Target Heart Rate Zone vs Perceived Exertion Level

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Target Heart Rate and Borg’s Perceived Exertion level scale are both a means to gauge exercise intensity. Both methods are equally important in determining whether you are exercising at a level, which will optimally provide improvement in cardiovascular conditioning and keep a safe range. The question here is which method would be most appropriate for you to monitor how much effort you are expending during cardiovascular exercise. Using one or both of these methods is a means to enable you to see improvements in your resting heart rate, and response to exercise.

To start, a definition of each method is necessary to understand as how they are applied according to fitness and health levels:

* **Target Heart Rate Zone (THR)**: Range with in which the heart is beating to get the optimum cardiovascular effect. It is recommended that an appropriate range for most healthy individuals to exercise at a level between 55-85 percent of your Maximum Heart Rate. In some cases, your health care provider may decrease persons Heart Rate Zone depending on your health
* **Borg’s Rate of Perceived Exertion Level (RPE)**: Developed by Gunner Borg in early 1980’s, the Perceived Exertion is a subjective method based on how hard you feel like your body is working during exercise. Based on a person’s experiences during exercise it gives a correlation between perceived exertion and actual heart rate. RPE is a good estimate of actual heart rate during exercise.

**Instructions for determining THR zone**: there are two types of determining THR the first is the Karnoven formula and the second it the Simplified Method/Age Based Formula.

* **Karnoven Formula**:
* 220-age=maximum Heart Rate
* Maximum Heart Rate – Resting Heart Rate = Intensity
* Intensity x .55 (minimum intensity) + Resting Heart Rate = THR zone

This is what it looks like with real numbers plugged into the formula: For instance take a 43-year-old with a resting Heart rate of 60. Below is how the calculations would look like.

* **220 – 43 = 177**
* **177 – 60 =117**
* **117 x .55 = 64 + 60 = 124**
* **117 x .85 = 99 + 60 = 159**

This gives a range of **55%-85%** of a THR zone.

* **Simplified Method/Age Based Formula**
* 220 – Age = Maximum Heart Rate
* MHR x .55 = Minimum THR Zone
* MHR x 85 = Maximum THR Zone

This is what it would look like with numbers plugged in.

* **220 – 43 = 177**
* **177 x .55 = 97**
* **177 x .85 = 150**

\*\*\*\***Comparing the Karnoven Formula to the Simplified Method, you can see what an impact that adding in a Resting Heart can make on the training range.\*\*\***

**Please see the Polar USA sire for the training ranges associated with our heart rate monitors**

[**http://support.polar.com/us-en/support/How\_to\_calculate\_target\_heart\_rate\_zone\_**](http://support.polar.com/us-en/support/How_to_calculate_target_heart_rate_zone_)

**Instructions for determining Rate of Perceived Exertion:**  
While exercising you will rate how hard, you are working. This is your perception and this feeling should reflect how strenuous the exercise feels to you. This is very helpful in self-monitoring through out an exercise training session. First introduced as a scale of 6-20 it has since been revised to 0-10.

BORG SCALE

**The 20-Point Scale:**

6- No exertion at all  
7-  
8- Extremely light  
9- Very light  
10-  
11- Light  
12-  
13- Somewhat hard  
14-  
15- Hard  
16-  
17- Very hard  
18-  
19- Extremely Hard  
20- Maximal Exertion

Using the 6-20 point scale a rating of 12 would correspond to approximately .55 % of THR zone and 16 to approximately .85% of THR zone.

**The revised 10-point scale:**

0 – Nothing  
0.5 – very, very light  
1.0 – very light  
2 – Light  
3 – Moderate  
4- Somewhat hard  
5 – Heavy  
6 –  
7 – Very heavy  
8 –  
9 –  
10 – Very,Very Heavy

The talk test is also a good indicator of measuring exercise intensity. You should be able to carry on a conversation and still breathe comfortably, but not be able to sing. If you can sing the exercise, intensity may be too easy and take it up a notch.

Whichever method(s) you choose, be sure to work within your comfort level. It is not  
recommended to exercise above 85% of your maximum heart Rate due to increased risk of both cardiovascular and orthopedic risks. Always check with your health care provider prior to starting an exercise program, they can best help you determine your Heart Rate Range. If working with a Fitness professional they too can assist you in determining your best method of calculating your Target Heart Rate Zone. If you are a beginner to exercise, start out gradual and build up to a level that is tolerable to you. If too strenuous, slow down to reduce the risk of injury. If it does not feel right to you change your level of effort. Exercise according to how you feel and above all else enjoy what you are doing! The results that you so yearn for will transpire before your eyes and improvements to your overall health will be apparent.

<http://www.shapefit.com/cardio/target-heart-rate-zone-vs-perceived-exertion.html#comments>

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