

Treadmill Training for Top Performance

By Melanie McQuaid

Runners have a tendency to think that only the best training occurs in the great outdoors. While the thrill of running in extraordinary natural settings is tough to beat, there is nothing that compares to the tremendous training benefits of working on treadmills.

How do I know? I have a history of being a swimmer, then a runner, then a cyclist, and finally a triathlete. Years of training have added up to good fitness as a triathlete, but along the way I lost some of my form as a runner. Without good technique for any sport, I knew I would be less successful, so in the interest of better technique and efficiency, I added treadmill training to my regimen.

When I started doing triathlon, I was working with a cardiovascular system honed by ten years of professional cycling, and years of running and swimming before that. I had a massive VO₂, and lots of cardiovascular and physical strength. What I found however, was that my running efficiency was really compromised from so many years away from running. Riding a bike had changed my running form. Tight overdeveloped hip flexors and large quad muscles had me overstriding and landing very heavily on my feet. I did not have a nice neutral body position over my pelvis and I was landing heavily toward my heels. Essentially, my muscle development led to some overstriding and really, a loss in stride rate and running economy.

This year I took a bold step into the fitness room by utilizing a treadmill. With my coach, Cliff English, I looked to improve my running economy by using treadmill workouts. The first move was improving my leg speed (stride rate). Most cyclists and tri-athletes are familiar with cadence as a measure of pedaling efficiency on a bike, and the same applies to running. Most successful runners have stride rates in the low to mid-90s per minute (right foot contacts). The goal is to have a default quick leg turnover in this range, for all runs regardless of pace, and then increase the stride length when looking to run at race pace.

Using a treadmill, I appreciated how easy it is to watch my running form in a mirror – I can ensure that I have foot strikes under the pelvis at mid-sole to forefoot. The feet should only be touching the ground for a short time, and imagining quick, light, feet is the best imagery for good run form. The second thing to look for is turnover, counting the number of foot strikes per minute. The treadmill is great because it encourages quick turnover and a shortened stride, but also the speed is generated by the machine, rather than the runner, so more emphasis can be placed on form while running at a quicker pace.

A treadmill can offer training sessions such as hill repeats, fartlek, tempo runs and interval training. I like the treadmill because of the specificity it offers, similar to a Computrainer for cycling. If you are going to train with precision, you absolutely need this type of tool. Not only can you monitor your technique on a treadmill, but you'll get an exact measurement of pace that you traditionally only get on the track but with much less toll on the body. In addition, preparing for heat, humidity, or even altitude (with a hypoxic generator) while at sea level can be achieved when using a treadmill. For triathletes, a trainer plus a treadmill offers a powerful "one-two punch" as you can conduct a hard, specific cycling workout on the trainer, then move directly to the treadmill running at your goal pace off the bike. This specific training will help you develop a good pace off the bike and make you a very strong runner.

Choosing a treadmill is critical. I went directly to Precor because first, I wanted one fast enough, and anyone who pushes him- or herself to run sub-40 for a 10km is going to need a treadmill that

goes faster than 12 mph. Precor basically stands alone in that category. Second, the Precor treadmill has a built-in suspension system which allows me to run harder with less toll on the body... in essence, I can do track intervals without the wear and tear on my body that the track usually would entail. Third, a simple, intuitive display means that the important information is right in front of you: heart rate, pace, time and distance (in the units you would like, miles or kilometers).

Some of my favorite treadmill workouts include:

1. The non-race season tempo/aerobic base development workout

This is a quality base workout. Instead of plodding around at a low heart rate and low pace, warm up for 15-20 minutes, then do three times 12 minutes at a pace that is about a minute slower per mile than your actual 10km pace (i.e., if you run a 40:00 10km, you will run at 5:00/km or about 7:00/miles). Run easy for 2-3 minutes between each 12 minute work effort. Warm down after the workout for about 10 minutes. As you get closer to race season (and more fit), make this pace your half-marathon pace (maybe 30 seconds per mile quicker).

2. The in-season tempo workout

This workout is about reinforcing leg speed and efficiency. You will start with a 15-20 minute warm-up with some 30-second accelerations to your 10km pace. Then run at your half-marathon pace (maybe 30 seconds per mile off your 10km pace) for 2 x 8 minutes with 5 minutes rest between work sessions. Then do 4 x 2 minutes at your 10km pace with 1 minute between. Finish the workout with 10 minutes at an easy pace to warm down. This workout is meant to be still at about 80% of your max effort, and shouldn't fatigue you so much you need days to recover, this should feel good so that you can repeat it again that week, or still train with quality the next day.

Any serious runner will gain extraordinary benefits by training on a treadmill. You can appropriately train for climate, terrain, distance, and more, with the added benefit of focusing on your technique in a way you could never do while training outside. Not only that, but the treadmill can be a tool that will not let you give up. Sometimes the motivation not to slow the machine down will be enough to push you through that hard session. Using good sense to not go beyond your limits is always prudent, but having tools to push you to your limits are important. The treadmill should be viewed as every runner's best friend, and can improve even the most gifted runner.