

Hi Sue Bains,

Whether you encounter hills in training or on the race course, fighting gravity can quickly become an epic struggle both mentally and physically.

However, running hills doesn't have to ruin your workout or race.

By maintaining [proper form](#) and executing a smart strategy as you run up and over them, you can actually turn hill running into a strength you can capitalize on.

In this email, I am going to teach you some simple form tweaks that can save you energy and help you breeze up and over hills with greater ease.

Likewise, I'll share the secret to attacking hills during a race so you can maintain pace and stay on track to reach your goal time.

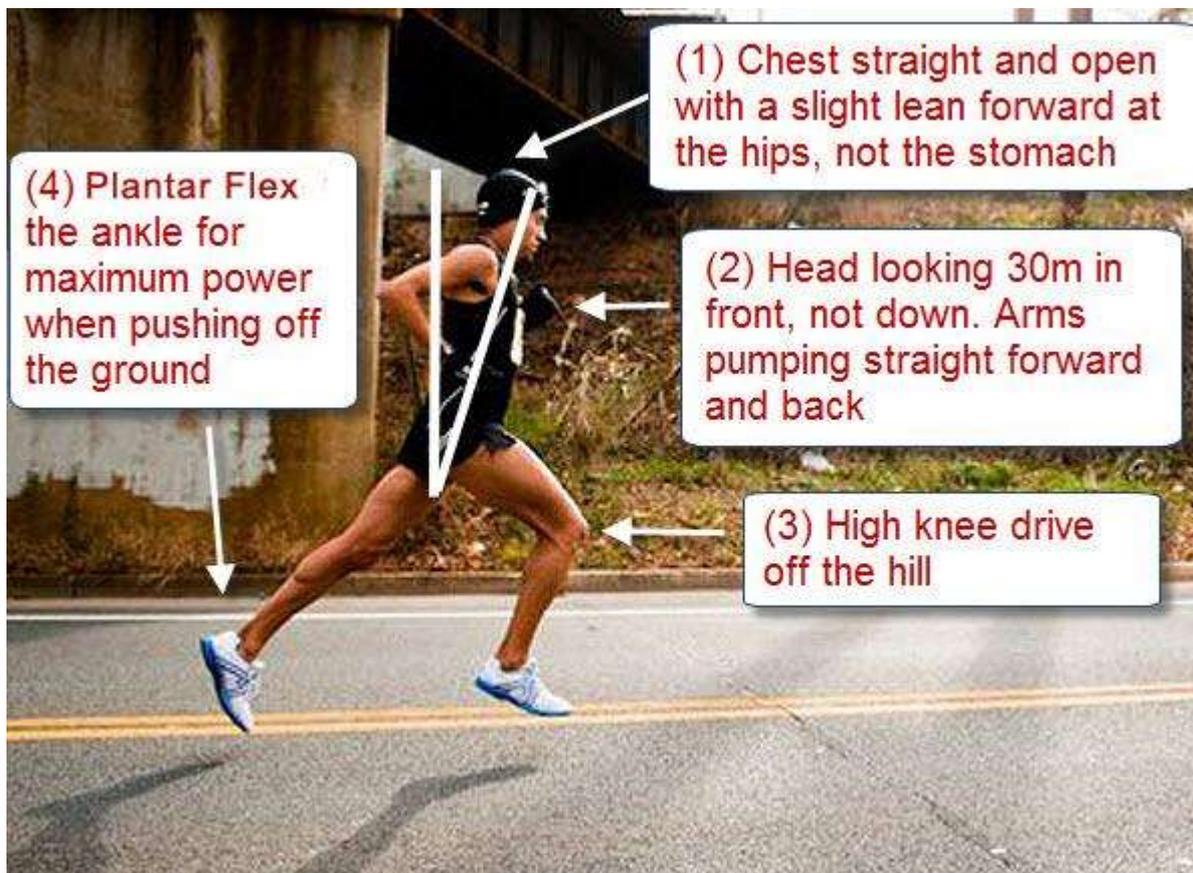
Running Form on Hills

Running uphill and downhill require some slight tweaks to your form to maximize your power and efficiency as well as provide you much needed oxygen.

Many magazines and training partners will give you pointers on proper form, but it's important you are able to properly visualize the tips, or you could end up doing more harm than good.

Here are my form suggestions and a visual for how to implement them.

Running uphill



(1) The most critical element is that you keep your chest up and open. The most common advice you might have received is to “lean into the hill”. Unfortunately, this causes many runners to hunch at the waist to lean forward. This constricts your airway and makes it harder to breathe deeply. You do need to lean forward, but make sure you lean at the hips, not the waist.

(2) Keep your head and eyes up, looking about 30 meters in front of you. Dropping your head restricts how much oxygen you can take in and will cause you to slouch. Likewise, drive your arms straight forward and back and use them as pistons. Your arms should form a 90-degree angle at the elbow, and swing straight back and forth, not across your body.

(3) Focus on driving your knee off the hill, not into the hill like you might do if you maintained your normal knee drive. Work on landing on the ball of your foot to spring up the hill.

(4) Plantar flex your foot at the ankle – plantar flexion is when you point your toes towards the ground. Think of yourself exploding off your ankle and using that last bit of power to propel you up the hill with minimal energy expenditure. Focusing on plantar flexion can save you a lot of energy and really help you get up the hill faster and with less energy.

Downhill running



(1) Just like when running uphill, you want to have a slight lean forward at the hips to take advantage of the downhill. Don't overdo the lean, you just need a slight tilt to benefit from gravity.

Keep your arms relaxed and only slightly moving forward and back. Don't flail them to the sides, this will waste energy. Likewise, keep your head up and your eyes looking forward.

(2) You want to land with your foot either right beneath your torso or just slightly in front of your pelvis, depending on the grade of the downhill (the steeper the grade, the more likely your foot is to land out in front). Extending your leg too much will cause you to land on your heel, which will act like a braking motion. Focus on landing towards your midfoot to maintain speed while staying in control.

(3) Your stride length should naturally be extended when running downhill. However, you shouldn't need to consciously increase your stride length. The pace and the grade of the hill will do this naturally for you.

Pacing During Hilly Races

Tackling hills during races or even important workouts can be daunting. It's easy to ruin your race by wasting too much energy grinding up a hill or lose big chunks of time by slowing the pace too much.

To handle hills effectively in races, learn to run up and down them by effort, not pace.

When you approach the base of a hill, you should already have a good feel for the effort you're maintaining to keep the pace you need. Meaning, if you're running goal race pace already, you should already know what that pace "feels" like. So, when you begin to ascend up the hill, **focus on maintaining the same effort**.

Obviously, your actual pace will slow, even though you're running the same effort (don't worry, you'll make it up on the downhill). The exact time you'll "lose" on the uphill will be a function of the steepness and length of the hill. [Here's a great look at the research on exactly how much.](#)

Now, when you crest the hill and begin the descent, simply maintain the same effort that it took to run your goal pace before you began up the hill.

Contrary to running uphill, this effort will now make your actual pace faster than goal pace. For the most part, this will largely negate most of the time you lost going uphill and you'll reach the bottom still on target

The secret behind this strategy is that by maintaining a consistent effort, you won't lose crucial energy pushing either up or down the hill.

Therefore, instead of becoming an energy sapping obstacle, the hill will be just another bump in the road and you'll be able to maintain your pace and stay strong over the remainder of the course.

By [improving your form](#) and implementing this simple strategy, you'll be able to conquer hills of all lengths and inclines.

Try these tweaks out on your next run. I guarantee they will help!

Coach Jeff