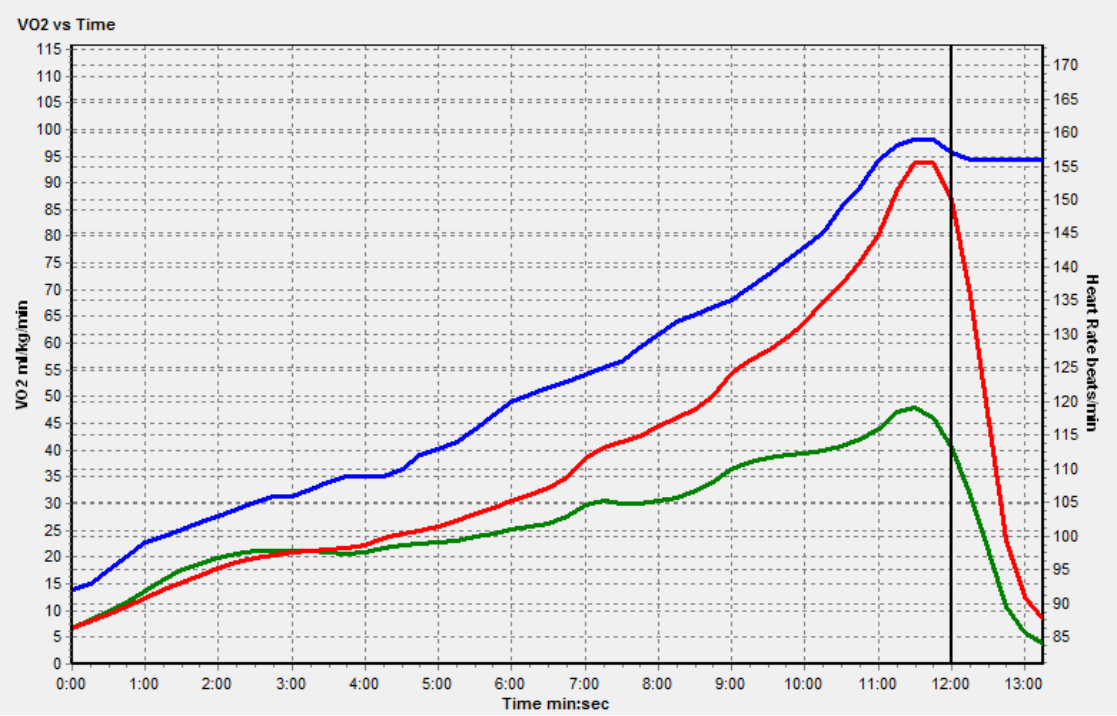
Watts are the Way

We all have twenty four hours in our day, and most of us do not have jobs riding a bike. Yet, we all want to make the most of our precious time. Matt (http://jackrabbitracing.blogspot.com/) is no exception to this rule. When I first met Matt in 2007 his results were pretty typical. He trained by using a heart rate monitor (sometimes), and really had no rhyme or reason to his training. He had an anaerobic threshold of around 125w and a fairly normal VO2 in the 50's. Yet, what Matt had was a desire to succeed. To make the most of his limited time, maximize his time with his busy tribe of three kids, while balancing demands of a career. Luckily, he had a wife that could organize their family peleton better than Bruyneel.

Matt's first VO2 test in April 2007 looked like this (blue line = heart rate response, green line = VO2, red line = VCO2):



