

VO2 Max Booster Program – VO2 Max Test

by Jesper Bondo Medhus on May 1, 2009

Welcome to my series: *VO2 Max Booster Program*

This training program will dramatically boost your race performance in only 14 days. The training program can be used by any cyclist, but riders with a SRM or PowerTap mounted on their bike will get the best value.

Whenever you begin a new training program, it is good to know your starting point. It makes it easier for you to track improvements and evaluate your training routine.

Maximum Power Test

Before you start training for VO2 max improvements, it is a good idea to do a five-minute all-out test to estimate your average watt at maximum oxygen consumption. There are other tests, but I think this one is so simple, easy to use and very reliable. You can do the test on a stationary bike or on the road if you are the lucky owner of a power meter.

Once you have performed a five-minute all-out test, you can begin to train, and when you have trained for a couple of weeks it will be easy to monitor your progress.

On Day 1, you will have to do a test to figure out what your starting point is. The best way to do this is to perform a VO2 max test, e.g. five-minute all-out test. Most people can maintain their VO2 max for about 3 to 8 minutes. So a five-minute test will come close to VO2 max for most people. Notice how many watts you can perform.

If you do not have a power meter then use an ergometer bike. If power meters or ergometer bikes are not available, then you can perform the test on a track or a steady hill to see how far you can ride in five minutes. But I highly recommend you do some kind of power monitoring.

Please Notice These Values When Testing

- Power Output. The most important measurement in a power test is power
- Body Weight. It is important to notice your body weight when you do the test because it influences your performance
- Heart Rate. It is also recommended to wear a heart rate monitor, so you can evaluate whether you pushed yourself harder in the VO2 max test after finishing the VO2 Max Booster Program
- Temperature
- Time of day

Day 1

Total time: 1hr training

20min incremental warm up

5min easy rolling

5min VO2 max test

30min Easy/medium rolling

Now it is time for you to enter the VO2 Max Booster Program by performing the 5min test as the first step out of 14 steps to a higher VO2max. Good luck!

Next step: [Day 2 – Intervals Targeted For VO2 Max](#)

The entire VO2 Max Booster Program is included in my e-book [Time Effective Cycling Training](#)

VO2 Max Booster Program – Intervals Targeted For VO2 Max

Welcome to the 2nd day of the VO2 Max Booster Program. Yesterday I told you to perform a 1hour workout including a [VO2 max test](#).

Doing a physical test at the beginning of a new training program is a great way to get a picture of your current physical status. When you use physical tests to track your progress, it is important to do tests that are relevant for the physical parameters you want to improve. So in our situation we would like to do a test that will give an estimate of what we can perform at intensities around VO2 max.

Day 2 is the first real step in the VO2 Max Booster Program, the part that makes this training program outstanding and helps you to increase your VO2 max in only 14 days.

Day 2 – Intervals targeted for VO2 max

Today we will start with the real part of the VO2 Max Booster Program, the part that makes this training program outstanding and helps you to increase your VO2 max in only 14 days.

One of the secrets behind this program is time effective focused interval training. Working with higher intensity means you need less time to achieve similar results.

Also it is worth remembering that [well trained cyclists need training close to their VO2max](#) to continue improvements of this important physiological parameter.

Day 2

Total time: 1hr training

20min incremental warm up

10 x (30+30sec) 100 / 50% VO2 Max

30min Easy/medium rolling

This workout is an appetizer for what you will meet in the next two weeks. Keep up the good work!

VO2 Max Booster Program – Reduce Volume, Increase Quality

Now we are ready for the 3rd day of the VO2 Max Booster Program. If this is the first time you read about the VO2 Max Booster Program, please check out how [why you should train intensively for 14 days](#) to make amazing improvements of your VO2 Max. That is exactly what this training program is about.

Day 3 – Reduce Volume, Increase Quality

One of the secrets behind this program is time effective focused interval training. Working with higher intensity means you need less time to achieve great results.

As you can see, most of the training days only last one hour. I know one hour is not much, in fact many riders take trips of two, three or even more hours when they hit the road. I understand the reasons: it is really nice to spend hours with your friends on the road when the weather is beautiful.

Nevertheless, reducing training volume is one of the central points in the VO2 Max Booster Program. Reducing volume is the key to increasing the quality of your training. Doing shorter workouts makes it easier to complete the training program as you have planned it and they allow you to focus all your concentration on maintaining the correct power output during the intervals.

