



Fitness Education

The mission of Peak Health is to provide well-being programming that helps you understand, adopt, and maintain a healthy lifestyle, while also mitigating any health risks by educating you on how to manage behaviors that can affect those risks. To determine your level of risk, the Peak Health nurse assesses your health through a series of tests and compares your results to the program's medical standards. One of those five areas of assessment includes fitness.

How Does Peak Health Measure Fitness?

During your on site Peak Health appointment, a Peak Health nurse conducts a submaximal fitness test, measuring your "VO2 max" (maximal oxygen consumption) to assess your aerobic fitness; muscular strength and endurance. VO2 max is defined as the maximal amount (volume) of oxygen (O2) your body uses while exercising; it shows how well your heart and veins push blood to your muscles and the rest of your body. Peak Health measures VO2 max using a modified version of the YMCA Submaximal Cycle Ergometer Test due to the following factors:

- » Length of appointment time
- » Available space in locations
- » Portable equipment
- » Fitness level of population

Knowing your VO2 max can help you train for sports, track your fitness improvement, and improve/determine your heart & lung health. Research shows a higher VO2 max is associated with a lower risk of death.

About Your VO2 Max

Here are a few things your VO2 max indicates about your overall fitness:



Lung capacity & heart volume

The greater your lung capacity, the more oxygenated blood your heart can pump, and the higher your VO2 max score.



Capillary delivery

The more oxygenated blood that can reach your muscles, the higher your aerobic fitness score.



Muscle efficiency

The better your muscles are at utilizing oxygen from your blood, the better your VO2 max reading.



The following factors can impact your VO2 max results:

Non-controllable Factors:

- » **Age:** VO2 decreases by ~0.5ml/kg/min per year-10%/decade
- » **Gender:** VO2 of male athletes is higher than equivalent female athletes due to body fat percentage, muscle mass, blood volume, and hemoglobin levels
- » **Genetics:** Up to 44% can be due to genetic influence
- » **Altitude:** As altitude increases, VO2 max decreases

Controllable Factors:

- » **Body Composition:** VO2 max is normally expressed relative to body weight. A larger body mass results in lower relative VO2 max compared to smaller body mass.
- » **Fitness Activity Status:** Current fitness level, previous training, and existing exercise routine which vary between each person.
- » **Type of Training Exercise:** Weight-bearing exercises (running) result in greater VO2 max than non-weight-bearing exercises (swimming).

How Can You Improve Your VO2 Max?

You can work on improving your VO2 max by working out at a moderate to high intensity. Exercising between 50-85% of your **max heart rate** helps increase the volume of blood your heart can pump with each beat. This happens as the muscles in your heart get stronger. Make sure to evaluate the intensity of your exercise to ensure you are performing moderate exercise 150 minutes/ week to receive the related health benefits.

For example, evaluate your body's response when exercising based on these intensity level descriptions:

- » **Light Intensity:** Raises heart rate mildly and keeps it steady; Fairly slow-paced
- » **Moderate Intensity:** Raises heart rate; quicker pace; not able to talk easily; sweating; breathing heavier
- » **Vigorous Intensity:** Elevates heart rate; not able to talk; sweating; breathing hard

Weight loss can also lead to an increase in VO2 max, as fat mass is inversely proportional to relative VO2 max. In other words, it is important to measure body composition, rather than weight, to accurately estimate the impact on your VO2 max. Therefore, fat loss could lead to an increase in VO2 max.

How Can I Monitor My Progress?

- » With your Apple Watch or other fitness trackers: Some fitness devices provide VO2 max readings. Many trackers also offer other sophisticated physiological measurements. Note that a few brands have their own terms for VO2 max and it takes careful reading of their product information to determine how they measure your aerobic fitness.
- » At your next in-person Peak Health appointment.

For more questions regarding your participation in the Peak Health Program, feel free to contact Peak Health via email at appointment@peak-health.net or call 252.237.5090.

