

Can Running on a Treadmill Cause Injury?

By Dr. Jon DeGorter, DC



Whether you're new to running and feel more comfortable in the gym, or bad weather has you running indoors, treadmill running is not the same as road running. The treadmill is easier than running outdoors because the surface has more give, creating less impact, and the moving belt assists leg turnover, making it easier to run faster, which is why many runners find that their pace on the treadmill doesn't correlate to their road pace. The treadmill can be a great training tool and can be a good way to get in some speed work or tempo runs in a controlled setting. But running on a treadmill is not the same as running on the road, and people can injure themselves if they don't recognize the differences.

Potential Treadmill Injuries

Running on a treadmill increases the potential for injury to the foot, knee and hip. Even though treadmills create less impact on your body, you can still experience pain. Plantar fasciitis is the most common foot injury associated with treadmill running. Knee pain is a common running injury for treadmill and outdoor running, but if you run on an incline, have bad running posture, or use an abnormal stride on the treadmill you are increasing risk of injury. Incline running or walking puts more stress on the hips, which can lead to pain and injury. You may also develop a hip injury if you are using a different stride pattern when using a treadmill, and may be overextending your legs too much.

A 2% incline helps the treadmill mimic the outside ground and have the same feel as the outdoors. Having the treadmill set on a very flat setting is not good for your feet or legs. Research has shown that running with no incline causes you to run with your knees very straight, rather than naturally soft and slightly bent. The knees cannot absorb shock properly when they are too straight, and this can cause muscle strain.

Preventing treadmill injury:

- Cold muscles lack flexibility and blood flow, so just like outdoor training, warm up with stretches and range of motion exercises before starting.
- Cool down with two to five minutes at a slower speed at the end of your run.
- Check your posture while you run. Keep your shoulders pulled down and arms relaxed. Do not lean forward and hold on to the bar at the front, which changes your posture and gait. Don't look down at your feet, which can throw off your balance.
- Increase distance and intensity gradually. A good rule of thumb is not to increase your weekly mileage by more than 10 percent each week.
- Vary speed and incline occasionally to reduce the risk of an overuse injury.
- Listen to your body. If you have pain that persists more than a few days, have it checked out.

There may be a temptation to increase the speed and the incline to optimize training, mitigate boredom, and burn extra calories. However if you are pushing yourself too hard and find yourself struggling to keep up, you are putting too much strain on your joints, which leads to pain and injury.

Most runners prefer training outdoors, whether it's speedwork or long runs. Running outside delivers a greater energy boost, decreases tension, and reduces anger and depression. And running outside is more entertaining. Outdoor running activates more muscles because the body reacts to the ground in different ways.

Running outside requires more attention to your surroundings and uses additional muscles to negotiate obstacles like tree roots and potholes, and changing pace according to traffic patterns or dodging people on the trails.

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