

## Running Hills Can be a Key to Improving Your Performance

from [AmericanRunning.org](http://AmericanRunning.org)

Let's face it, hills hurt. They tire you out. They slow you down. Fortunately, running hills is an acquired skill. Anyone can improve. Look at it this way, the better you get on them the more runners you can pass (or avoid getting passed by) on hills in races, and the less time you'll lose on the finishing clock. Even if you race on the flats, hills will help improve performance.

Why take the hill-pill: A big advantage of hill training is that it allows you to simultaneously work on aerobic, anaerobic, and muscular fitness. Different hill workouts can hit a variety of training goals. Running hills, like lifting weights, is resistance training. Hills strengthen the leg muscles to meet the specific demands of running. By working hard on hills, you force the muscles to overcome the incline and resistance of gravity. This strengthens the driving muscles the hamstrings, calves, buttocks, and particularly the quadriceps, which don't get much work on the flats. Fatigued quads are particularly a problem late in races, especially marathons. It's hard to pick your feet up and move them forward if the quads are growing tired of this important repetitive task.

Ankles strengthen as the feet push off to bound up hills. Since you have to really pump the arms to get up hills, your upper body is strengthened, too. With hill training, you'll increase resistance to fatigue during races. That will help you maintain good running form and a steady pace. Since you have to concentrate on driving the arms, lifting the knees and pushing off the feet to get up hills in training, running form will be exaggerated and improved. As with fast intervals, you'll also be able to tolerate greater levels of lactic acid, and extend your lactate threshold.

Hill training bolsters your confidence, too. You don't have to do repeats up the same hill in a race, so a few scattered hills on race day won't seem so bad. As you develop courage by hill training you won't be intimidated by one of those killer hills during a race. You'll better tolerate the discomfort of overcoming hills and be psychologically prepared to "hang on" to the top.

In fact, you may even look forward to tough hills since you'll gain on your competition. You'll be able to attack the hill before it attacks you. Hill training is valuable when preparing for all distances, but particularly marathons. Add it at the beginning of the strengthening phase of your training cycle as a transition to fast track intervals. By strengthening muscles before you start training fast, you'll minimize injury and increase the quality of track workouts. But hills can also be used to sharpen for races, especially hilly events.