

The Aerobic Threshold

There is always a great deal of discussion about the lactate threshold, also sometimes called the “anaerobic threshold.” Certainly this is a critical intensity level for the endurance athlete, especially one who focuses on racing at all distances but especially on shorter, steady-state events such as time trials and short-course triathlons. The other critical threshold for athletes racing at all distances is the “aerobic threshold.” This threshold occurs at a much lower intensity than the lactate threshold.

For Ironman triathletes aerobic threshold is important because this is about the intensity at which that distance is raced, especially for the athlete who finishes roughly in the range of 10 to 13 hours. Ironman triathletes finishing faster than about 10 hours will race well above the aerobic threshold, and those taking more than about 13 hours will stay below the aerobic threshold throughout the event.

For the cyclist aerobic threshold is about the minimum effort required to sit in the peloton when the speed is moderately high.

Recall that the lactate threshold is marked by the accumulation of acid in the body. One way to determine an athlete’s lactate threshold is to measure lactate production in a lab or clinic. The aerobic threshold is less precisely measured but is physiologically marked by a slight increase in the depth of breathing accompanied by a sense of moderate-effort intensity.

In terms of heart rate, aerobic threshold occurs at about the lower-end start of Zone 2. But in triathlon this may vary between the three sports based on how fit

you are for each sport. Regardless of your sport, when you are in great shape the aerobic threshold may be well into Zone 2 heart rate. In the same way, when less fit for a sport it may be some where in Zone 1. It will also vary from day to day based on how well rested you are. When fresh it will be found at a higher intensity than when fatigued. This is also true with the lactate threshold but the intensity here is so great that fatigue may well prevent you from achieving an excessively high heart rate or power output. That is not the case with the much lower-intensity aerobic threshold. Because of high motivation, you may well be able to push yourself too hard even though fatigued when doing an aerobic threshold workout. So paying close attention to your effort is just as important as watching your heart rate monitor when it comes to the aerobic threshold.

Training in the aerobic threshold zone is perfect for building basic aerobic endurance and for this reason is the most used intensity during the Base period when developing such fitness is a primary focus. A good portion of each week's training in the Base period should be devoted to Zone 2. In the Build period cyclists and short-course triathletes should include regular although less frequent workouts in Zone 2 to maintain aerobic endurance. Long-course triathletes and century riders will continue to do such workouts frequently in the Build period since this comes close to simulating the intensity at which they will compete.