



Let's Talk Running... Heart Rate Monitor Training

"How do I use this heart rate monitor?"

"Know that I have this new heart rate monitor, how do I use it?" If you have asked yourself this, then the following information may be helpful. There are different schools of thought in how to determine the optimal training intensity to maximize the benefit for a specific distance or event. Some of the well-established methods include percentage of predicted maximum heart rate (MHRp), percentage of actual maximum heart rate (MHRa), VO_2 max testing, or **blood lactate threshold testing**. No matter which method an endurance athlete chooses, the more specific the method to each person, the better the end results.

If utilizing the percentage of maximum heart rate method, the following guidelines were published in an article in *Runners World* to provide heart rate ranges for training and racing. It is important to note, that these are strictly guidelines, and there are always factors that would necessitate the need to modify these ranges (e.g., medical conditions, weather conditions, etc.).

- 1) First determine your predicted MHRp or an actual tested MHRa:
- 2) Take a percentage of your MHR based on specific training or race event to determine your range

Training percentage of MHR:

- Easy run and long run (65-75%)
- Tempo run (87-92%)
- Interval repeats (95-100%)

Race percentage of MHR:

- 5K (95-97%)
- 10K (92-94%)
- Half marathon or 25K (85-94%)
- Marathon (80-85%)

Another method for training is using your lactate threshold to guide training intensity. This can be done by correlating your threshold to a specific heart rate range. As with other methods, there are some limitations that arise, including humidity, training environment, illness and food intake. Despite these limitations, we have found that using this determined heart rate range is the most "functional" way to guide you in your training.

Lactate is being produced in our bodies all the time. As our muscles break down fuel (glucose), lactate is formed. Lactate formation increases as our activity increases, but our bodies will absorb lactate at a certain rate. However, once the production of lactate surpasses our body's ability to absorb it, this is the point where we become anaerobic (burning fuel without oxygen). We define this term your *lactate threshold*. Lactate testing is a process to match an individual's lactate threshold to a specific heart rate or zone. This is done by performing a controlled progressive test on a treadmill, gradually increasing the intensity and recording the specific heart rate while taking blood tests for lactate levels. Once a specific concentration of blood lactate is achieved (research suggests 4.0 mmol/L), analysis of the heart rate/blood lactate level

curve is done to establish the corresponding target ranges. This will allow your training to be more specific to help achieve specific goals while making desirable gains in your performance.

For more information about the specialty services offered to distance runners, triathletes and cyclists, including lactate threshold testing, please contact us at 269.329.0934 or visit our specialty services link on our website at www.agilitysportsmedicine.com.

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