**One Step at a Time Challenge**

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Monitoring Exercise Intensity

Cardiorespiratory fitness, cardiovascular fitness, and aerobic endurance fitness are synonymous. To best describe this fitness component is the ability of heart, lungs and circulatory system working together in cardiovascular endurance, which enables one to sustain activity for a long period of time.

It is important to know how to monitor your aerobic exercise bouts. There are five methods to choose from to monitor your exercise intensity. But it all depends on where you are in your exercise program, level of fitness, if you’re taking medication (beta blockers, or calcium channel blockers), heart conditions, or other chronic diseases. Target heart rate is only a guide. Each individual is different, so pay attention to how you feel, how hard you are breathing, how fast your heart is beating, and how much you feel the exertion in your muscles. The following are the primary methods of monitoring exercise intensity:

1. Heart Rate
2. Percentage of maximal heart rate
3. Percentage of heart-rate reserve
4. Rating of perceived exertion
5. The “talk test” method
6. METs (Metabolic Equivalents)

Most healthy individuals should be able to use the first two methods to determine their target heart rate (THR) to work out in. The other methods are used in exercise intensity when an individual has certain heart conditions or other health issues. Also, important is that a women’s heart rate is 10-12 beats faster so instead of using 220 – age use 206 instead.

Below is an example of how to figure out your THR using the first two methods?

Example 1: Percentage of Maximal Heart Rate (limitations should fall between 55-90%)

A 40 year old man for whom an intensity of 70% of maximal heart rate is desired:

220 – 40 = 180 (predicted max HR)

180 (predicated max HR)

x.70 (70% exercise intensity)

126 (exercise HR)

Example 2: Percentage of Heart Rate Reserve (Karvonen formula) Resting heart rate is figured in on this example.

(Limitations should fall 40 to 85%) Take resting heart in the morning before getting out of bed.

Training Heart Rate

= maximum heart rate

* Resting heart rate

X desired intensity 40/50% to 85%

+ resting heart rate

40 year with a resting heart rate of 80 bpm at an intensity of 70%

THR = (maximum HR – RHR)

X intensity + RHR

220 – 40 = 180 (predicated maximum HR)

180

- 80 (RHR)

100 (heart rate reserve)

X 0.70 (70% intensity)

70

+ 80 (RHR)

150 (target HR at 70% of heart rate reserve)

To find your target heart rate range, you will choose the category that best matches your level of physical activity. The categories are:

* Not active. You do less than 30 minutes of light activity no more than 2 times a week. Cleaning house, slow walking, and playing golf are examples of light activity.
* Moderately active. You do up to 30 minutes of light to moderate activity 3 to 5 times a week. Brisk walking, jogging, riding a bike, swimming, and playing tennis are examples of moderate activity.
* Very active. You do more than 30 minutes of moderate activity at least 5 times a week.

**Instructions for Borg Rating of Perceived Exertion (RPE) Scale**

While doing physical activity, we want you to rate your perception of exertion. This feeling should reflect how heavy and strenuous the exercise feels to you, combining all sensations and feelings of physical stress, effort, and fatigue. Do not concern yourself with any one factor such as leg pain or shortness of breath, but try to focus on your total feeling of exertion.

Look at the rating scale below while you are engaging in an activity; it ranges from 6 to 20, where 6 means "no exertion at all" and 20 means "maximal exertion." Choose the number from below that best describes your level of exertion. This will give you a good idea of the intensity level of your activity, and you can use this information to speed up or slow down your movements to reach your desired range.

Try to appraise your feeling of exertion as honestly as possible, without thinking about what the actual physical load is. Your own feeling of effort and exertion is important, not how it compares to other people. Look at the scales and the expressions and then give a number.

6  No exertion at all

7  
    Extremely light (7.5)  
8

9  Very light

10

11  Light

12

13  Somewhat hard

14

15  Hard (heavy)

16

17  Very hard

18

19  Extremely hard

20  Maximal exertion

9 corresponds to "very light" exercise. For a healthy person, it is like walking slowly at his or her own pace for some minutes

13 on the scale is "somewhat hard" exercise, but it still feels OK to continue.

17 "very hard" is very strenuous. A healthy person can still go on, but he or she really has to push him- or herself. It feels very heavy, and the person is very tired.

19 on the scale is an extremely strenuous exercise level. For most people this is the most strenuous exercise they have ever experienced.

Borg RPE scale  
© Gunnar Borg, 1970, 1985, 1994, 199

You may easily monitor your heart rate with a chest strap worn while exercising. The RACC has a couple of chest straps that may be checked out for exercising if you are interested in finding out how easy it is. The strap gives you a better picture of your heart rate instead of the handhelds on the machines. Use the above methods to figure out your maximum heart rate and give it a try. Know your numbers to stay in the correct zones. Especially, if you want to lose weight it is important to stay in the zone where you will burn the most calories. Good luck!