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Running Basics: Terrain

by Julia Malacoff
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Once you've got running form down, you've got to consider running surfaces. Whether you run on the road, trail, track or treadmill, the terrain you choose influences your run more than you might expect. "Terrain has a huge effect on your gait, speed and the impact forces on your legs, explains Thomas Watson, a UESCA-certified running coach and founder of The Marathon Handbook. "You'll find your running form adapts fairly naturally to differing terrains, but it can be important to recognize the effects various terrains have," Watson says.

Runners tend to stick to the terrain that's most comfortable and convenient, but there's something to be said for switching it up. "Training exclusively on one type of terrain leads to injury," notes Watson.

The only caveat: "If you're training for a race, I'd suggest you train on the surfaces that you'll be racing on," says Steve Stonehouse a USATF-certified coach and director of education for STRIDE. So if you're training for a road race, you might want to sprinkle in some track or treadmill work, but the majority of your miles should be spent on the road.

That said, it's helpful to understand how various types of terrain could affect your runs. Ahead, the key points a well-rounded runner needs to know.

Many runners choose the road out of proximity, but it tends to be one of the harsher running surfaces. "For this reason, it's important to ensure you are focused on form, particularly your foot strike," Watson says. "Repeatedly landing poorly on a hard road leads to a lot of impact forces being transmitted through your body." He notes that landing on the ball of your foot is ideal for road running, though the main concern is using a foot strike that feels comfortable and sustainable.

The right shoes can also make a difference: "If you're doing the majority of your miles on the road, consider a pair with additional cushioning," Watson advises.

It's also worth noting that not all road surfaces are created equal. "It is better to run on asphalt than concrete because it is softer," explains Meghan Kennihan, a RRCA- and USATF-certified run coach. "This will reduce the stress on your joints." So in some cases, running on the road surface may be a better choice than the sidewalk, depending on the safety of running on a particular road.

It's critical to be informed about running safety when training on roads with cars and other vehicles. "Always run on the side facing into traffic," Kennihan recommends. That way, drivers can see you coming.

It's also a good idea to avoid roads that are severely cambered, she adds. Roads often have slanted edges to allow for water drainage, but running on a very slanted surface can contribute to hip, knee, ankle and foot issues over time.

While trails may be more or less available depending on where you live, lots of runners prefer trail running to road, and for good reason. "Trails are typically much more visually stimulating than roads," Kennihan points out.

Since every step is slightly different, you're likely to get a great workout. "With trail running, you're typically engaging muscles much more than with regular road running," Watson says. "Your feet, calves and Achilles all are working more, and the lateral movement involved in crossing the terrain can help engage your kinetic chain (your knees, upper legs and hips) in a positive way."

As any experienced trail runner can tell you, it's often much more tiring and difficult than other types of terrain. Running flat trails is similar to road running, but on a much softer surface. This creates a higher physical exertion, Kennihan says. "Adding hills or mountains to this just increases the effort level and the mental toll because you will have to constantly be aware of your body position and foot placement."

Watson also advises slowing *way* down for hilly trails to avoid injury. "Don't worry about your speed. Instead, focus on the trail. You've got to constantly be assessing the terrain 10–15 feet ahead of you. Shorter strides can help you maintain stability and prevent you from taking spills."

Trail running also requires proper footwear. Watson recommends getting yourself a pair of trail running shoes, as the grip provided in road shoes isn't usually sufficient for the dust, mud, rocks and other path irregularities you'll encounter.

For repeats and sprints, look to the track. "It's a relatively forgiving surface and perfect for fast running such as interval training and speed work," Watson says. Since tracks are made from rubberized material, they are soft, springy and easier on joints.

Speed work on a track tends to be more challenging than on a treadmill, since you have weather to contend with. You can also feel certain your pace is correctly timed, since you're powering the speed yourself (rather than keeping up with a treadmill belt). For this reason, many runners prefer to do time trials (such as your fastest mile) on the track.

Again, the right footwear is key. "Most runners use less-cushioned shoes on the track, since when you're doing speed work you're not clocking up the same miles as a regular run," Watson explains. In other words, you don't need the same level of support you would on a longer run. You don't necessarily need racing spikes for track sessions, but a lighter, more minimal shoe will keep you feeling fast and fresh.

"Treadmills can totally change your running form, so it's important to be aware of a few pointers before you jump on one," Watson says. Because the running belt is so cushioned, you can very easily become heavy-footed. "Make sure you're conscious of your foot strike and take-off and not letting your form deteriorate," he advises.

How you position your body on the treadmill can also help you make the most of your workout. "Do your best to stay a few feet away from the front console of the treadmill so a sprint interval doesn't cause your knees to bump it," Stonehouse recommends.

It's also smart to avoid holding the bars or handles on a treadmill when running. This changes the loading on your body and affects your form, according to Watson.

Next, it's good practice to run with an incline of 1–2%. "This gives some very light resistance for you to work against, mimicking running outdoors," Watson explains.

Finally, exercise caution when running at speed on the treadmill. "The fast belt keeps spinning, even when both feet are off the floor, which can give a false impression that you're going faster than you really are," Watson points out.

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And injuries *do* happen on treadmills, so be sure you’re not cranking up the speed when you’re worn out. “Don’t run to the point of extreme fatigue. If you get light-headed on the treadmill, slow it down to a walking pace immediately, then get off and rest.”