The Big Picture: Training for Peak Performance

An athlete who works with a coach puts complete trust in that person. That doesn’t mean, though, that the athlete shouldn’t have an understanding of the goals the coach is working toward and the overall game plan.

The major goal of training is to increase each athlete’s strength and abilities so that when the day of competition comes, the athlete is strong and prepared. How does your coach bring you and your body to this point? And more specifically, how do coaches plan workouts for a peak rowing performance?

If you examine rowing from a sports science perspective, it is clear that early preparation is necessary for athletes to reach their maximum fitness level. To have peak performances, we must plan ahead and teach our bodies how to maximize energy production.

In a race, you depend upon your aerobic and anaerobic energy. Approximately 20 percent of the race (first two minutes) is anaerobic; in the middle thousand, your aerobic capabilities carry you through. But in the final sprint, your anaerobic power is called upon again.

Words like transportation, utilization, anaerobic or aerobic workouts may be completely foreign to you, but they shouldn’t be. Aerobic workouts use oxygen for energy; anaerobic workouts produce energy without oxygen but create waste — lactic acid. Both come into play in a 2,000 meter race. Anaerobic training workouts help your body learn to tolerate lactic acid and push the
boundaries before your body starts producing it. Doing anaerobic workouts is important so that you will still be strong after the first 500 of your race.

Aerobic workouts strengthen your heart muscles and prepare body muscles to use the oxygen. This is done with transportation workouts. Since 80 percent of the race depends upon aerobic capabilities, building a strong heart is imperative to a good performance since it sends fuel (oxygen) to the muscles. Off-season is the best time to work on your aerobic base. If you don’t have the base in February, it will be hard to build it up before the season. Transportation workouts are important because they increase the oxygen flow from the heart. These workouts lift your heart rate to just below its maximum, thus pumping more fuel to the muscles. Primarily, interval workouts increase transportation and can be done early or late in the season.

Interval workouts stimulate the heart to a high intensity and teach it to pump more blood with each beat. The interval workouts provide rest time so that the body can dispose of any lactic acid that may have built up during the piece. Longer pieces require longer rest periods to remove acid which could otherwise impair training performances. An example of long intervals might be multiples of four minute hills while short intervals might be stadium steps.

As transportation is built, utilization also must be nurtured. The two work together – the heart sends the blood loaded with oxygen and the muscles must learn how to use this energy source efficiently and effectively.

We can improve oxygen utilization within the muscles by using rowing specific exercises and working at medium intensities for a longer time. This will strengthen the exact muscles rowing uses and maximize the oxygen conversion to energy in these muscles. National Team coaches use longer workouts (from 45-80 minutes) at 65-80 percent of max heart rate to increase utilization.

Now that two of the more important types of aerobic workouts have been explained, the coach puts them together with some anaerobic workouts to develop a schedule leading into competition. Concentrating on only one aspect will lead to an unprepared athlete; the plan must be carefully designed to yield the proper result.

At the college level, the goal of the novice year is to perfect technique and improve general fitness. Each year following, the cycle begins with the athlete (hopefully) picking up from a higher level than the previous year.

Once an athlete has become fit and strong with a solid aerobic base and good muscular endurance, flexibility and power, the coach’s focus turns toward more rowing specific training and fine tuning in preparation for competition. Finally, mental preparation and racing tactics are addressed.

Even summer break is part of the plan. Many college rowers find places to continue training over the summer, but it is important to ease back for a while from the high intensity training. For elite athletes, the equivalent of summer break comes after the Olympics (this year) or the World Championships. A period of a month or so is necessary to relax after such rigorous training leading up to competition, whether it is the collegiate championships, U.S. Nationals or Worlds. The body and mind both need a break from the strict regimen in order to recharge.

Work backward from the season peak to design a workout plan. Training for fall head races is good for aerobic training, but focusing on sprint races in the fall or too early in the spring can adversely affect later spring or summer results. Without the proper fitness preparation in the fall, athletes will not have an adequate base to utilize when the time comes to shift into the high-intensity workouts in the spring.

In the early fall, coaches may assign long steady state workouts and circuits which stress your aerobic abilities more than raw strength. After developing this general fitness the focus will shift slightly to more strength work. In November many crews go off the water and the focus of training shifts once more, to improving maximum strength, flexibility and both general and muscular endurance. Weight workouts might emphasize greater repetitions with a lesser weight through the winter, and you might find that you are doing more non-rowing exercises through this time than later in the spring.

Once February and March roll around, the concentration is on rowing and muscular endurance. As the season approaches more practices may be squeezed into each week and stroke ratings may increase. Every couple of weeks the stroke rating may increase so that by the time the championships roll around you are racing at your ideal ratings.

April and May are competition months when collegiate crews will work toward their peak and National Team members will work for their first peak during the trials. In the weeks when you have competition, you may find that early in the week the coach may assign harder workouts and as competition nears, you will taper. To have a peak performance, muscles need adequate time to regenerate, but if you have trained well, you will be prepared.

Rowing seasons are in cycles. Depending upon the competition you want to peak for, you will work out differently during the year. Each coach has his or her own methods or plans – don’t try to be a rower and a coach. But do take an interest in the big picture.