

Rockport One Mile Walking Test (Rockport Shoes Walking Institute, 1986)

The Rockport Walking Test is a sub-maximal field test to estimate VO_2max in males and females ages 20 to 69 years. The participant is required to walk one mile (1.6 kilometers) as quickly as possible. The test is easily administered and is well-suited for sedentary and/or older individuals.

Equipment: One mile (1.6km) track (not on a treadmill) and stopwatch(s)

Procedure:

1. A level, one mile (1.6 km) course is required. The inside lane of a one mile (or 400 m) track is preferred, but any uninterrupted course of precisely one mile (1.6 km) is suitable.
2. Participants should wear appropriate clothing plus shoes and perform 5-10 min of light stretching before commencing the walk.
3. Instruct the participant to walk the one mile as quickly as possible (but not speed walking).
4. Record the participant's heart rate (HR) immediately upon the completion of the mile. It is preferable to have the participant wear a heart rate monitor for this measurement but the assessment of HR via palpation (using a 15 sec count from the carotid or radial artery) is a suitable alternative.
5. Estimate the participant's VO_2max using the following formula which incorporates his/her body weight (lb), age (yr), gender (males = 1, females = 0), time to complete one mile (min), and post-exercise heart rate (bpm):

Estimated VO_2max $\text{ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ =

$$132.853 - 0.0769(\text{Weight}) - 0.3877(\text{Age}) + 6.315(\text{Gender}) - 3.2649(\text{Time}) - 0.1565(\text{HR})$$

$$132.853 - 0.0769(\text{_____}) - 0.3877(\text{_____}) + 6.315(\text{_____}) - 3.2649(\text{_____}) - 0.1565(\text{_____})$$

Example: As an example, if a 33 year old male (who weighed 160 lbs) completed the walk in 11 min & 20 sec and had a post-exercise HR of 160 bpm, his estimated VO_2max would be $52 \text{ ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$ (as calculated below): *It is important to note that completion time must be converted to minutes. This is accomplished by dividing the number of seconds by 60 and adding this value to the whole value for minutes. In the above example, the total time was 11 min and 20 sec. When expressed as min, this equals 11 min + (20/60 sec) or 11.33 min.*

$$\begin{aligned}\text{Estimated } \text{VO}_2\text{max} &= 132.853 - 0.0769(160) - 0.3877(33) + 6.315(1) - 3.2649(11.33) - 0.1565(160) \\ &= \underline{52} \text{ ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}\end{aligned}$$

To obtain the Health Benefit Zone Rating from Figure 7-12, multiply the estimated VO_2 max by 10.

Health Benefit Zone: Excellent

Note: Reference-Rockport Walking Institute. Rockport fitness walking test. Malboro, MA:Rockport Walking Institute, 1986.