Lactate Threshold Test

Notes:
Today will consist of a Lactate Threshold test. The cardio we will use for this program will consist of either running, biking, or rowing. Some of you may decide that you will be able to use 1, 2, or possibly all three modes of cardio. Sorry for you swimmers, but swimming will not be covered. For today, pick the mode of cardio you think you will use the most and use that for the test. We will do this same test at a later time to either repeat the test if you had a poor result or for your second mode of cardio.

Lactate Threshold Heart Rate (LTHR) Test – This test is VERY uncomfortable and requires that you give 100% MAX effort for a 30-minute effort. Two VERY IMPORTANT things to remember about this test. First make sure you are completely warmed up before attempting the test, and second, if you are coming "straight from the couch," meaning you have not been training for an extended period of time, DO NOT DO THIS TEST. You will be able to complete the test at a later time. If you skipped this test in week's 1 and 2 and have followed the program up to this point, you should be ready to give the test a try.

Running and Cycling
Start a 30-minute all-out effort. You should strive to hit an effort level that will allow you to complete the 30-minutes at as high an intensity level as possible for the entire test. You don't want to fade towards the end of the test but you don't want anything left when you are done. When you are 10-minutes into your 30-minute all-out effort, start your heart rate monitor recording function and stop it when you hit the 30-minute mark. Cool down for 5-minutes. The number you need from this test is the average heart rate for the last 20-minutes of your effort. This is your LTHR.

Rowing
The protocol for obtaining your heart rate training zones for rowing is significantly different from running and cycling. For the rowing test, you will record 3 separate 8-minute tests with 10-minute rest periods in between efforts. Like the running and cycling test, you do not record the warm up. The rowing test is different because of the increased total muscle mass used, it's much higher than cycling or running so your body doesn't need such a strong stimulus to cause the maximal aerobic cardiac output that you are trying to achieve. We split it into 3, 8-minute sessions because even the fittest athlete has a hard time maintaining an all out effort on the rower for 20-minutes.

Once you have your LTHR, you will use Training Peaks to determine your heart rate training zones to be used on all subsequent workouts. Your LTHR will be DIFFERENT for running, rowing, and cycling which means you will have to do this test three times if you want to use all three forms of cardio.

One last time: This test is very intense and is only meant for guys who can handle a 30-minute all out effort. If you do not feel you can complete the test due to health reasons or if you are "extremely" out of shape, SKIP THE TEST. Alternate workouts will be provided.
How to Enter and Calculate Your Heart Rate Zones in Training Peaks

Log into your Training Peaks account and in the upper right hand corner click on your name and then account settings.

This will pop open a window where you can input and calculate your heart rate training zones (see next page).
From the account settings page

1. click on “Zones” tab. From here, enter your average lactate heart rate from the test
2. click on “Show auto calculation methods” to open window and then choose Joe Friel
3. Your heart rate training zones will be calculated. Use these numbers to enter into your heart rate monitor. See the directions for your particular heart rate monitor to enter zones (See next page).

Click here for additional info.

VERY IMPORTANT INFO: Two very important steps will have to be completed by you for each cardio workout scheduled.

1. In order for Training Peaks to calculate your volumes correctly, you must enter the planned and completed time for the mode of cardio you choose. For instance, if you decide to run and the planned time from the notes in training peaks is 30 minutes (this number will change from week to week), you would enter 00:30:00 as the “Planned” duration of the workout. If the workout took you 40 minutes to complete, you would enter 00:40:00 as the “Completed” duration. This is necessary for Training Peaks to accurately keep track of your planned vs. actual training volume.
2. The second step you must take for each cardio workout is select (from the upper left hand corner in Training Peaks) the actual mode of cardio you chose to complete. This will either be run, bike, or row.

Select the form of cardio you chose for this particular workout. Choose either run, bike, or row.

Enter the Planned time here. In this example, you would enter 00:40:00 if you decided to bike.

Enter the actual time it took you to complete the workout. This may or may not be equal to the planned time.

Questions:
If you have questions about this or any of the other workouts, please post them on the Virtual Trainer Premium Training Forum located within your Training Peaks account.

Good luck with your workout!
### Bike: Lactate Threshold Heart Rate Test for Cycling

**Planned Time:** See Training Peaks Calendar

**Workout Description:** Begin with a long warm-up at least 10-minutes in length. Then ride a 30-minute time trial (all out effort). You must go as hard as you can for the entire 30-minutes for the test to be accurate. Use a flat, out and back course or a stationary trainer. 10-minutes into the all out effort, start recording your heart rate. You are only recording data for the last 20-minutes of the 30-minute all out effort. Average heart rate for last 20-minutes predicts lactate threshold heart rate (LTHR). This is the number you will use to calculate your training zones in Training Peaks. Afterwards, also record distance covered and average speed.

*Please note that this is NOT a 10-minute warm-up followed by a 20-minute all out effort. For some reason many athletes assume that is how the test is done. It is a 30-minute, all-out effort. We are just interested in the last 20-minutes.*

**Calculate HR Training Zones:** See directions above. Note that the training zones calculated for cycling are to be used ONLY for cycling workouts.

**Alternate Workout:** If you are not going to use a heart rate monitor, then cycle 60-minutes at RPE 6 (on a 1-10 scale).

### Row: Lactate Threshold Heart Rate Test for Rowing

**Planned Time:** See Training Peaks Calendar

**Workout Description:** Begin with an easy warm-up for at least 8-minutes. Then do 3, 8-minute time trials (all out efforts) resting for 10-minutes between each effort. You must go as hard as you can for each of the 8-minute segments for the test to be accurate. You want to record your average heart rate during each of the 8-minute segments and then take an average of those three numbers. This average heart rate predicts lactate threshold heart rate (LTHR). This is the number you will use to calculate your training zones in Training Peaks.

**Calculate HR Training Zones:** See directions above. Note that the training zones calculated for rowing are to be used ONLY for rowing workouts.

**Alternate Workout:** If you are not going to use a heart rate monitor, then row 30-minutes at RPE 6 (on a 1-10 scale).

### Run: Lactate Threshold Heart Rate Test for Running

**Planned Time:** See Training Peaks Calendar

**Workout Description:** Begin with a light warm up and stretch. Then run a 30-minute time trial (all out effort) on flat course or track. You must go as hard as you can for the entire 30-minutes for the test to be accurate. 10-minutes into the all out effort, start recording your heart rate. You are only recording data for the last 20-minutes of the 30-minute all out effort. Average heart rate for last 20-minutes predicts lactate threshold heart rate (LTHR). This is the number you will use to calculate your training zones in Training Peaks.

*Please note that this is NOT a 10-minute warm-up followed by a 20-minute all out effort. For some reason many athletes assume that is how the test is done. It is a 30-minute, all-out effort. We are just interested in the last 20-minutes.*

**Calculate HR Training Zones:** See directions above. Note that the training zones calculated for running are to be used ONLY for running workouts.

**Alternate Workout:** If you are not going to use a heart rate monitor, then run 30-minutes at RPE 6 (on a 1-10 scale).
RPE = Rating of Perceived Exertion

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<thead>
<tr>
<th>RPE</th>
<th>Equivalent Heart Rate Zone</th>
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<tbody>
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<td>1 - 3</td>
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<td>4 - 6</td>
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