

AEROBIC AND ANAEROBIC THRESHOLDS

Name: _____ Date: _____ Ambient heart rate: _____

Your aerobic threshold is the point at which your body first starts to gain the benefits of cardiovascular conditioning such as improved work capacity. Your anaerobic threshold is the point at which there is not enough oxygen to sustain exercise for 20 to 60 minutes. It is also the point at which you burn the highest number of fat calories per minute (i.e., your fatmax).

Aerobic Threshold

Write your MHR here: _____ bpm

Now calculate 55 percent of your MHR: _____ bpm

This is your aerobic threshold. You should do most, if not all, of your training at this heart rate or above.

Anaerobic Threshold Talk Test

The result of this test will be an estimate of your current anaerobic threshold. Basically, the test involves exercising at a high intensity until talking becomes difficult. Once it is difficult to talk, you will sustain the exercise for 5 to 10 minutes without stopping. Using the scale shown in the following table, talking will usually become difficult at a rating of perceived exertion (RPE) of 7 or 8, depending on your level of fitness.

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RPE number	Feeling	Description	Heart zone
1.0	Very little effort	Easy	0
2.0	Very comfortable	Easy	1.0
3.0	Easy to talk and no problem to continue	Moderate	1.5
4.0	Could keep this up for a long time	Moderate	2.0
5.0	Somewhat less comfortable	Hard	2.5
6.0	More challenging	Hard	3.0
7.0	Tough, feels very heavy, must push self	Very hard	3.5
8.0	Challenging, breathing deeper and rapid	Very hard	4.0
9.0	Uncomfortable, breathing deep and rapid	Maximal	4.5
10.0	Unable to continue for more than 1 minute	Maximal	5.0

Adapted, by permission, from C. Foster, 1998, "Monitoring training in athletes with reference to overtraining syndrome," *Medicine and Science in Sports and Exercise* 30(7): 1164-1168.

Instructions

1. With a partner, select an aerobic activity that you both enjoy (e.g., swimming, cycling, running, walking, basketball, soccer, skiing).
2. Warm up adequately for at least five minutes, or 10 percent of your total workout time.
3. Increase your speed until it becomes difficult to talk. At this heart rate, you should be able to talk to your partner, but it will be difficult.
4. Maintain this heart rate for 5 to 10 minutes. This is your anaerobic threshold. If you cannot maintain this heart rate because it's too high, either rest for a full recovery and try again or retake the test another day.
5. For most students, talking is difficult at a heart rate between 75 and 90 percent of MHR. The fitter you are, the higher the percentage of your MHR you will be able to sustain.
6. Cool down for at least five minutes in zone 1.
7. Use your anaerobic threshold heart rate to calculate your percentage of MHR.

My anaerobic threshold heart rate is _____ bpm.

My MHR is _____ bpm.

My anaerobic threshold is _____ percent of my MHR.

Describe your process and reflect on what you learned.