Corewell Health
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Hill Yeah!

It's a beautiful day. You are out enjoying a morning run/walk with crisp air filling your lungs and sweat dripping down your brow. You turn the corner and you come to a split in the trail. One trail is flat and runs through beautiful woods alongside a creek. The other trail is a hill with a 4% grade that seems to reach for the sky. You pause and contemplate, "Which trail do I take?" If you want to get the best results from your exercise, including fewer injuries, improved oxygen utilization and cardiovascular health, increased speed and better endurance, the answer is: take the hill.

Hill running/walking can be intimidating and difficult. You may tend to prefer a route that is simpler and easier to navigate. However, the benefits of incorporating hills into your routine can be immense. Hitting the hills can make your workouts easier in the long run and make you a better athlete overall. Plus, if you will be participating in the 46th running of the Amway River Bank Run, you will be required to climb some of these dreaded hills along the course. It will be much easier if you are conditioned and prepared.

Running/walking can be a repetitive sport at times, and we have previously discussed the importance of cross training to prevent injuries. Performing a single exercise all the time without targeting multiple muscle groups or changing up your program can lead to overuse injuries and abnormal stressors on the bones, muscles, tendons and ligaments. This overuse can lead to pain and affect your training and goals, especially if the resulting pain requires you to take time off.

Hill exercising can be an easy way to incorporate cross training because it activates many muscle groups, including the gluteal muscles, hamstrings, quadriceps, core muscles calf and even arm muscles. Hill training is also resistance training for muscles because it increases the force and activation needed to propel yourself forward, which builds muscles.

There are also other medical benefits to hill training. Intensifying your workout with hills not only affects the muscles, but can also help your heart and lungs. Research has shown that athletes who incorporate hill training have an improved resting heart rate and oxygen utilization when compared to those who do not take the hills. Additionally, improved cardiac function and oxygen delivery to muscles resulted in improved athletic performance, including increased speed and greater endurance. And because you are also working harder during hill training you will burn more calories.

Now that you know the benefits of hill training, how do you incorporate it? You don't need to go out and find the biggest hill to run tomorrow, as you need to slowly integrate to prevent overtraining and injury. A good way to start is to find a mild to moderate grade hill that is around 300-600 feet in length. You should hit the hill after you have warmed up for 8-10 minutes. Keep in mind that you will not be able to maintain your speed on the hill. But don't worry if you are running at a slower pace because you will be working harder overall than if you were on a flat surface.

As you continue your training, you can find steeper and longer hills that will provide an even more intense workout. If you want step up your program even more, you can do hill repeats, which entails running up and down the hill multiple times (2-3 times for beginners and 8-10 or more times for advanced runners). If you are treadmill walker/runner, you can also incorporate this into your training and reap the same benefits. Start with a low-grade incline for a minute or two and increase the incline and time as you become more conditioned to the training.

You will also notice that your form will need to change because different running mechanics are required to take on a hill. To prevent injury and to maximize your training, it is vital to maintain proper form on hills. As you start up the hill you should try to keep your back straight, chest out and bend slightly forward at the hips. Try not to slouch or bend forward too much because this can strain your back and legs and adversely affect your breathing. Your head should be straight with your eyes focused about 10-20 feet in front of you. Avoid looking at your feet, as this will alter your mechanics and trunk position. Keep your arms bent at 90 degrees, swinging from the shoulders and avoiding rotation of the trunk and upper body. A proper arm swing will help with your momentum up the hill and further optimize the workout. You will also need to shorten your stride. Your body will be working harder, which requires more power and muscle engagement.

Don't let hills intimidate you. Although they can be tough, they will break up the monotony of your run and, in the end, you will reap the benefits.

If you have any questions or concerns regarding an injury or pain, please reach out to one of our experienced sports medicine physicians at Corewell Health Medical Group Orthopedics at (616)267-8860. You can also find more information about our orthopedic programs and providers on our website.