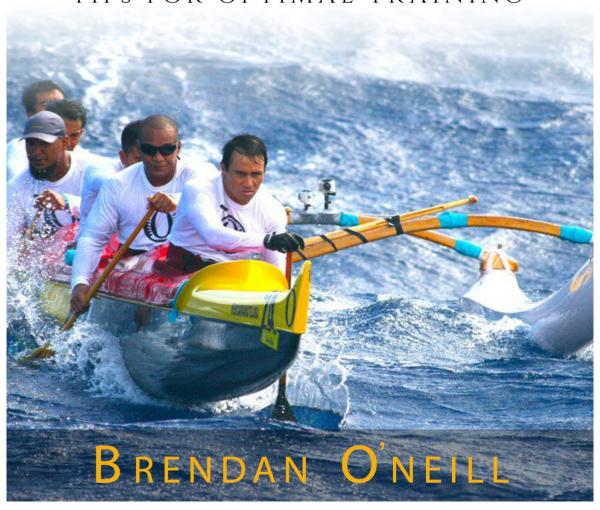


TIPS FOR OPTIMAL TRAINING



## **Table of Contents**

| 1 Stroke rate and distance per stroke                | 3  |
|--|----|
| 2 Strengths and weaknesses                           |    |
| 3 Smart training - recovery                          |    |
| 4 Developing paces                                   |    |
| 5 Aerobic adaption                                   | 9  |
| 6 Threshold intensity, ventilatory threshold 2 (VT2) | 11 |
| 7 VO2max training                                    | 13 |
| 8 Anaerobic and alactic training                     |    |
| 9 Distance per stroke                                | 16 |
| 10 Measuring progress                                | 18 |
|  |    |



Illustration 1: New Zealand womens K4 training for the Rio Olympics

## 3 Smart training - recovery

Relaxing on the couch will not make you go faster but neither will doing hard training day after day. If you don't believe me try going back and doing a second training session after finishing your usual first one. Your times will be slower and fatigue will set in more quickly. Training makes you go slower! The muscle damage and fatigue that occurs with training triggers a stimulus to repair and the muscles rebuild stronger and fitter. It is the combination of muscular stress then recovery and repair that creates the adaption



that builds stronger fitter muscles and enhanced physiology. Each training stress needs to be matched with a corresponding recovery period. Training again before the recovery phase is complete will cut short the adaption process and result in fatigue, flat training and flat performance. You don't need to sit on a couch to recover but you do need accurate feedback on your training intensity so you know when to go hard and when to ease off.

How hard is your training? What is the best way to measure training intensity? Traditionally athletes have used heart rate, distance, time, or perceived exertion. All of these have their limitations, even heart rate will vary throughout the session and can vary with overall training load and general health. It responds slowly taking 2 minutes of vigorous activity to reach max. So stroke rate is the new pretender and other than taking blood lactate levels, is the best indicator of training intensity we have so far. By structuring your training around stroke rate you will know exactly what training zone you are working in and this will help inform the length of the training session, the work to rest ratio during the session and how much recovery you will need between sessions.

The result of more accurate intensity feedback is better training adaptions with no increase in training time. This is the holy grail for athletes who may already be pushing their bodies to the limit. For those athletes who have trained hard all season and not gone any faster, this article is for you. No more junk miles, no more half hearted training. At last a device that helps to indicate when not to train as well as when to train hard.

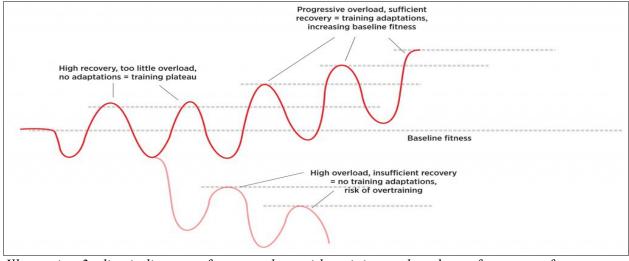


Illustration 3: dips indicate performance loss with training and peaks performance after recovery.

As a general guide, for any race lasting longer than 20 seconds, 80% of your training should be below VT1, which is fully aerobic, even if you are a sprinter. A later article will go into aerobic training in more detail. For endurance athletes this percentage could be as high as 90%. Obviously this means only 10- 20% of your training should be above VT2 even for explosive sprint athletes. Training sessions above VT2 ( also covered in a later article) need to be of shorter duration and often require up to 48hrs of recovery time when done properly.

Stroke rate and training time will indicate the intensity of your training session, and this will inform your recovery time. You can still train more than once a day but the higher intensity sessions need to be spaced out to allow for that all important repair and recovery.

[Expect the next chapter by email in 1 week!]