**Hill Training**

**What is Hill Training?**

Hill training is a method of running up hills to increase muscle power and strength.

Hill training is very demanding at first because you work [muscles](http://www.mamashealth.com/bodyparts/muscle.asp) that you don't use very often while running. However, the more you hill train, the easier it becomes.

Hill training is an effective way of building aerobic power and strength. It is a great form of [resistance training](http://www.mamashealth.com/exercise/restrain.asp) for runners because as you run up a hill, you are fighting the resistance of the slope.

Hill-training workouts should only be done once, or at the most twice, per week.

Is Hill Training Only Beneficial to Runners?

No. Hill training is ideal for athletes who depend on high running speeds.

**Benefits of hill training**

The most common benefits of hill training are: strengthen hamstrings, calves,  hip flexors and Achilles tendons. Hill running uses more upper-body muscles than flat running.

**Hill Training**

* helps develop power and muscle elasticity
* improves stride frequency and length
* promotes strength endurance
* develops maximum speed and strength

**How Does Hill Training Strengthen Muscles?**

When compared to running on flat surfaces, hill running forces the some muscles to contract more quickly and generate work at a higher rate. When the muscles contract more quickly and work at a higher rate, they become more powerful. While hill training, the muscles can develop two to three times as many muscle fibers than running on flat surfaces.

**Reduce the Possibility of Injury while Hill Training**

To reduce the possibility of injury during hill training, the athlete should stretch before running, stay properly hydrated, and hill train after the athlete has developed a solid base of strength and endurance.

**Short, Medium, Long Hills**

The benefits of short, medium and long hills are different.

**Short hills**

A short hill is one which takes no more that 30 seconds to run up and has an inclination between 5 to 15 percent grade. The runner's energy source on short hills is entirely anaerobic. When running short hills, the runner should focus on a running technique which has vigorous arm drive and high knee lift, with the hips kept high, so that they are 'running tall', not leaning forwards.

**Medium hills**

A medium hill is one which takes between 30 to 90 seconds to run up. This is the length of hill is a good distance for the middle-distance runner. This length is good for middle distance runners because it combines the benefits of the short hills with the stresses on local muscular endurance and tolerance of lactic acid.

**Long hills**

A long hill is one which takes from 90 seconds to three minutes to run up. The energy used to run a long hill comes from aerobic sources, but if parts of the hill are steep and the runner is running hard, there will still be an accumulation of lactic acid. On long hills, the runner will not use as much power per stride as the shorter hills.

**Hill Training Tips**

* Start with an easy 15 minute warm up on rolling hills
* Take your time. Do not exceed your training level.
* Good hill running form Run with a slightly higher knee lift
* Pump arms
* Lean slightly forward
* Keep head up
* Cool down with a 15 minute jog on level or gently rolling ground.
* Jog slowly on each decent.
* If you want to run hills on a treadmill, for each change in altitude, run at a 8 percent incline for 90 to 90 seconds with 2 minutes flat recovery jogs.

Do not hill train when you are injured.