

Strength Training for Improved Distance Running

If you're going the distance, you want to make sure that your training is as complete as possible. Distance running can be improved by actually running a good distance, of course, but not everyone has time to run twenty kilometers a day as practice. So what else can a runner do to truly go the distance?

To make your running feel easier and to help you run longer and longer distances without becoming fatigued, it is vital to improve your running economy. If you haven't heard this term before, you're not alone. Running economy is about using less oxygen when you run (No, we are not telling you to hold your breath when you run!). Why is improving your running economy a good idea? It means you're running at a smaller percentage of your $\dot{V}O_{2max}$, your maximal rate of oxygen utilization. As you start to improve your economy, and thus use less of your $\dot{V}O_{2max}$, running at a particular speed will begin to feel easier. Improving your economy just one percent can improve your ten-kilometer run by at least twenty seconds.

How do you do this, you ask? Effective strength training can increase your running economy by between four and five percent, shaving up to a minute off of your 10-K. Consider the following study: six experience female distance runners started a weight training regimen for a ten-week period. At the same time, another six female runners, also experienced, shunned the weight training in favor of their regular training routines. The women who did the weight training improved upper body strength by twenty-four percent and lower body strength by thirty-four percent. Their heartbeats were slower during a run after completion of training than they were at the onset of the training, and their running economy improved enough for them to shave about eighty seconds off of a ten kilometer run on average. The other six runners showed no improvement in strength or running time.

These workouts could work for you! So what did they do? The women strength trained three days a week, working on parallel squats with free weights, knee flexions, straight-leg heel raises, seated presses with free weights, rear-lat pull downs, hammer curls with free weights, and weighted sit-ups with free weights for one workout. The second workout was composed of lunges with free weights, knee extensions, bent-leg heel raises with free weights, bench presses with free weights, seated rows, front-lat pull downs, and abdominal curls. The first and second workouts were alternated through the week so that the women never did the same two in a row. On days when the women were supposed to run also, they rested for at least five hours between working out and running. The women who strength trained also did not "bulk up", which is good for runners who don't want to carry around extra weight.

So what does this mean for you? Avoiding strength training workouts might not be as good of an idea as you had thought. Strength training significantly improved the performance of the athletes cited in this study, and it can work for you, too. When your body strength increases, fewer muscle fibers actually have to engage for the act of running, meaning that you are wasting less energy and using less oxygen. Also, the movements that you do make are more economical,

making your oxygen use stay low during the course of your running. This means that you can run longer, faster, and harder. Sounds like it is time to use that gym membership for more than just the treadmill.

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