As a consequence of reduced training time (and thus increased attention/motivation), it makes sense to increase the overall intensity of your

workout, so you will receive great results in less time. Interval training is often a lot easier to do indoors. When you don't have to pay attention to traffic, you can spend all your time concentrating on maintaining the correct power output, cadence or heart rate during the intervals. That is difficult outdoors, especially if you are not familiar with interval training.

Day 3

Total time: 1hr training

10min incremental warm up

3 x (5+10min) 90% / 50% of your VO2 Max test result

5min Easy rolling

VO2 Max Booster Program – More Intervals

Now you have completed the first three stages and as you probably already have discovered there are many intensive rides. In fact, you are going to complete high intensity intervals more often than you are used to.

As a rule of thumb, you should train hard every second day if you want to become stronger. If you do it more often you will over train.

“Here is a reminder of what impacts your overall training load: frequency, duration and intensity.”

If you train **more frequently**, ride with a **higher intensity** (more races, more intervals) or simply just **ride more**, you will force your body to adapt to these challenges. This way you can reach a higher level of fitness, but your body will not allow you to increase the total workload too fast. Good cyclists make use of these buttons to turn the workload up and down all the time.

“Remember that it is the consistency that makes you a strong cyclist, not just one hard week of biking. Using small adjustments over time, you can configure a more challenging training program that will make you a better cyclist.”

In the **VO2 Max Booster program**, we decrease the duration of each ride, which means your body needs less recovery time before the next hard training session. When you do frequent intervals (but not too many of them), it is possible to tackle high intensity intervals every single day.

Actually, you could train twice every day if you did some proper planning. It is clear that the risk of over training gets bigger if you train that often, but this example is just to show you that the classic two-interval days and one race day per week is common but definitely not the only way to achieve great results.

Keep up the good work and enjoy your extra free time!

Day 4

Total time: 1hr training

20min incremental warm up

6 x (40+20sec) 95% / 50% of your VO2 Max test result

4min easy rolling

6 x (40+20sec) 95% / 50% of your VO2 Max test result

4min

6 x (40+20sec) 95% / 50% of your VO2 Max test result

14min easy rolling

Keep up the good work and enjoy your extra free time!

VO2 Max Booster Program – VO2 Max Intervals As Active Recovery

When it comes to solid training principles it ends up with 3 words: Training, recovery and nutrition. In the first 4 days of the VO2 Max Booster Program we have spend all our focus on some different training principles than you probably are used to.

Since training is the most essential part in our rush for a higher VO2 max, we haven't spend much time on recovery and nutrition. Nevertheless, I will bring a few lines on recovery that might sound a bit different from standard recommendations:

VO2 Max Intervals on Recovery Days

Train on recovery days and interval training on recovery days. The latter is very likely the most promoting. VO2 max intervals on rest days. Did I really say that? Yes, in this strongly accelerated VO2 Max Booster Program you will have to train high aerobic intervals on every single day. Recovery days are no exception!

Why? [Yesterday](#) I wrote that if you train more frequent, ride with a higher intensity (more races, more intervals) or simply just ride more, you will force your body to

adapt to these challenges. That is also equal to a longer recovery period after each training session. So if we want a shorter recovery period after each training, we will have to reduce intensity and duration.

Normally people eliminate all intervals on their rest days, but is that really necessary? What if you instead reduced the duration to a minimum and kept a small amount of intervals would that be possible? Yes that is absolutely possible and you've got a great chance to test it out. A short amount of VO2 max intervals will keep your aerobic and anaerobic enzymes at a high level while the reduced training volume ensures you get enough recovery.

Get a new training program for free if this doesn't work

I know this VO2 Max Booster Program might sound controversy in your ears, but give it a chance and experience what these changes can do to your VO2 max in only 14 days. If you perform the training program as scheduled then I promise you will achieve improvements in your VO2 max. If not then send me your power meter files and I will deliver a new training program for you for free.

Day 5

Total time: 30min training

10min incremental warm up

20x(15+15sec) 100% / 50% VO2 max test result

10min easy rolling

VO2 Max Booster Program – Time Effective VO2 Max Intervals

OK, you are getting a picture of what this training routine is all about. Maybe you had sore legs at the beginning of this training program, but now you are getting familiar with this kind of training so don't worry. Yesterday you took a walk in the park: [30min with just a few VO2 max intervals](#) helping you to recover from the initial workouts in the VO2 Max Booster Program.