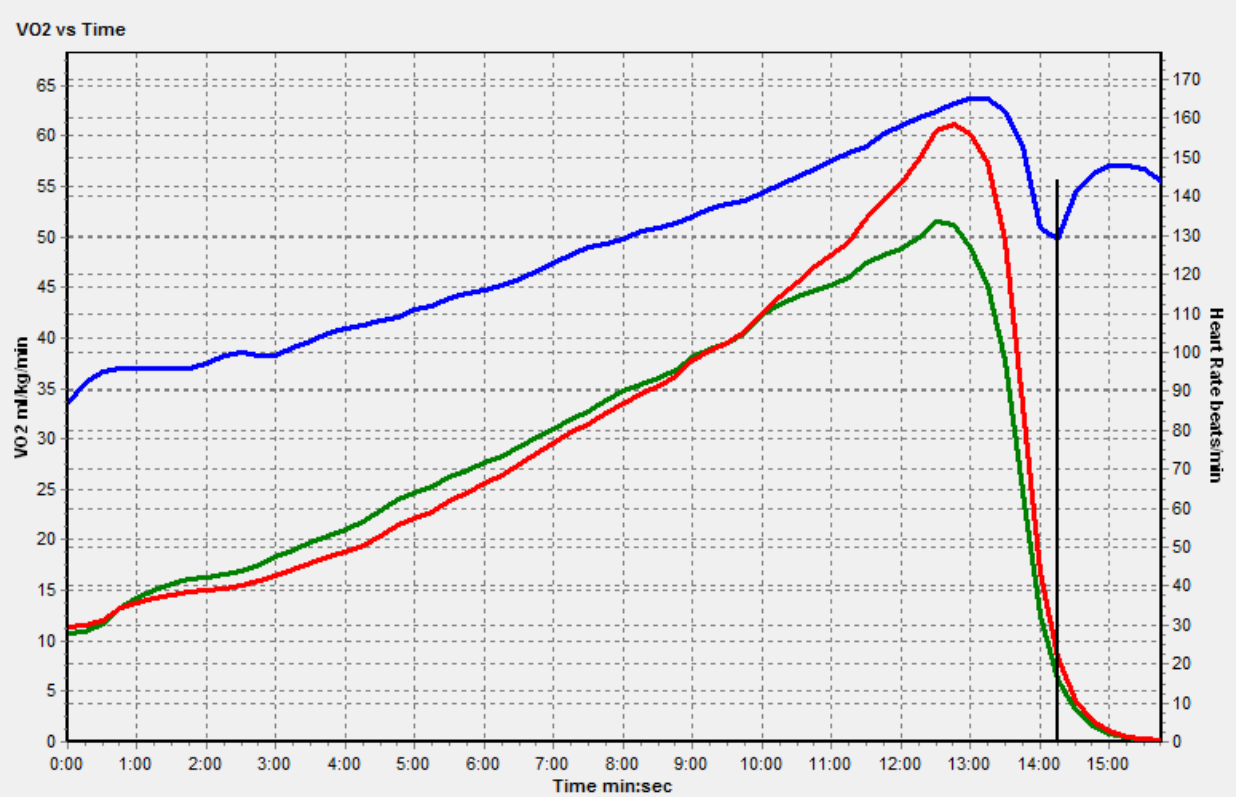
He started this test at 50w and every minute after minute two the intensity was increased by 20w. You can see by a mere 150w (minute six) he was getting pretty toasty, he was quickly heading into the deeper depths of oxygen debt.

Yet, looking at Matt in person at that time, most would conclude he was a pretty fit guy. He six feet two inches (and as he says I'm 6'9" with my hair, and yes, I shoot well, rebound well and have good inside strength off the boards a Fletch quote of his), and only 170 pounds. He looked strong and most importantly he had (and has) a strong, positive mental attitude. Most importantly, he was willing to

take this initial test, and then do something about the information. At the time he had this funny goal of being one of the fastest guys around the local lake, in what amounted to an hour time trial.

Matt soon embarked on a getting his training organized. This started with the F rules of training. First, he kept it FUN – and always does (just look at his blog, one of the funniest around). Second, he began to work on FORM, this came in the form of functional fitness to optimize neuromuscular recruitment patterns. Next, he was able to work on FIT, through his constant tinkering and working with a bike fitter (www.fitwerx.com) he was able to maximize his biomechanics on the bike. It was only after these variables were dialed in that he could work on FUEL and FITNESS. Matt worked diligently to alter an already pretty solid nutritional intake and he religiously followed the concept of periodization. His training became very organized and analyzed.

