

RUNNING INJURY PREVENTION

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Running remains one of the most popular activities for individuals seeking to increase their level of physical fitness. Due to its popularity and high demands placed on the joints of the body, running also has a high injury risk relative to many other activities. It's estimated that at least 40-50% of runners will experience some type of injury in a given year. The running motion is very repetitive in nature and, as a result, overuse injuries are quite common. What follows are some general suggestions for reducing your chances of developing one of these injuries while running.

STRETCHING

Most of us are taught to stretch prior to activity, and hold each stretch for 20-30 seconds. However, prior to activity, this *static* stretching has not been shown in the clinical research to be effective at preventing injuries, and in fact, it can actually reduce athletic performance!

As an alternative, consider *dynamic* stretching. This involves taking the muscle to a stretched position and immediately releasing without holding, to be done for 20-30 repetitions. This more closely mimics the actions of the muscles during the running cycle, and has been shown to improve muscle performance. Some examples include leg swings, butt kicks, and lunges with an upper body twist. Incorporate static stretching after your run to reduce general muscle tightness.

TRAINING VOLUME

Generally speaking, a slow gradual progression of your running volume is important to avoid developing overuse injuries. There are countless training programs available for the recreational runner. Regardless of which one you choose, follow one basic rule for progressions - increase your mileage by no more than 10% per week. Also running >20 miles per week has also been linked to injury development. If you are running at a high volume, consider cross training to improve overall aerobic fitness by incorporating such activities as cycling or swimming for variety.

FOOTWEAR

Your foot is the link between you and the ground when running, and it's essential to take care of it by using a good running shoe. Generally speaking, it's important to wear a shoe that matches your foot type. For example, if you have flat feet, you should have a motion control shoe to support your arch. On the other hand, if you have a high, rigid arch you will want more of a cushion shoe to help with shock absorption. Even if you already have an orthotic, it is only as good as the shoe that you put it in.

There are countless options for running shoes out there, and they all claim to be the best. But comfort is a top priority. If it doesn't feel right in the store, chances are it won't feel right when you go for a run.



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Check in with your local running store to help find the best fit for you. Barefoot running and minimalist shoes have gained a lot of popularity recently. Although they have not yet been proven to reduce injury risk, the theory is that they decrease the load on your joints. But be careful if you're thinking of trying this out! It requires a very slow, gradual transition from what you're used to in order to avoid getting hurt. This isn't something to experiment with while training for a race.

STRIDE MECHANICS

When we're running, the force coming up from the ground through our joints can exceed 2.5 times your body weight. So it's no wonder that overuse injuries are so common in runners. Those runners who overstride (or reach the foot too far in front of the body) will tend to have excessive heel strike when the foot hits the ground. This has been linked to higher impact forces through our joints. By simply increasing your step rate, or decreasing step length, these forces can be reduced. Ideally, your foot should land beneath your hips (or slightly in front) and with more weight towards the front of your foot instead of the heel. Keep in mind, efficient running mechanics involves complex interactions between all joints in your body.

These are general suggestions for your stride, and may not be exactly right for you. Consult with your local physical therapist or biomechanics expert for a detailed running analysis and individualized suggestions. On another note, consider the terrain on which you choose to run. Running downhill also produces higher forces through our joints.

So by following these guidelines, you'll always be pain-free, right? Unfortunately, no, that's not how it works. Even the most diligent followers of prevention strategies can still develop injuries. What do you do if this happens? Well, rest is essential. It's important to not try to run through the injury. Pain is your body's way of telling you that something is not right. Many injuries will resolve with 1-2 weeks of diligent rest and ice. However, if pain persists or returns when you try to get back to running, you should consult with your doctor or physical therapist for some guidance.

Good luck and happy running.

