

The Heart Zones Self-Test Scorecard

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Measuring your fitness is essential. We best accomplish what we measure - so let's measure it.

Measuring your current level of fitness is sport specific. This is because your ability to sustain aerobic activities is dependent on your training in that activity. For example, you may be well trained in running but your time in the pool has been limited. The results of your Self-Test in swimming as a result may not fair as well as that for running.

The Self-Test Scorecard (link at end of article) is derived from metabolic charts which begin with a person at rest. At rest, the amount of energy being used in one minute is equivalent to 1 metabolic unit or 1 met. This is the energy required by the body to take care of the basic functions of life such as body temperature, digestion, and other functions. For more details, see the footnote at the end of this article.

There are many different ways to measure your current fitness level. Taking a test in a lab is an excellent way but it requires repeat tests to measure fitness improvement. One of the many powers of taking your own self-tests and keeping track of your progress is to give you the ability to re-test as often as you want. To assess your current physical conditioning level in swimming, cycling, and running take the 1.5 mile run/walk, the 5 mile bike, and the 400-yard swim on different days with adequate rest between. The test requires an all-out effort so recovery between tests is important.

The results are important. They can not only give you valuable information about your strengths but even more so about your challenges. If you score a 12 in swimming and a 7.5 in cycling, then it is clear that your cycling needs your attention, training time, and emphasis.

1 1/2 Mile Run/Walk Test: The purpose of the 1 1/2 mile run/walk test is to measure your present aerobic run/walk capacity. Run/walk at your top steady state speed to measure your "max mets" for this activity. Before taking this test, I recommend that you build your stamina so that you can sustain a constant pace for at least 15-20 minutes. This is to insure that you have prepared yourself properly for the demand of the test.

Warm-up thoroughly before taking the tests. Run/walk the fastest pace that you can maintain for the full distance. You shouldn't have much energy left at the end of the test. Measure the elapsed time and then refer to the Self-Test Scorecard, which will tell you your max mets as a number. This is your current maximum metabolic capacity for running/walking. You can take the test on a treadmill, a track, or any measured running-appropriate surface. If you have access to a DASH! (Distance and Speed + heart rate) monitor which uses GPS technology you don't even need to measure the distance - the monitor can tell you when you have run/walked 1 1/2 miles.

400 Yard Swim Test: Because of individual differences in stroke efficiency, correlations between speed and energy output are inexact. A strong but slow swimmer with bad technique may expend as much energy getting through the water as a world-class swimmer who is setting a distance record.

Warm-up properly to prepare for the test. Choose a pool at least 25 yards long. You should be fit enough to swim continuously for 15-25 minutes comfortably. Time yourself with a stopwatch or a wall clock and swim as fast as you can at a steady speed for 400 yards or 8 laps or 16 lengths. Time yourself with a stopwatch or a wall clock. Refer to the Self-Test Scorecard for the metabolic maximum of your performance.

3 Mile Bicycle Self-Test: This is a 3-mile time trial. A time trial is a type of ride in which you set a fixed distance and measure the elapsed time for that distance. Your performance taking the test is affected by factors in addition to conditioning - the fit and quality of the bicycle, the tire pressure, your body aerodynamics, etc. The Self-Test Scorecard uses a standard 10-speed bike which assumes that there is wind resistance which increases geometrically as you speed up. The faster you go, the more you buck your own head wind.

To prepare for the test, measure a flat, straight course with no obstructions, chose a windless day, warm up properly, and ride as fast as you can at a steady pace. Keeps the chronograph or stopwatch going to measure the total elapsed time during the test. Refer to the Self-Test Scorecard to compute your bicycle max mets.

Retake the Self-Test Swim-Bike-Run/Walk test at least once a month for each sport so you can evaluate your progress. Write down the results in your training log provided for you at the Heart Zones Training Center. If you do not notice a change in your max results, your max mets after several months, then either you are maximally fit for the training program OR it is time to change your training program to place a different training load onto your physiology to help you get fitter.

FOOTNOTE: The concept of metabolic units takes the differences between individual body size into account. Larger people burn more calories, consume more oxygen per minute than smaller sized people. At rest, each of us takes in (breathes) between 3.5 and 4.0 milliliters (ml) of oxygen (O₂) per kilogram (kg) of body weight per minute (min). A met therefore is a standardized unit. One met for you is the same as one met for me because it accounts for our body size differences. Differences in body weight (kg) between me and you are build into the formula where 1 met = 3.5-4.0 ml O₂/kg/min), because the purpose of mets is not to compare one person to another, but rather to compare the energy (oxygen-burning) demands of one level of intensity of activity to that of another for the same person.

One's oxygen uptake (the amount necessary to handle a given work load, measured in liters per minute) is a sure indicator of aerobic-power output, because all body fuels need oxygen to burn metabolically. The demand due to any exertion above rest can be expressed as a multiple of the uptake at rest or the multiple mets. If a certain amount of work requires 70 milliliters of oxygen per kilogram of your weight in one minute, then that power requirement would equal 20 mets:

$$70 \text{ ml O}_2 / 3.5 \text{ ml O}_2/\text{kg}/\text{min} = 20 \text{ mets}$$

Your performance times can be correlated with metabolic power output expressed in multiples of mets. Using your elapsed time at a specific distance gives us a good ball-park method of estimating your aerobic capacities in different sports.

Bear in mind that the Self-Test Scorecard numbers are intended only for your self-assessment in three distinct sports. They are not valid for making comparisons among different individuals.

Your resting metabolic rate may differ from mine. The max met scale is a guide to help you compare your results with you, not another person. The Self-Test Scorecard is a guide to help you judge relative strengths and weaknesses and relative improvements - well, and to keep you motivated to get fit, fitter, and fittest.