

**Summary:** The last several articles explained aerobic exercise. This last one is just a review. The bottomline is that aerobic exercise is great for your overall physical and mental health. Moderate exercise like walking can decrease many risk factors of heart disease and reduces moderate anxiety and depression. Moderate is where you are moving but still able to talk. But you should try to do some vigorous exercises as well; that is where you get out of breath. Vigorous exercise improves aerobic fitness to a much greater degree than moderate exercise. General recommendations suggest continual human movement ( ie aerobic exercise ) for 150 minutes a week or 75 minutes vigorous or a combination of them both. There are many ways to judge intensity but my favorite is rating of perceived exertion. Moderate exercise is where you can speak easy and the RPE is around a 1-3, which light to moderate. Vigorous exercise starts at a RPE of 4 (somewhat hard, breathing noticeable). An increase in intensity (METS, WATTS, MPH/INCLINE) with no change in RPE is a sign you are getting fitter. There are simple tests that you can do to determine your aerobic fitness.



## PERFORMANCE 101: Summary Aerobic Conditioning?



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Aerobic exercise impacts your health in many ways. It reduces the risk of many conditions. Simply put aerobic exercise delivers oxygen and nutrients to your tissues and helps your cardiovascular system work more efficiently. It is activities that can be sustained for more than one minutes like walking, biking, swimming, jogging. I often suggest starting with a basic walking program either on a treadmill or outdoors. Try to move at a pace that feels comfortable, but where you know you are moving (this is moderate). It would be great if you can build up 20 to 45 minutes a day most days per week. As you progress try incorporating vigorous aerobic exercise into your program. Guidelines suggest 75 minutes of vigorous exercise or 150 minutes of moderate per week or a combination of them both. Vigorous is more than moderate where breath is labored, it is hard to speak, and you may sweat. An easy way to perform vigorous exercise is through interval training. You can work between several intervals of 1 minute moderate with 1 minute higher intensity. This is known as high intensity interval training (aka HIIT-see why it is important). Keep it simple :) It is all relative: What might be High Intensity for one person may not be for another. Studies have shown just few minutes a day of vigorous activities like stair climbing and interval training can improve aerobic fitness / aerobic capacity much more than moderate activity, which is important since increased aerobic fitness is linked to longer life. Aerobic fitness is your ability to do maximal aerobic work, which is maximal oxygen used during continuous human movement that can be sustained form more than a couple of minutes. It's a reflection of your aerobic power and your body's ability to keep performing under strenuous activity for longer periods of time. You have to find what works for you, but it seems that intervals of 45 to 60 seconds seem to give the most cardiovascular benefits. One study found the work to rest ratio of 1 minute on and 1 minute off to be superior to the work to rest ratio 30 secs on and 30 secs off over 10 cycles of on-off. Meeting the current aerobic exercise recommendations mentioned is key but is it worth exceeding that amount? Researchers suggest that pinning down just how much exercise qualifies as “too much” will likely vary between individuals and depend on a variety of factors – including their age, health history and lifestyle. I always suggest to meet or surpass the recommendation but not to exceed 1 hour a day of cardiovascular exercise and to keep HIIT to no more than 3 x a week. When it comes to mental health researcher suggest that the sweet spot is 45 minutes 5 days per week. Judging exercise intensity can be done in a variety of ways. I typically like the RPE chart, which is rating of perceived exertion. You can also judge exercise intensity and aerobic improvement through heart rate. If you heart rate gets slower at the same exercise intensity and or recovers faster that means you are getting fitter. You can also judge exercise intensity and aerobic improvement through METS and WATTS. One MET is the amount of oxygen you need at rest, 3 to 4 is what is needed when walking, and 8 to 9 is running. WATTS is a power output and is commonly provided on exercise machine screens. Generally speaking 100 WATTS is an above average amount of power when doing exercise. If you METS and / or WATTS gets higher at the same exercise RPE you are getting fitter.