

# ***CYCLE CADENCE AND THE EFFECT ON RUN SPLITS***

**By Grant Giles**

Pedal efficiency and cadence are the 2 most important factors that need to be considered by triathletes who are looking to improve their bike splits and even run splits for that matter. It is a subject that many people often mention and one that many new triathletes have difficulty with, especially those who don't have a cycle background.

Some of the questions that come up are:

Should I use the same cadence for a short course as a long course?

Does body type have an influence on cadence?

Am I a big gear pusher?

Should I be pedalling higher cadences?

I have stood by and listened to some hard arguing on what is the ideal cadence for a triathlete. Many believing that triathletes are time trialists so should push a big gear. I personally agree with road cyclists and think that efficiency is very important to ride well, and to then be able to run well. Bike set-ups and training programmes differ greatly between the two sports but the efficiency of pedalling must be the end result.

A higher cadence will flush the lactate from the legs and put less stress on the large muscle groups. The problem with high cadence is that it is less efficient in terms of the overall oxygen consumption and this is a consideration that you need to make if you are going to be doing longer events.

Usually a cadence of around 85-90rpm seems to be optimal for long course or Ironman while about 95-100rpm, in my opinion, is the optimum for short course (sprint or Olympic distance). Due to the fact it seems to have less adverse effects on the running muscles, it would seem that a higher cadence on the bike would translate into faster run splits once your feet hit the tarmac. Pushing bigger gears in a short course race @ low rpm say around 70-75rpm is going to make running fast off the bike a more difficult prospect and, in the competitive climate that is triathlon these days, you can't afford to use the first few kms of your run trying to loosen up from pushing monster gears. You'll end up 500m off the pace before you even get to the 2km mark.

So with this mind here are a few tips to get you using your cadences more effectively throughout your season:

## **BASE WORK**

In the base phase you are looking to use a cadence that allows you to develop good aerobic efficiency and oxygen carrying capacity. On the flats that would be a cadence of around 95-100rpm at all times in easy gears. On long or steeper climbs that would be 75rpm or on a lesser gradient around 85rpm.

## **STRENGTH PHASE**

This phase would be best served by doing interval reps, on a slight incline, in the aero position, twice a week for instance @ 60-65rpm, turning a big gear as smoothly as possible without rocking. On your longer aerobic rides dial the cadence back to 90rpm for the flat, and 55-65rpm for big climbs, staying in the saddle for the most part and trying to develop strength through your glutes, while again keeping the upper body as still as possible. Most of the work done in this phase should be aerobic.

## **SPEED PHASE**

In the last of the phases integrate some high cadence effort sessions @ threshold, again twice a week say 5x4mins @ 105-100rpm, this brings up the top end and develops your V02 oxygen uptake. You can also use pedal skills sessions where you are using short reps with long recovery's @ very high cadences around 120-130rpm. These should be done in easy gears and not be too taxing on your energy system. They are A/Lactic efforts. The rep should only be around 20-30seconds. Not enough time for the heart rate to get too high.

During your aerobic sessions in this phase, pedal at around 90-95rpm and, by this stage of the programme, it should be a very comfortable cadence for long periods of time.

## **BIKE SETUP EFFECT ON CADNENCE:**

If you have a serious problem getting to or maintaining high cadences, it might be a worthwhile option to have your bike position, with respect to saddle height, reviewed. Sometimes people who have their saddle too high will have difficulty maintaining cadence or staying on top of the pedal stroke. This is a problem that seems to affect triathletes quite a bit as they have a tendency to set their saddle position very high. I know what you're thinking I've seen those articles on power outcomes being best at the higher end of the seat scale as well. The problem with them is that they don't measure the efficiency of running after sitting at that height. There's no point in riding like the wind if you are going to run like a pigmy with the seat post stuck up his butt.

There are some very good training and efficiency tools around now and I think one of the best is the Computrainer. It allows you to try different positions and measure their power against efficiency via a spin cam monitor. You can find the position which gives you the most efficient pedal stroke. This always seems to be at a saddle height that allows you to drop your heels somewhat. The higher positions show up less efficient, in my experience, with this equipment.

Happy and safe training,