

Aquatic Club of Elkhorn Swimming Vocabulary

The Aquatic Club of Elkhorn Training Program insists upon student athletes being responsible for their training. In order to be responsible, swimmers must be aware of terminology important to an effective training process. Become familiar with the following terms. It is YOUR training, know what YOU are doing:

Pacing– Holding a certain speed for a prescribed distance. The Burke training philosophy is built upon the maintenance of set speeds. Go as fast as you are told and no faster or slower. Pacing pertains to meets as well, but good habits are formed from the repetition of practice. Know your body and your speed. Hold your paces!

Endurance One (EN-1)– Basic endurance training. This is a speed slower than the speed that corresponds to the anaerobic threshold but faster than “warm-up” speed. This form of training, although slower, will allow for the recovery of “fast twitch” muscle fibers broken down due to sprinting. Basic Endurance training also increases the amount of energy delivered by fat at all slower training speeds, saving glycogen supply for faster swimming. This pace of swimming is a moderate pace with various amounts of repeats, various yardage, and rest between 5-15 seconds. Heart rate of 21-24 BP10sec and/or feel of 6-7 out of 10. Sample set: 24 x 100 yds @ 5sec rest. 70% effort.

Endurance Two (EN-2)– Threshold endurance training. This form of training will be done at or near the anaerobic threshold. This training speed extends the adaptations that improve oxygen utilization and lactate removal from the muscles minimizing muscle damage due to acidosis. This pace of swimming is a moderate pace with various amounts of repeats, various yardage, and rest between 5-15 seconds. Heart rate of 25- 28 BP 10 sec and/or feel of 8 out of 10. Sample set: 10 x 200 yds @ 20 sec rest. 80% effort.

Anaerobic Threshold– The maximum training speed at which the process of lactate production and lactate removal remain in balance so no accumulation of lactic acid occurs in the muscles. Heart rate of 25-28 and/or a feel of 8 out of 10. **Acidosis**– A build up of lactic acid in the muscles resulting in a drop in PH. Often causes discomfort and/or pain.

Endurance Three (EN-3)– Overload endurance training. This training form is done at speeds exceeding those at which the anaerobic threshold occurs. Acidosis will occur. Overload endurance will train the muscles to buffer or resist the effects of acidosis. These swims are near maximum effort for a lengthy distance. Repeats are often small, yardage is high, and rest is between 15-30 seconds. Heart rate of 28-30 BP10sec and/ or a feel of 9 out of 10. Sample set: 7 x 200yds. @ 15 sec. rest. Best Possible Average. 90-95% effort.

Power– Force times distance divided by time. These swims will be short but explosive in an effort to build the size and speed of each muscle fiber. Stronger muscles increase the distance each stroke pushes a swimmer through the water, hopefully reducing the time necessary to complete a prescribe distance. Fins and stretch cords are often used to create the “feel” of race speed. Quality technique combined with speed is crucial. Sample set: 8 x 25 yds @ 1min. FAST 100% effort.

Lactate Tolerance– The sprints are intended to produce quick rates of acidosis in the muscles stimulating the ability of the muscles to buffer a PH drop and the increase in physical pain. Long sprints with medium to long rest periods or short sprints with minimal rest. The purpose of this training is “go out FAST and hold on.” Top speeds are necessary throughout the sets, but deceleration in speed is expected due to fatigue. Sample set: 8 x 100 yds @ 2min. FAST!!! 100% effort.

Lactate Production– The sprints are intended to produce maximum sprinting speeds through the production of lactic acid. Short sprints with high intensity and speed will strengthen the muscles and encourage the production of lactic acid. These swims will be fast but speed and power must be maintained throughout the set. Sample set: 8 x 50 yds @ 3min. FAST 100% effort

Intervals– The amount of time allowed for each repeat. Once the distance is completed, the remaining time is to be used for rest. Rest and speed will be controlled by the paces assigned for each set. KNOW YOUR INTERVALS!

Descend sets– Increasing the rate of speed throughout the repeat, which decreases the time necessary to complete the specified distance. This process covers a wide range of training intensities benefiting both sprinters and distance swimmers. Sample set: 3 (4 x 50 yds @ 1:30) desc. 1-4 EN-1 – EN-2. During this set, swimmers will gradually increase speed from a basic endurance pace to their anaerobic threshold.

Test Sets– These sets are designed to monitor the training process. Although difficult, a dedicated effort is needed to better equip each swimmer with the training styles necessary for fast swimming. Training sets will be determined by the outcomes of certain test sets and distances. Test sets will be performed throughout the season to dictate future training sessions. Sample set: 12 x 200 yds @ Goal interval. Best Possible Average 100% effort.

T-300– A swim for 300 yds to indicate anaerobic threshold times. Anaerobic threshold times will be used from the T-300 to prepare EN-1, EN- 2 and EN-3 paces and intervals. A best possible effort must be maintained for the duration of the entire exercise. The set will be performed throughout the year to adjust paces according to training demands.

Taper– The end of the season where muscle restoration takes place, and valuable muscle adaptations are maintained. The recovery of the muscles combined with season long training allow for a “burst” of energy. The taper will propel swimmers to season best times. The taper period is roughly the final two weeks of the season, although the preparation for the tapering period begins at the start of the season and should be considered during the season. Every training session is designed to prepare the body for end of the season swims. Swimmers WANTING to swim fast, WILL swim fast, and the taper will help accommodate such requests. Great care must be taken to prepare the body both physically and mentally throughout the course of the season, ie. maintain paces, rest, eat correctly, train appropriately, etc. *The taper process BEGINS at the start of each season!*

The Aquatic Club of Elkhorn Training Program is designed to make swimmers excel during important portions of the year. Following the training regimen is essential to prepare for fast taper swims.

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