

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](#) 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](#) 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, glutes, 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 than 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 vigorously
- Lean slightly forward
- Keep head up
- Cool down with a 15 minute jog on level or gently rolling ground.
- Jog slowly on each descent.

- 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.

Tips on How to Run Downhill

Running downhill can be very hard on your body. If you run downhill properly, your knees and back won't be sore afterwards. To run down hills effectively you need to practice running downhill.

- Run on soft surfaces
- Grass and chip trail are best.
- When running downhill, keep your body perpendicular to the road or trail.
- Avoid the urge to lean back.
- Leaning back will add stress to your body and slow you down.
- Leaning back will also cause you to consume more energy and may increase the risk of injury from increased impact.
- Do not slouch forward, shuffle your feet, rock your body from side to side or swing your arms or your legs out to the side, don't shuffle your feet.
- Let gravity help you.
- Do not strike on your heels.
- If you strike your heels, your foot will land too far in front of your center of gravity, causing you to put the brakes on.
- Run with shorter strides.
- Short strides are less demanding on your leg muscles than long strides.
- Watch for hazards on hills.
- The number of times one foot strikes the ground in one minute (cadence) should be about 100 times.
- It is important that you increase your cadence when descending because this will lessen the impact that each foot strike has on your body.
- Practice
- In order to run down hills effectively you need to practice running downhill.
- Jog lightly when you reach the bottom of the hill.