Hopefully your legs feel better today because now you are going to begin the serious part of your 14-day trip towards a larger aerobic engine. Today's workout will take you a step further and introduce you to a more comprehensive VO2 max interval session than you've tried before.

Day 6

Total time: 1hr training

10min incremental warm up

5min 70% VO2 max

3min 75% VO2 max

2min 80% VO2 max

5x(30+30sec) 100 / 50% VO2 max

5min 50%

5x(30+30sec) 100 /50% VO2 max

5min 50%

5x(30+30sec) 100 /50% VO2 max

5min 50%

5x(30+30sec) 100 /50% VO2 max

5min easy rolling

This is a super hard VO2 max interval session that will dramatically boost your VO2 max. It is time effective and guaranteed to change your view of what interval sessions can do for you. Go for it!

VO2 Max Booster Program – Avoid Failure Training

Would it be better to do an extra interval if you had the legs for it? One of the most difficult questions to answer is when is the right time to stop doing intervals. More intervals will normally inspire your body to grow stronger. So, if you can maintain the correct intensity for an extra interval then you will probably get even stronger.

But I have to underline the importance of not burning out. If you are unable to complete that extra interval you will have to pay for it. There are both psychological and physiological debts you have to pay afterwards. Therefore, I always recommend you steer well clear of failure training.

That means you have to stop intervals BEFORE you are unable to maintain the correct power output.

On Day 7, you are the one to decide when you have had enough. I would like you to stop the intervals at the point where you are completely sure that you could do one extra interval if you had to. This is not an easy job because you are supposed to

push yourself very hard, but not too hard. This is a skill that characterizes many successful cyclists and is something that develops over many years.

Day 7

Total time: app. 1hr

10min incremental warm up

5min 70% VO2 max

3min 75% VO2 max

2min 80% VO2 max

10min 60% VO2 max

?? x (30+30sec) 100 / 50% VO2 max (close to your max repetitions, but no failure training)

15min easy rolling

VO2 Max Booster Program – Summary of Week 1

Congratulations! You are through the first week of our 2week journey to achieve a higher VO2 max. If you haven't yet started on the VO2 Max Booster Program let's summarize what happened on the first 7 days:

Day 1: [VO2 Max Test](#) – We started with a 5min allout test to figure out what your power output was at your VO2 max.

Day 2: [Intervals Targeted For VO2 Max](#) – First day with scheduled intervals designed for optimal improvement of your VO2 max.

Day 3: [Reduce Volume, Increase Intensity](#) – Reducing training volume is one of the central points in the VO2 Max Booster Program because it makes you able to train more intervals with higher intensity.

Day 4: [More Intervals](#) – In the VO2 Max Booster program we decrease the duration of each ride which means your body needs less recovery time before the next hard training session. When we do frequent intervals (but not too many of them) it is possible to train high intensity intervals every single day.

Day 5: [VO2 Max Intervals As Active Recovery](#) – The most controversy part of the VO2 Max Booster Program includes a short amount of VO2 max intervals on recovery days. These intervals keep your aerobic and anaerobic enzymes at a high level while the reduced training volume ensures you get enough recovery.

Day 6: [Time Effective VO2 Max Intervals](#) – Still only 1hr training per day, but with a more comprehensive VO2 max interval session than you've tried before.

Day 7: [Avoid Failure Training](#) – If you are not able to complete an extra interval you will have to pay for it. There are both psychological and physiological debts you have to pay afterwards. Learn yourself to stop intervals before failure.

That was the first week and you have probably already experienced some difference in your attitude to VO2 max intervals. Hopefully you are ready for the last 7 days because they will help you to make significant improvements in your VO2 max. Today you will have an easy workout with just a few intervals close to your VO2 max.

Day 8

Total time: 1hr

20min incremental warm up

3x (5+3min) 80 / 50% VO2 Max

16min min medium/ easy rolling

VO2 Max Booster Program – Fartlek or Races As VO2 Max Training

One of the most important factors for your success is motivation. When you are motivated, there is no limit to what you can achieve. I know that many of you like to do training races or criteriums midweek. Today we will use such races to help you to achieve a higher VO2 max.

