

# Elevation Training

Hills. We love to hate them, but in Pittsburgh there's no shortage. No matter where you run in this town, you're bound to come across a little bit of elevation. Even though climbing a hill can be the bane of your existence during a long run, hill running is the single most effective way to spend your time if you're looking to become a stronger runner.

The SAID (Specific Adaptation to Imposed Demands) Principle means if you want to get better at running hills you should run more hills. More specifically though, elevation training can help replicate the demands or stress your body will go through over the course of a race without having to put in tons of mileage. If you want to mimic running on dead legs at the end of a race, make sure you are utilizing lots of downhill running. If you want to simulate anaerobic muscular fatigue to give yourself a powerful kick at the finish line, work your quads and glutes with short, steep uphill sprints. By using hills in a smart, effective fashion you can successfully train your body for the demands of race day. Here are two things to think about next time you are climbing a hill mid-run.

- **Mechanics.** Nothing forces a runner into a good-looking knee drive like wind sprints up a ten-percent grade. Because running up a hill forces you to generate maximum power with each footstep, it is the perfect way to manipulate your body into better running form. You'll figure it out, simply because you have to...or you'll end up falling backwards and tumbling down the hill. It's pretty impossible to heel strike on a steep hill without losing your balance. If you train with enough elevation, your body will start to figure out the most energy-efficient way to tackle each hill, and you'll be able to run them faster.
- **Strength & Speed.** It's fun to develop raw speed on a track with some 400-meter repeats, or with your friends on a hard tempo run. There is certainly a time and place for structured speed work in any training program. If you're looking to get more bang for your buck though, using elevation to develop strength and speed is going to be more of a one-stop shop. I like to incorporate long, slow climbs to increase muscular time under tension to build strength, but also use short wind sprints to develop anaerobic capacity. We are trying to develop all three of your muscle fiber types, and different muscle fibers respond in differently to different stimuli. By manipulating the conditions under which you do elevation training, we can effectively target the appropriate muscle groups AND energy systems to ensure maximum return on the minimal effective dose.