



See Jane Run
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**Heart Rate Clinic/Pacing
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1. Your heart rate is usually directly corresponding to your level of exertion or effort. However, heart rate can be influenced by other conditions such as air temperature, humidity, nerves, diet, fatigue, etc. For example, on days that you are tired or fatigued your heart rate won't get up as high. This would be a perfect day to also use Rate of Perceived Exertion (RPE).
2. Heart rate monitors can be most beneficial on easier days when you are working around 65-70% of max heart rate.
3. In addition, heart monitors can gauge how quickly you can recover from your intervals. When your HR falls to about 60% of your max that is when you would start another interval.
4. Hearts have a maximum number of times per minute they can beat...this is called Maximum Heart Rate. One's heart rate changes over the course of his/her lifetime for various reasons.
5. Knowing your own personal maximum heart rate allows you to figure out what heart rate to train, get fit, improve performance....it's more of a tailored workout for you and only you..kind of like a personal trainer.

How to determine your maximum heart rate: There are several ways to determine this. One thing to remember, these are all estimates of your MHR (maximum heart rate)...to get your true MHR it is best to have an exercise physiologist or a physician to perform MHR test.

I'm sure most of you are familiar with the 220- your age formula, but there are more accurate ones out there, especially for people who exercise. Here are the two formulas that I normally use:

1) $220 - \text{Age} = \text{Maximum Heart Rate}$

$\text{Max Heart Rate} - \text{Resting Heart Rate} \times \text{Intensity} + \text{Rest. Heart Rate} = \text{Training Heart Rate}$

Valerie's Heart Rate

$220 - 34 (\text{Age}) = 186$

$186 - 40 (\text{Rest. HR}) = 146$

$146 \times .60 (\text{heart rate. Intensity}) + 40 (\text{Rest. HR}) = 127 \text{ Beats/Minute}$

From here you add the intensity: Let's use 60% of my MHR $186.5 (.60) = 112 \text{ beat per minute}$.

To get your resting heart rate you need to take your pulse: Place your index and middle fingers directly under your ear, then slide your fingers down until they are directly under your jawbone, pressing lightly for 1 full minute, counting each heart beat to find your beats per minute (bpm).

PACING

Everybody wonders at some point how fast or slow they should run. You want to run at every pace...it just depends on your workout and your goal. Everyone...including myself gets stuck at running at one pace...this is referred to as the "gray zone." The problem with always running in the gray zone and one pace is: it is usually too fast for a recovery run, but too slow for key runs or speed work. To get faster, you have to run faster...whether that's a 12 minute mile or a 6 minute mile. Here is some example of pace:

Recovery Run: slow easy runs. 70% or less than your MHR (maximum heart rate)

Key Runs: use to trick body to run a faster pace...slightly faster than race pace

Transition run: also race pace as well as how you feel on a given day.

Long Runs: Main aerobic base for the week. This increases aerobic endurance and should be run around 70-80% of MHR or 80-90% of Lactate Threshold (will go over later)

Let's look at the zones and what they mean.

Zone 1: Pace is easy and relaxed and breathing should be easy. This is where you're easy, aerobic, and recovery runs should be. RPE 6-9

Zone 2: Breathing rate and pace increase slightly. Your running pace is still comfortable and conversation still manageable. However, you may feel a slight change in breathing. Aerobic threshold endurance, extensive endurance and aerobic work are done here. New athletes to triathlons typically stay in this zone. RPE 10-12

Zone 3: Moderate Pace and conversation is a bit more difficult. Breathing is becoming a little harder. Tempo or intensive endurance. RPE 13-14

Zone 4: Breathing is starting to become difficult and pace is fast and beginning to get uncomfortable. RPE 15-16

Zone 5a: Breathing is deep and forceful. Pace is all out sustainable for 1-1.5 hours. Conversation not possible. Lactate Threshold Endurance, Anaerobic Threshold Endurance. RPE 17

Zone 5b: Heavy, very labored breathing. Pace is noticeably challenging, but sustainable for 15-30 minutes. Speed Endurance, Aerobic Capacity RPE 18-19

Zone 5c: Pace is sprinting that is not sustainable for over a minute. Anaerobic capacity, power RPE 20

What to do if I don't have a heart rate monitor? That's easy! If you don't have a heart rate monitor and don't feel like buying one, then no worries. All you need is a pulse...and I know you all have one of those! Take your pulse as instructed above and during your workouts, periodically take your pulse for 30 seconds and multiply it by 2. Plus you can also use the Rate of Perceived Exertion (RPE)... Some of you may remember me using this at track or other workouts. This is just another method that can be used in conjunction with taking your pulse.

On a scale of 6- 20, rate how you're feeling in terms of exercise fatigue, including how you feel both physically and mentally. Use the following table to determine the intensity level:

Zone	RPE	Description
1	6	
1	7	very, very light
1	8	
2	9	very light
2	10	
2	11	Fairly Light
3	12	
3	13	somewhat hard
3	14	
4	15	Hard
5a	16	
5b	17	Very Hard
5b	18	
5c	19	Very, very, hard
5c	20	

Reference:

1. Edwards, Sally: The Heart Rate Monitor Workbook; Velo Press, Boulder, Co; 2001
2. www.ptonthenet.com