

## Field Testing

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*The following is an excerpt from Joe Friel's newest book, The Threshold Heart Rate Edge.*

The beauty of the metabolic testing done in a lab is precision. The technician who administers the test will attempt to control all the possible variables such as temperature and humidity, standardization and calibration of equipment, warm up, testing procedure and more. By controlling such things the technician can be fairly confident that changes in results between tests are due to your fitness changing rather than to some external factors. The downside, of course, is cost. You pay for this precision. So you probably won't want to be tested this way too frequently. And yet it's important that you check your anaerobic threshold heart rate and discover your current level of fitness fairly often—about every four to eight weeks is best. So what do you do?

The answer is field testing—tests you conduct on yourself in your normal training environment. This could be in a swimming pool, on a running track or velodrome, on a standard course you've selected, or indoors using available training equipment (for example, bicycle ergometer, rowing ergometer, or treadmill).

While such testing is inexpensive, probably costing you nothing or at least very little per test, precision may be questionable.

Not only must you control for such external variables as weather, equipment, warm up and procedure, you must also control your internal factors. What you

eat and when you eat before testing can make a difference in the results. For example, a couple of cups of coffee before one test but not another may well produce two sets of heart rate numbers and throw off the results. Your emotional state can also have an impact on the test. If you are under a lot of stress before a test heart rate will be affected. Time of day for the testing may even be a factor. And a critical variable is how well rested you are coming into the test. If the results are to be meaningful and give you guidance for future training you must make the test conditions as precise as possible.

A purpose of each of such testing is to discover your anaerobic threshold heart rate. If done correctly, the results you get should be a good approximation of this and be close to what would be discovered in a lab metabolic test. If the test is poorly conducted—meaning the variables described above are not controlled—the results may give you quite erroneous information. Basing your training on such data may be a waste of time and severely limit your growth as an athlete.

### **The 30-Minute Test**

This a simple test—but not easy. All you have to do is complete a 30-minute time trial on a constant course such as a flat road, slight uphill, or calm water. It may also be done indoors on an ergometer for your sport such as a bike trainer, rower or treadmill. Most athletes find this harder than when outdoors. If you decide to test indoors be sure to have a fan or cool room to exercise in. Heat will adversely affect results. This test is best done alone as having a partner may also affect the results.

Start by warming up adequately. You should have a sense of what that means for you since it should be about the same as what you do before a race. Most athletes need at least ten minutes of warm up before this test. But you may want as much as thirty minutes.

Once warmed up and ready to go immediately start the test. The key to this test is pacing. Almost everyone starts at too great an intensity and then fades in the last few minutes. It's not unusual to hear of athletes failing to finish the test the first time because of starting out too fast. Tell yourself you'll hold back just a little the first 10 minutes and continually remind yourself of this once the test begins. At exactly ten minutes into the test click the lap button on your heart rate monitor. Then when the test ends click the stop button. You now will have three heart rate-data points captured on your heart rate monitor—average heart rate for the first ten minutes, average for the last twenty minutes, and average for the entire thirty minutes. The one we are interested in is your average for the last twenty minutes. This a good estimate of your anaerobic threshold heart rate. Use it to determine your heart rate zones as described in my Training Bible books.

Other good information to record from this test is your average velocity or power for the entire thirty minutes. For while your anaerobic threshold heart rate might not change much in subsequent tests, with improving fitness velocity and power will change for the better.

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