



Improving for Season's End

by Coach Ian Briggs

As you come towards the end of your triathlon season you will often find it increasingly difficult to improve your fitness, especially if you have been training consistently well over the past several months. At this point doing the same old routine will yield little performance improvement as you will be reaching your potential as determined by genetic, training and lifestyle constraints.

Your aerobic endurance, ability to climb hills, muscular endurance and aerobic capacity will already be near peak levels as they are generally stressed throughout the season. The best option for fitness enhancement for those doing less than Ironman distance events will come from improved acid tolerance and muscular power.

There are two types of workouts I sometimes use with athletes at this time of year: lactate reps and power reps.

Lactate Reps

During exercise, muscles burn carbohydrate to produce energy and as part of the process lactic acid is formed. As it moves from the muscles into the blood stream, hydrogen ions are released resulting in increased acidity in your body fluids. If enough hydrogen ions enter the blood, acidity rises to levels that eventually force you to stop exercising.

Proper training can condition the body to become more tolerant of acidity, as well as improve its ability to quickly remove acid from the body. The idea of such training is to create high levels of acidity for just a few minutes and then allow it to dissipate before repeating the process. These workouts aren't fun but can be very beneficial. An example of a lactate rep workout would be:

Warm up well, and then complete three to six reps of 40 seconds duration followed by easy recovery for 20 seconds. This ensures that you attain high levels of acid in your body to stress it and force adaptation.

After the last rep, recover for about four minutes. Repeat the entire set one or two more times within the workout. Do no more than 12 minutes of total high-intensity time within a lactate rep session. The first time you attempt this, do only six minutes of such efforts. That would be nine such reps. If your form begins to break down finish the workout.

Perceived exertion is a better indicator than heart rate with these, as each 40-second rep is near maximal and your heart rate will lag. It may help to have a training partner to keep you going. Allow two days for recovery after this session and do only one of these in a week of training. After six weeks of these workouts, avoid them for at least another six weeks.



Do this workout only when you are fresh and highly motivated. Consider it a high risk (injury, overtraining, burnout, illness) workout and treat it accordingly. As with all workouts that are high risk, it also has the potential to produce a great benefit.

Power Reps

Are similar to Lactate Reps, but the durations are somewhat shorter with power reps, and the recoveries after each rep are quite long. The purpose is to maximize power by increasing force or distance, or decreasing time.

The variable you should change is the one that seems to yield the best results for you. If unsure what to concentrate on, I'd suggest *time* for cycling and running (higher cadences) or *distance* for swimming (longer stroke). But this is largely an individual matter; do what gives you the best results now.

In a power reps session, do one to three sets of six to eight reps with each rep being 10 to 20 seconds long. Each rep begins from a full stop. These may be done on a hill, flat road or track (runners avoid hard surfaces). The effort is maximum -- heart rate monitors are of no value here. Rely on perception of intensity or power (bike).

Recover *after each rep* for three to five minutes with light activity in order to prevent any acid buildup. After each set fully recover for eight to 12 minutes with light and easy movement. This workout is intended to stress the muscle-tendon mechanism and nervous system..

Six weeks of power reps should produce heightened levels of power and greater performances. You may do two of these sessions in a week so long as they're separated from each other and from other high-intensity training by at least 48 hours.

You must be fully rested before doing this workout in order to avoid damaging a muscle or tendon. The day following this session allow for recovery.

These workouts are very stressful so if there's any question at all about your cardiovascular health or muscle-bone soundness, or even a hint of burnout or overtraining, don't attempt them. But if you do them successfully for a few weeks you can expect another jump in your season's fitness.