

# Top five ways that hill sprints can make you run faster

Tim Kauppinen explains why hill training will improve your speed

## 1. Hill sprints provide resistance to sprinting

It is well known that adding resistance to your sprints can bring about great gains in speed, especially during the initial or 'drive' phase of your sprint. Overcoming resistance will help you to overcome inertia when you are starting from a stationary position. In other words, hill sprints help you go from a static starting position to full speed faster.

In addition to this, the slightly shortened stride length during hill sprints promotes longer ground contact, which is also key to the 'drive' phase – when you are looking to 'rip back the track'.

Dragging tyres and sleds, towing parachutes and pushing against partners are other common forms of this type of training. The great thing about hills is that you do not need additional equipment or a training partner to get an incredible resistance sprinting workout.

## 2. Hill sprints teach proper knee lift

Another commonly known fact is that sprinting with 'knees up' can make you faster. This high knee lift is important to loading your leg and allowing you to step down forcefully to push your body forward. Running uphill forces you to lift your knees high – similar to how you would run over mini-hurdles or through shallow water or deep snow. High knees will make you bound like a gazelle during the middle or 'float' phase of your sprint.

## 3. Hill sprints teach proper 'toe-up' position

Along with teaching proper knee lift, hill sprints force dorsiflexion of the foot. You must pull your toes up towards your shins when you are going uphill. This position works the anterior tibialis muscle on the outside front of your lower leg. This muscle is essential for running fast (and vertical velocity). The further up you can flex your foot, the more power you can exert in to the ground on foot contact. Think of your 'toe-up' position as a 'loaded' position – ready to

unload power in to the ground. As an added bonus, strong anterior tibialis can help you to avoid shin splint problems.

#### 4. Hill sprints strengthen your ankles

Besides helping you to avoid the most common injury in athletics, the ankle sprain, strong ankles lead to improvements in stride length. The stronger your ankles become, the harder you can push off the ground to move your body forward. The harder the push, the longer the time you stay in the air between foot contacts, resulting in a longer stride length. Since speed can be thought of as a combination of turnover and stride length, stronger ankles can become a major area for improvement.

**Note:** It is not just sprinters who benefit here, even distance runners can shave time off their races by covering more ground with each stride.

#### 5. Hill sprints promote hamstring safety

Finally, sprinting hills can give you a full intensity workout without ever getting up to your full 100% speed. Since you never reach top speed, your hamstrings are at little risk. This can be important in early season training (especially in cold weather).

Now, this does not mean that you should ignore your hamstrings. When your conditioning and strength improve and the weather is warm, be sure to include flat (and even downhill) sprints to work this important area of your legs. Stronger hamstrings – especially if they are more balanced with your quadriceps – are another effective way to run faster.

### Finally

There you have my top five reasons why hill sprints can make you faster. In my opinion, you will get a huge number of benefits out of this one simple exercise. I have used it, my athletes have used it, and many professional and Olympic athletes have done the same. No matter what your sport or activity, add some hill sprints into your training programme and watch your performances improve.

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