Why Low Cadence for Triathlon? (Brett Sutton)

Even after all these years, and all the results I'm still asked by athletes about bike cadence. How come I'm such a proponent for 'non-biker' trained athletes to use low cadence? Athletes sit at home and watch the cycling on TV and question why I don't recommend such spinning.

Let me put it in perspective for you.

Many pro cyclists train from 750km to say 1200 km per week and do so for 10+ years prior to you watching them on the TV. Many still don't find the magical feel on the pedals that the top small percentage do. If riders who are pro and spend 6 days a week training a minimum of 4 to 5 hrs a day can't find 'a feel for the pedals' then how can someone with no background, who can only put in a maximum of 200 km a week find it? Yes, there will be exceptions. But how many do you think? I don't train for the exception but instead, make adjustments when they do come along every generation or so.

Many field and lab tests have been done to attempt to show spinning is more efficient to the newcomer than just pumping the big gear, or as we call it stomping. These tests results don't get aired much because the end results nearly always bore out the different conclusion than what the cycling fraternity were looking for in the test. Confirmation could not be given. In fact, most if not all tests showed that subjects who were not trained produced more power and sustainable speed at cadences between 60 (yes you read right) between 60 and 70 cadence. Any higher and the efficiency was lost. I've read studies from USA, Australia , England , and even France, and all come with the same conclusion, that over 70 cadence the subjects watt to power endurance was significantly less than the under 70 cadence group. The same riders under the same conditions lost as much as 10% of their vital scores.

In all cases, heart rate began to climb at the various cadence levels, and once the riding novices were asked to hold 100 cadence, not only did their performance diminish greatly, but also their heart rate rose to levels approaching 15% below max for the entire tests. Again, across all data, I saw this was universal, and I would hope to any reasonable person not a debatable point.

Low Cadence and Total Body Force riding

So keeping in line with the specific requirements of our sport, I considered that when training for Triathlon:

a) We have to train three disciplines, not one. So our hours are limited for bike training compared to cyclists.

b) Most if not all athletes that I come in contact with are not ex-professional bike riders with an already wound in the innate feel of the pedals. Thus 'spinning' may be detrimental to them riding to the best of their ability.

c) The race is not over once we hop off the bike. So, riding with an elevated heart rate close to ones anaerobic threshold would not be advisable if one wanted to run at a reasonable pace after the bike.

Yes these were assumptions back then when I formed my opinions and I would think based on sound principles. Over the years experience has taught me that this judgment was indeed one of my better ones as all riders in the age group classes I have helped have made rapid and sustainable gains on the bike.

I'm about function over form. What works for the individual is what is right. Watching a 90kg or 198lb athlete spinning down the road at 100 cadence makes me depressed, as does watching a certified level coach teach a 50kg or 110lb 5' 2" female to swim like Michael Phelps, who is 6' 6" or 185cm and looks like an aircraft carrier. It makes me cry and want to have these coaches certified in another way.

If you are not exceptional or you don't have an innate feel for the pedals, take my tip: if you want to run to the best of your ability off the bike, and get the most out of it when you are on it, then lower cadences will produce results for you.