Indoor vs. Outdoor Running: 3 Things to Know About Treadmill Training

The rain is pelting down, hail slices through the night air like bullets, and the cracks of thunder and flashes of lightening set the backdrop for any great horror movie. The sounds of your footfalls are lost in the chaos, but the miles ticked off aren’t done on the slick pavement, but rather, in an indoor haven on the treadmill.

The treadmill can be an excellent training tool for runners when weather conditions are uninviting or downright dangerous, or when running outside isn’t an option. Not to be scoffed at by “running purists,” there are times and places when a treadmill is a better bet:

**Safety:** When it is too dark out to safely navigate your route, or when the weather has left the terrain iced over or slick enough to invite a fall and possible injury.

**Workout Quality:** If the conditions outside don’t allow you to run safely at a faster pace, you can turn to the treadmill to make sure you’re able to hit the proper level of exertion.

**Hills and Incline Training:** If you don’t have access to a steep hill or an incline that is long enough, you can create your own using the grade on a treadmill.

**Injury Prevention:** The belt of the treadmill is more forgiving than the hard pavement; running on a treadmill reduces impact and is easier on the body. This can be especially important for those coming back from an injury.

**Family:** Leaving the kids unattended to go out for a run isn’t exactly a glowing parent strategy. “I use a treadmill because I need to be close to my family, and we got our treadmill the day our second son Grant was born. I watch both our sons most mornings and I can still do my workouts and spend time with them,” explains Michael Wardian, an elite ultrarunner who does much of his training on the treadmill.

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**Indoor Versus Outdoor Running: The Differences**

While there are treadmill benefits to boast of, there are still key differences runners need to be aware of between indoor and outdoor running.

**Hamstrings:** Because a machine powers the treadmill belt, the mechanics of your running stride differ when you run outside. When running on the treadmill, you use your quads to push off. But, unlike outdoor running, where you would typically rely on your hamstrings to finish the stride cycle and lift your leg behind you, the propulsion of the belt does much of that work for you. This means your hamstrings aren’t firing as much and don’t get worked running inside as they would outside. The extra effort demanded of your quads is also a factor to keep in mind.
Terrain: Or more correctly, the lack thereof. “Something that I try and keep in mind is that the treadmill is really consistent and even, but outside things are constantly changing. Each change takes energy and thought, so I remind myself not to zone out while outside and especially on trails, where a bad footfall can mean stitches and a new tooth,” says Wardian.

Outside of a potential fall due to unsteady outdoor footing, landing wrong on your foot can cause strains and other injuries. If you’ve been doing much of your running on a treadmill, your body is used to a nearly even and constant stride. Should you run outside, your risk of an injury from even a minor misstep would be higher because the small muscles, tendons and ligaments of your ankle haven’t been forced to get used to a variety of landings. (i.e.: sharp turns, curbs, uneven pavement, trails, etc.)

Wind Resistance: Even in ideal outdoor conditions you run against air resistance; you don’t get inside, so the paces you run on a treadmill are a bit easier than they would be outside. To negate this, you can put the treadmill incline up to 1.5 percent to account for lost wind resistance and make the paces comparable to those run outdoors.

With these key elements in mind, you can adapt your training as need be. If you’re doing much of your running indoors, make sure to supplement with extra hamstring-strengthening exercises.

To safeguard your ankles, work on balance and mobility drills such as balancing on one leg on a Bosu ball or pillow. After you can hold there, test your balance further by moving your arms or reaching down with your opposite arm towards the foot you are balancing on. This will build strength in the ankle area.

How to Transition Between Indoor and Outdoor Running

If you have been doing nearly all of your training indoors, you need to be especially cautious as you begin to move back outside. You need to transition gradually in order to avoid a resulting injury. So start with one or two of your easy, shorter runs per week outside and build from there; you can also split runs up—some miles can be completed on the treadmill and the rest outside.

Of course it works both ways: If you’re moving from all outdoor running to more treadmill running, rely on the gradual transition method.

As we head into the winter months, if the wind is hollering, the snow has left your running route only navigable by snow-shoe, or you need a training partner who doesn’t care if you’re tired and would like to slow down, the treadmill can be your respite.