Personal Coach

**Pumping Iron for PRs**

- For masters, the answer to faster races is in the weight room.

*By Joe Friel*

When I was in high school, in the early 1960s, my coach wouldn’t let us lift weights for fear we’d become so “muscle-bound” that we couldn’t run well. Thirty years later, little has changed. Coaches and endurance athletes, especially those who’ve been around long enough to “know,” are still afraid of strength training.

And not without reason. Until recently, there was no evidence that pumping iron would improve endurance performance. Now, however, a study at the University of Maryland has demonstrated that there is a definite benefit to weight training, and it comes from an elevated anaerobic threshold.

AT, as it’s called, is the level of exercise intensity at which the body creates lactate—a fatigue-producing by-product of muscle contraction—faster than it can be removed. The higher your AT, the better your endurance at any given submaximal speed, or the faster you can go at a given level of effort.

For masters, this is especially good news since we age, we lose muscle mass faster than any other element of our fitness. Strength training may not only help us maintain those muscles, but improve our performance at the same time. The strength-trained subjects in the Maryland study, after all, experienced a 12 percent boost to their anaerobic threshold, enough to extend their time to exhaustion on a bicycle ergometer, at a high level of exertion, from 25 minutes to 35 minutes in a period of only 12 weeks.

The researchers concluded that their strength training protocol allowed the slow-twitch muscles—the “endurance” muscles—to do more of the work, while resting the fast-twitch—or “power”—muscles. Since the fast-twitchers are the ones that produce prodigious volumes of lactate, using them less made endurance activity easier.

What Sports Does It Work For?
The study used cyclists, so it’s apparent strength training can help you on your bike. But what about others? As a coach of masters athletes in many different endurance sports, I’ve seen runners and swimmers helped by strength training, although I haven’t been able to quantify the results as a researcher would. But runner Allan Kirkpatrick, 42, of Fort Collins, Colorado, has no doubts. After see **Pumping Iron** on page 2
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two years of running 5Ks in the 17:40s, Kirkpatrick dropped his time by 20 seconds this year. Masters triathlete Deborah McClurg, another client of mine, has seen dramatic improvement in her swim performances, especially in open water. And my personal experience as a multisport athlete tells me both my running and cycling have improved by following the study’s strength training regimen, though my cycling’s been improved more.

So I adapted the findings for the athletes I coach, giving each one the eight most beneficial exercises for his or her activity (see box). Remember, these are for the prime-mover muscles of each sport. If a runner, for example, wants to add upper body work, that may balance the physique, but it won’t enhance performance the same way.

- Exercises. Don’t try to do it all. If you bike, for example, don’t spend much time developing stronger shoulders. Save that for the rowers. Focus instead on strengthening the muscles that propel the bike—thighs and butt—and those that support their exertion. Same with the other sports.

- Dress per week. Lift two or three times each week. If you’re consistent, two is enough. But three is safe and will get you there sooner.

- Resistant, sets, reps. Use a high-repetition, low-resistance routine: three sets with as much weight as you can lift 15 to 20 times. (High rep-low resistance strength training is the most effective strategy for increasing lean body mass while lowering the percent of body fat.) Start with 15 reps, and add one or two each week. Once you can complete a set of 20 with weight you could originally heft only 15 times, add a little more resistance and drop the reps back to 15. Then build again.

- Rest. This is perhaps the most important variable of all. Recover after each set for only 30 seconds, staying with the same exercise to completion of all three sets. Example: a cyclist doing parallel squat/presses would complete the first set, rest for 30 seconds, complete the second set, rest for 30 seconds, then do the last set. Use the same resistance throughout, although you probably won’t be able to do as many reps on the second and third sets. During the brief recovery, stretch the muscle group you’re exercising.

- Range of motion. With few exceptions, strength exercises should be done smoothly, through a complete range of motion (see “It Doesn’t Hurt to Be Strong,” September). For example, if you can’t straighten your arm out fully while doing arm curls, the weight is too heavy. Form is more important for endurance athletes than the amount of weight lifted. Endurance athletes using light weights can get very good results if they focus on perfect form instead of simply trying to heft as much weight as possible.

- Speed of movement. There’s some controversy about this, but I suggest moderate speed, neither purposefully slow nor explosively fast. And the resistance should always be set down a little more slowly than it was raised.

No, this program will not turn anyone into a Mr. or Ms. Universe. But it may finally give you the edge you’ve been needing to beat your greatest competition—yourself.

for Friel has a masters degree in exercise science, more than 20 years of experience coaching and competing, and trains masters throughout the country from his office in Ft. Collins, CO.