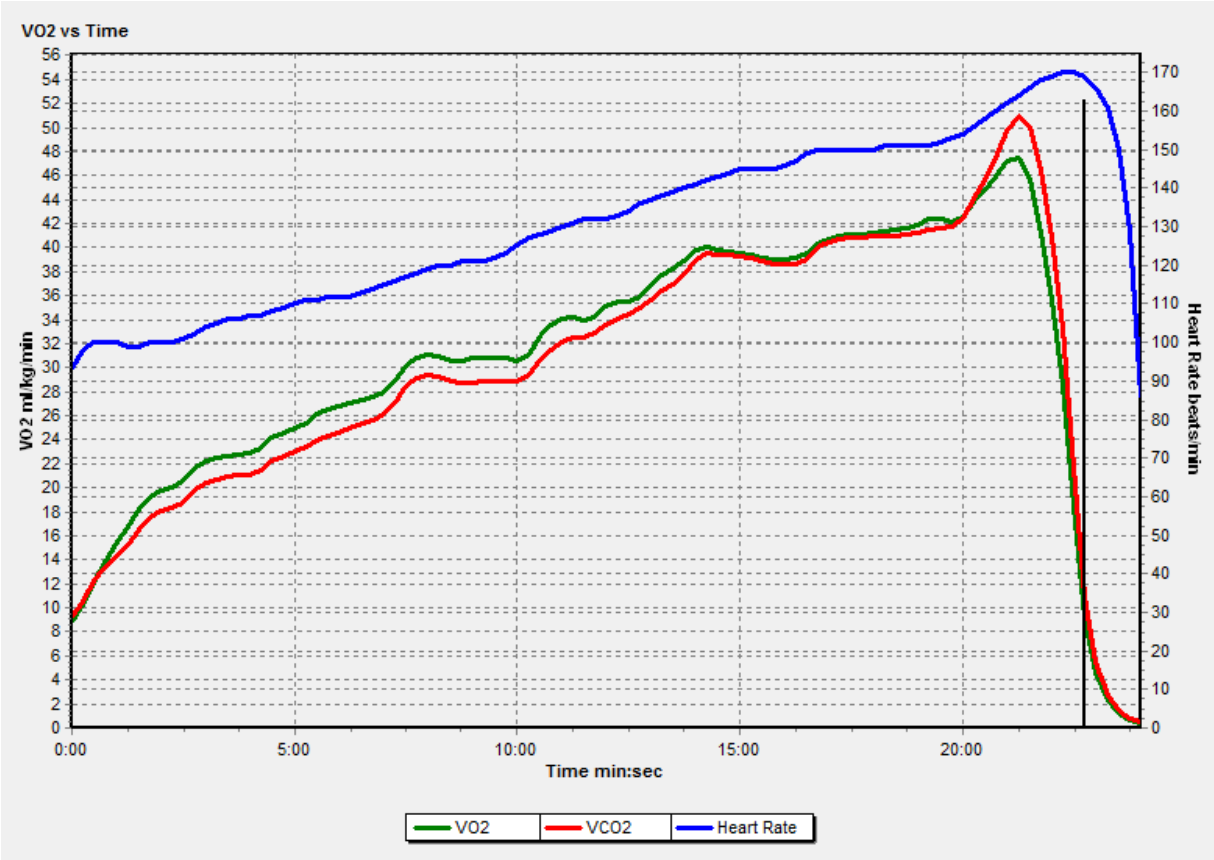
His second test in March 2008, following the same ramp as the first one, looked like this:



It is VERY clear looking at these first two tests (note, all other markers were very stable, and these slides just represent one way of looking at thresholds) that he now was now able to keep his aerobic system firing longer. One can clearly see that the green line of VO2 stays ahead of the red line of VCO2 longer – from minute 3:30 in the first test to minute 10:30 in the second test. This represents a change of approximately a 80+ watts fitness increase in a little less than a year. Matt became even more motivated. He already had a 300PT indoor bike, and his next step was to get the newly released mountain hub. He was one of the first adopters.

