max use the calculation below:

$(\text{Distance covered in metres} - 504.9) \div 44.73$

### Procedure

1. Have the client warm up for 10 minutes
2. As you command "START", start the stopwatch and have the athlete begin running
3. Keep the client informed of how much time they have remaining at the end of each completed lap
4. At 12 minutes time, blow the whistle and have the athlete stop at the nearest 10 metres
5. Record this distance

### Equipment

- 400 metre track
- Stopwatch
- Whistle

## Results

Record the distance the client can complete within a timed 12 minutes. The reliability of this test is based on how strict it is conducted and the client's motivation to complete the test. This test can be completed with multiple clients at a time.

You can use the charts below to gauge the ability of the client, as well as use to see improvements on future tests.

### Male

Age ▶	13-14	15-16	17-20	20-29	30-39	40-49	>50
Excellent	>2000	>2800	>3000m	>2800m	>2700m	>2500m	>2400m
Above Average	2400-2700	2500-2800	2700-3000m	2400-2800m	2300-2700m	2100-2500m	2000-2400m
Average	2200-2399	2300-2499	2500-2699m	2200-2399m	1900-2299m	1700-2099m	1600-1999m
Below Average	2100-2199	2200-2299	2300-2499m	1600-2199m	1500-1999m	1400-1699m	1300-1599m
Poor	<2100	<2200	<2300m	<1600m	<1500m	<1400m	<1300m

### Female

Age ▶	13-14	15-16	17-20	20-29	30-39	40-49	>50
Excellent	>2000	>2100	>2300	>2700	>2500	>2300	>2200
Above Average	1900-2000	2000-2100	2100-2300	2200-2700	2000-2500	1900-2300	1700-2200
Average	1600-1899	1700-1999	1800-2099	1800-2199	1700-1999	1500-1899	1400-1699
Below Average	1500-1599	1600-1699	1700-1799	1500-1799	1400-1699	1200-1499	1100-1399
Poor	<1500	<1600	<1700	<1500	<1400	<1200	<1100

Result tables taken from: [www.brianmac.co.uk](http://www.brianmac.co.uk)

Below are values to gauge the VO2max for your clients (ml/kg/min).

## Female

Age ▶	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79
Poor	<36	<34	<32	<25	<26	<24
Fair	36-39	34-36	32-34	25-28	26-28	24-26
Good	40-43	37-40	35-38	29-30	29-31	27-29
Excellent	44-49	41-45	39-44	31-34	32-35	30-35
Superior	>49	>45	>44	>34	>35	>35

## Male

Age ▶	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79
Poor	<42	<41	<38	<35	<31	<28
Fair	42-45	41-43	38-41	35-37	31-34	28-30
Good	46-50	44-47	42-45	38-42	35-38	31-35
Excellent	51-55	48-53	46-52	43-49	39-45	36-45
Superior	>55	>53	>52	>49	>45	>41