



Heart Rate Training in the Base Phase

Article by Coach Sonni Dyer

Well it's that time again. Time to put away the Christmas cookies and fruitcake and ramp up the training again for the new season at hand. In Dec., Jan. and Feb, this means the **Base- phase**.

As a coach, one of the biggest challenges we face is when (and how) to back athletes off to allow their bodies to take advantage of the work they've put in. Rarely do I find that I have to motivate people. Generally speaking, if their willing to pay us to coach them.....they're already motivated. However, the **Base-Phase** is a time when just such a tempered approach is MOST beneficial.

Here's why.

First, let me give a comprehensive definition of training.

Training involves sequencing periods of physical stress with periods of adequate recovery to progressively prepare for a desired outcome. Stress and recovery it's that simple. And it must be "sport-specific" stress that will condition you to the event that you're training for.

How to view training: We (the Studio 7 MultiSport coaches) view training as, not only what benefits one derives from the training, but also what it **COST** to do so.....**the COST is the key.** To improve, recovery must exceed one's efforts in breaking one-self down. Otherwise you're over-training. Also, one must ask if the **COST** and **BENEFIT** are **specific** to the goal at hand. (For example: a 4 hour training ride does little to benefit you if your goal of a sprint-triathlon given the cost associated with recovering from such a session. You could spend your efforts and time in a better, more specific way.)

We begin by defining this simple philosophy because as we dive deeper into base-phase intensity, we'll be coming back to these principles.

The intensity that we specify in the Base-phase is based on Dr. Phillip Maffetone's philosophy of **Maximum Aerobic Efficiency**. In other words, we're searching for a heart-rate zone that be as fast as you can train while **STILL REMAINING AEROBIC**. These last 3 words are the key.

This is called the **MAF zone**. "MAF" for Maximum Aerobic Function. The zone is calculated using a respiratory-quotient formula rather than a 'max-heart-rate' or 'Threshold formula'. It's been our experience that calculating off of these is like hitting a moving target. You're wrong as often as you are right.

I'll only have an athlete exceed this MAF zone (other than for fun, 'motivating events') after a complete base has been built. Generally, this means 6-10 weeks. Know that the more complete your base is, the more good will come from your race-specific, higher heart-rate training later on.

Why? Because the higher intensity training will **COST** you less (in terms of recovery) with a solid aerobic foundation built.

A quick guide on how to calculate YOUR Maf heart-rate:

- 180 minus your age.....then: (fall into ONE category, only)
- subtract 10bpm if you've had a major illness in the past year
- subtract 5bpm if you're inactive
- add 0 if exercise for up to a year w/ no illness
- add 5bpm for training for 1-3 years and making measured progress
- add 5 to 10bpm if you've been training and racing very competitively in your age-group.

[Note: this, or ANY, formula only gets us in the "ballpark" of your perfectly accurate numbers. The only true way to know these is to have lab testing done where we extract & measure blood-lactate @ progressive heart-rates. And we offer this as an option to ALL athletes.]

Your maf zone ends at the point where you can no longer carry on an uninterrupted conversation while training.....and begins 10 beats below that point.

[Roughly 10 bpm above the Maf zone lies your AT or anaerobic threshold. Save this for later, killer.]



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"Why would I have you limit your heart-rate in the base-phase?"you may ask.

Again, let me explain. When we exhibit training stress in the body, we're training 4 basic systems you'll use on race-day.

- 1-Cardiovascular efficiency
- 2-muscular strength efficiency
- 3-neuro-muscular efficiency
- 4-and metabolic efficiency

I'll go into each in later articles, but for now, **know that intensively training ONE of these systems can actually DE-train the others.** For example :track-intervals are great for race-specific cardiovascular fitness. However, training like this can also DE-train the metabolism and energy-delivery pathways.....relying on less a % of fat and more a % of limited glycogen (blood-sugar).

The key here is to let the track-intervals be the "icing" not the cake. The base-phase is the time to "bake the cake" by honing in on the **EFFICIENCY** (rather than a high 'output' ability) of each of the above 4 systems.

Efficiency is all about doing more with less. For a triathlete, we know that someone's ready for higher intensity work when their pace while swimming, cycling, or running has increased while their heart-rate has stayed the same. We measure this in each phase using a "MAF test".

Only when it takes a conscious effort to go above your Maf heart-rate are you ready for Anaerobic-Threshold, race-specific-intensity heart-rates. Otherwise you're better off, (from a "what-it-takes-to-recover-from it" vs. "what you gained from it" standpoint) honing AEROBIC efficiency.

The KEY to 'base-phase' training is to:

-stay @ maf heart-rate levels

-because doing so will increase your "pace-per-cost of effort/energy that it took to get you there"

-which in turn equates to a greater VALUE in your training (ie: Training ALL 4 tri-specific systems more completely w/ as little 'recovery-cost' as possible)

-which conditions you perfectly for what to come in the Race-Preparation phase that follows.

Here are the top-4 reasons to remain aerobic in the base-phase:

- 1)---Anaerobic training can *decrease* the # of aerobic muscle fibers.
- 2)---Lactic Acid produced during anaerobic training may inhibit the AEROBIC muscle enzymes which are necessary for triathlon-specific energy usage.
- 3)---Anaerobic training raises your respiratory quotient. This means that you % of energy derived from sugar (which is limited) increases.....while % of FAT (almost unlimited) used decreases.
- 4)---TOO much anaerobic stress inhibits the aerobic metabolism by raising cortisol levels. Cortisol is a catabolic (as opposed to an 'anabolic') hormone that negatively alters insulin levels to rely on sugar USAGE instead of fat usage. Cortisol is a muscle stripper by converting it to fuel as well.

Sure, there will be the "January Champions" who'll attempt to bait you into hammering that final 5 miles home. Take a deep breath and know that your periodized approach will be better over the long season ahead.

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*****For more information on the [Studio7MultiSport](http://www.Studio7MultiSport.com) training programs, you can visit our website at www.Studio7MultiSport.com or email Sonni at Sonni@Studio7multisport.com .