



Importance Of Base

There are many elements to training that blend together to give athletes the desired form and fitness for success, and arguably none more important than base, or endurance, miles. I'll spare the extensive scientific aspects but rather offer a general physiological outline as well as logical reasoning for the benefits of incorporating base into your training program. For a more in-depth study of benefits of base training, I would encourage seeking out studies and research conducted by two people. The first is Tudor Bompa, widely regarded as the father of endurance sports. Bompa's theories of endurance sports are still considered the foundation of a successful program. The second person with extensive knowledge on this subject is Rick Crawford, one of my mentors, the head of Colorado Premier Training, one of the foremost and respected coaches in the US, and whom several key points of this article can be attributed to.

It seems that often the general opinion of doing a big base period is that the longer you have been racing and training, the less time is needed at base. While there is some room for maneuverability and I won't completely disagree with this thought, I will argue that base does have its rightful place in the scheme of training and even the most experienced athletes can benefit from base training.

We'll start with the first benefits of base, which are the physiological aspects. When boiled down to its basics, cycling is an endurance sport so it makes sense for the first piece of building fitness to be attention to base. Base, by standard definition, is low intensity aerobic training in which the goal is to increase the ability to perform consistently over long periods. The general rule of thumb regarding intensity for this period is 70-75% of max heart rate, or 80-86% of threshold heart rate. Training at this relatively low intensity, arteriole flow is increased by what is called endothelial cell response, or vasodilatation. Arterioles are the terminal branches directly upstream of the capillaries, and are primarily responsible for regional flow capacity of blood to muscle fibers (McAllister et al. 2004). As it is the capillaries that actually distribute that regional blood flow, it is safe to say that this results in enhanced delivery of oxygen and substrates to muscle fibers and thus energy process will be more enhanced. With this in mind, and approaching training with a progressive mindset, it makes sense to first focus on base to increase the ability to enhance blood flow and increase arteriole and capillary efficiency to enable the ability to process bigger gains when the system is puffer under greater training stress (Crawford, 2005).

The second benefit is that it is well documented that low-intensity exercise promotes the body to use fat stores over precious glycogen stores (Romijn, Coyle et al. 1993), and base is where this task will predominantly take place. The body learns to make metabolic decisions about what fuel should be utilized and where it should come from. While metabolic efficiency is important throughout the season, base provides a unique opportunity to focus on the task at hand. By adapting your body to burning fat during base, as you progressively work towards higher intensities in the training phases to come, your body will have the basis for the most efficient use of its fuel sources.

The third function of base is no less important than the first two. Because the central nervous system, or CNS, is one of the bodies' primary limiters, it is extremely crucial to keep this system fresh and stimulated to be able to sustain the higher stresses that will be put on it once training becomes more intense and racing begins. Because base is generally started after a solid off season break, it gives you plenty of low volume that is beneficial to stocking up supplies of CNS that will be invaluable when the time is here to up the intensity. By doing intensity too soon, you eat away little pieces of the CNS that are much more difficult to get back than they are to burn. Cyclists are speed freaks and adrenalin junkies by nature....we all get a rush out of the sensation



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of going hard and pushing our bodies. I won't go so far to say that it can make or break a season, but over stimulation of the CNS is one of the primary factors in burnout so it becomes that much more important to regulate the efforts that drain it. As the saying goes, there are only so many matches to burn so you want to use them wisely so as not to run out too soon.

There is a natural progression to training that should be followed for it to be effective and maximize potential. I come from a construction background so I like to make the analogy to building a house. The first thing you focus on when building a house is the foundation. You want it to be strong, sound and able to support the rest of the structure without crumbling. Additionally, the bigger you want your house, the more careful attention to detail you pay when laying the foundation. Only once this strong supportive foundation is in place, are you ready to add to it. The bigger the base, the higher potential you can reach with your fitness. Think of it like laying the foundation for a grand skyscraper.

When building fitness, it is critical to pay attention to base in anticipation of building even better form and reaching the peaks you desire. So enjoy base, gather your form, and use the time to visualize where you see your season taking you. Most of all be patient. If you let yourself progress naturally, you will reach your goals.

-Bill Elliston, December 2008