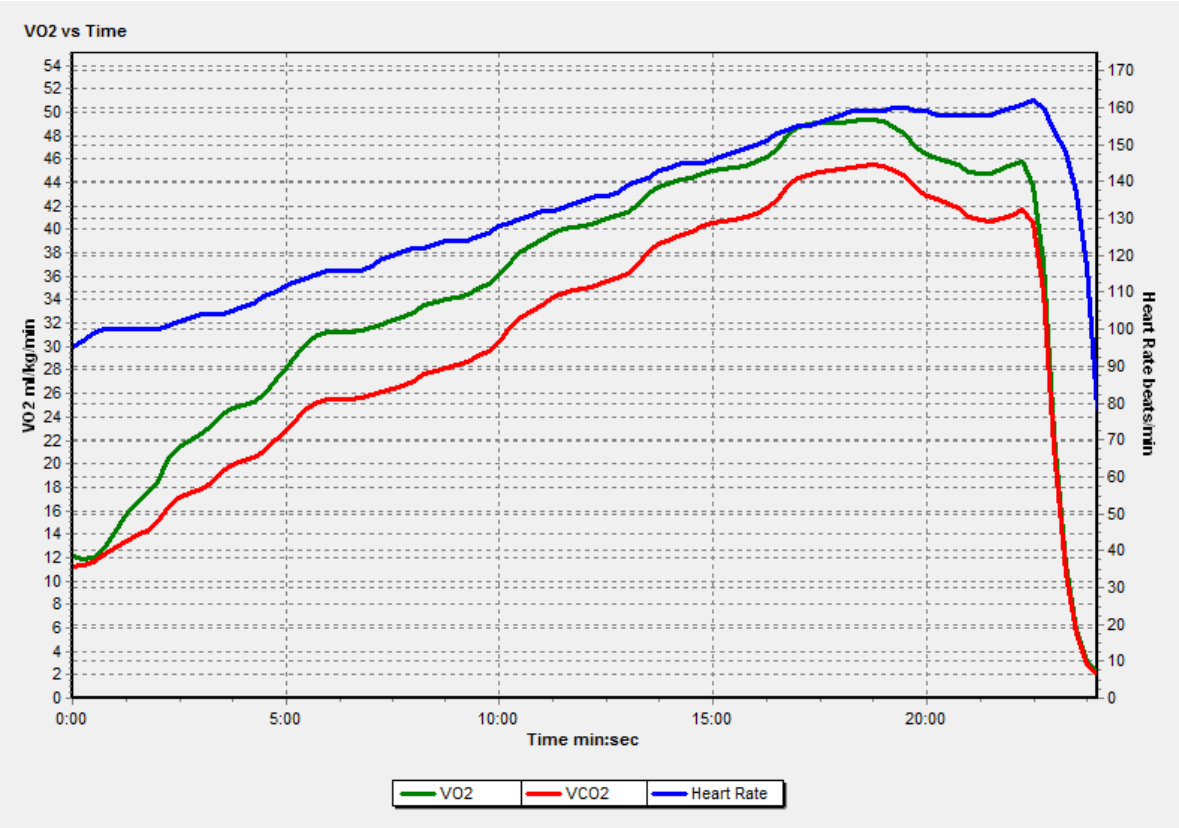
Matt also did a crucial thing at this juncture, one that many of us overlook. He continued to follow a simple, but organized strategy of periodization, he kept most of his training aerobic (at times over 80%), AND he also started to really pay attention to and document the amount of sleep he got! One of the first "rules" he recognized was the relationship of recovery to gains in fitness.

His next test in June 2009 looked like this (note, field data indicated that it was time to take Matt to a more aggressive ramp. Thus, this test builds to 130w at the third minute and then every three minutes 30w is added):



Matt was now holding 190w *aerobically*! A remarkable change and using wattage to guide him kept his training organized and on target. It kept his time on the bike well spent and highly structured. Matt continued to work to gain on the bike skills through racing and training. He had those typical first years highs and lows (going from a sub 12 hour finish at Leadville 100 and a 6th place age group at Iceman Cometh to a DNF the following year at mile 96 and finishing that year with a 4th place age group finish at Iceman Cometh), yet he continued on…dedicated to his training and his faith in his watts. Over time he continued to see his wattage rise, and his ability to do work on the bike more efficiently.

He came out this year swinging. He kept his training highly specific, and his most recent test looked like this (it is easy to see the development in aerobic capacity, just by looking at the VO2 green line in relation to the VCO2 red line):



His threshold now sits at an astounding 280w. This is an astounding increase in just three short years. Remember, Matt is just a regular guy, with a family first (okay, his wife Cora is one of the best team directors you'll ever want to meet), a career (and get this, he was able to organize his sleep while have a night job with 12 hour shifts), and he has a VO2 in the 50's. How did he do all this? – simple – measuring and using WATTS to his advantage.

Matt took the information he received. He measured his body's response, and then trained accordingly. Using wattage is like delivering the mail. If an athlete just uses RPE (rate of perceived exertion) they will likely deliver their metabolic mail to the right town. If an athlete uses heart rate they'll possibly deliver their metabolic mail to the right street. If YOU use wattage for training you'll deliver your mail on time and to the right address!

Oh, and as a side note, Matt just finished 2nd in his age group in the Northeast's prestigious Tour of Battenkill. His SECOND (a warm up race happened the week before) road race! And look out, he just received his Joule 2.0!