

## "Base" Happens

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Thursday, 07 June 2007

Last Updated Friday, 29 February 2008

The basis for today's post comes from a discussion earlier this week regarding basic training principles. If you pick up any triathlon, cycling, or running magazine, you will invariably note some mention of "base training" or "aerobic base training" or some other form of doing long, slow work to "build a base" early in the season. During this time period, intensity (in the form of intervals, tempo work, etc) is considered "taboo". The prevailing thought is that you need to build an aerobic base upon which to then superimpose a few weeks/months of interval-based work prior to racing.

Of course, the premise sounded good - back when we all believed that the aerobic system was the primary limiter to performance.

It's now time to reconsider the premise - and the constructs - because the more sports science you read and digest, the less emphasis that is put on the cardiovascular system, and the more that is placed on the central nervous system (which would include the neuromuscular pathways).

But what has happened in the coaching world as these new concepts have emerged? Frankly, not much. Coaching tends to be a little monolithic and glacial at times - slow moving at best as it holds on to the sacred beliefs of aerobic capacity and lactate threshold. That's not to say that all coaches are like this - because they aren't. But I dare you to pick up any 10 books in the local bookstore, materials that are readily available to the average triathlete or runner, and I suspect that each will have more than a cursory description of the aerobic pathways being of critical importance to your success as an endurance athlete.

If you are sedentary or relatively new to exercise, then I might suggest that the cardiovascular system is one of the primary limiters. Of course, anyone who has started an exercise program from ground zero knows that for the short term, the limiter seems to be your aerobic system. You feel winded, unable to exercise very long or at even an elevated intensity. But before long, you feel more comfortable with this level of exertion. Your cardiovascular system adapts - readily.

If you look solely at the numbers, your maximal aerobic capacity will increase maybe 15% with training. Once you've reached your maximal aerobic capacity, do you stop progressing? Of course not! We all know that people continue to improve (or have the capacity to do so) as they continue to train. So what then is the limiter to performance? And why do coaches seem to care so much about "building a base" - on a premise that serves as an unstable foundation upon which to build?

This is why I always have a little chuckle when I see an article (or discussion) about "developing an aerobic base". As one astute athlete once said, "long slow running makes for long slow runners". By simply logging in miles, you're doing nothing more than a) increasing your risk of injury (as this is directly related to mileage, especially with runners), or b) allowing all other mechanisms of performance (i.e. power output) to "de-train" due to lack of training stimuli! As they say - "if you don't use it you lose it" - and this is certainly the case with your power output after a long period of "base" training.

This is why my thinking has evolved towards having two primary types of training sessions that are cyclical and cover the full training year (excluding rest/recovery phases after a goal race, etc). These are the neuromuscular power session and the neuromuscular efficiency session. The former is designed to increase the overall power output, the latter is designed to learn how to use it effectively.

If you train at paces that are appropriate to your goals (goal pace), and continue to build your power output, you are building a neuromuscular base, not an aerobic one. By training the central nervous system and the neuromuscular pathways, we focus on the primary limiter to endurance performance. While doing so, there is a "trickle down effect" - such that other systems (i.e. aerobic) continue to respond and adapt as well.

In this way, you're building a base. Or, as I concluded this week, "base happens" along the way as we train our neuromuscular system.

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