If for some reason you cannot take part in a criterium or similar event tonight, there is still hope for you. The keyword is [“fartlek” training](#) , which I will also explain to you.

Fartlek as VO2 Max Training

In Wikipedia they have described it as the following:

“Fartlek, which means ‘speed play’ in Swedish, is a form of conditioning which puts stress mainly on the aerobic energy system due to the continuous nature of this exercise. The difference between this type of training and continuous training is that the intensity or speed of the exercise varies, meaning that aerobic and anaerobic

systems can be put under stress. Most fartlek sessions last a minimum of 45 minutes and can vary from aerobic walking to anaerobic sprinting.”

My experience with fartlek training is that it works best when you have a group of motivated riders who understand the rules of this training type. Then you will have a great time racing with activity that will bring you all physiological benefits that you would have achieved in a criterium.

Races as VO2 Max Training

Races are a very effective way to improve performance. It is often said that races are the best kind of training. I would rather say that races might be the easiest way to improve performance.

Today you do not have to speculate about doing specific VO2 max intervals. You will just follow the pack and try your best to produce a good result. During the race you will get plenty of different intervals including several minutes close to your VO2 max. Races train a wide range of skills and will not be as focused as the intervals from the previous days.

Nevertheless, this day will provide great training for you and you might feel that the last eight days have already helped you. If that is not the case, don't worry. I do not expect you to reap the rewards from the accumulated training load until at least a couple of days after the VO2 Max Booster Program.

Day 9

Total training: 1hr15min

15min incremental warm up

50min criterium/fartlek

VO2 Max Booster Program – More Active Recovery

When you train hard, the importance of recovery is more pronounced. I guess most readers will agree that the VO2 Max Booster Program is challenging, so there is also an increased need for recovery. Today you will do an easy ride of just 30 minutes, so use your extra free time to think about how you can improve your recovery.

I like to optimize recovery principles because that helps you to get stronger without working harder. Work smarter, not harder.

The proper use of simple recovery tips can accelerate your recovery and help you to reach a higher level of performance. If you rehydrate, eat carbohydrates and proteins, change clothes and do some easy rolling immediately after training sessions that will help you a lot.

You can read more on [recovery tips](#) here.

Day 10

Total time: 30min

10min incremental warm up

5 x (30+30sec) 100% VO2 Max

10min easy rolling

10min cool down

Final Stages Of VO2 Max Booster Program



Now we are so close to the finish that I've decided to publish the final stages of the program.

One thing I have not mentioned yet is the principle of overreaching, which helps us to achieve progress. Distinguishing overtraining from overreaching is important because overreaching is a very natural process when you train. Many riders use the

term “overtraining” for both overreaching and overtraining and that is why many riders wrongly diagnose themselves as overtrained.

The problem is that if you are really in an overtraining situation, it can take several months before your performance is back at 100%. If you have overreached in a specific period, a week or two is normally enough to get you back on track.

This principle is often used in tapering protocols, where training volume is reduced during the last two or three weeks before a big event. Overtraining syndrome does not happen overnight or in a week. It takes six to eight weeks or even longer to develop.

Read more on [overtraining and overreaching](#) here.

Day 11

Total time: 1hr

15min incremental warm up

6 x (3+2min) 85% / 50%

15min easy rolling

Day 12

Total time: 1hr

12min incremental warm up

3min 80%

3min 50%

2x(3+3min) 100 / 50%

10min 50%

2x(3+2min) 80 / 50%

10min easy rolling

Day 13

Total time: 40min

20min incremental warm up

5min 85%

5min 50%

10min esy rolling

Day 14

Total time: 1hr15min

20min incremental warm up

8 x (30+30sec) 100 / 50%

7min 50%

8 x (30+30sec) 100 / 50%

7min 50%

?? x (30+30sec) 100 / 50% (Maximum number of intervals possible!)

10min easy rolling

Congratulations! You've completed the VO2 Max Booster Program! Afterwards I recommend you to take some easy days, maybe a day off, to recover from this overload of VO2 max intervals. Remember what I said about overreaching? You are not overtrained now, you are overreached and in the next couple of days you will begin to super compensate for the last 14 days impressive workload.

5min max test to find your new VO2 Max

When you have had 4-6 days with easy training it is time to do a new 5min maximum test to track your progress. I will appreciate if you share your results with the readers here at Training4cyclists.com by posting a comment with your results.