

Walk/Run

Run Cadence Article 2



Run Cadence Article 2 Overstriding

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In the first part of this blog series, we focused on running cadence (steps per minute), which is one of two factors that determine our run speed. The other is the length of each stride, or stride length. While it may be tempting to think that taking longer strides is “better”, that’s not always the case! Overstriding, or running with a stride length that is longer than ideal, can instead slow you down, or even hurt you. What, then, does an “ideal” stride look like? What happens when we overstride? How can we increase stride length to get faster, but avoid overstriding? Let’s take a deeper look!

Ideal stride length vs overstriding

Overstriding is best spotted by looking at the position of the foot and leg when they first hit the ground. What specifically should we look for? Ideally, the foot should land relatively close to parallel to the ground, and it should be nearly underneath or just slightly (a few inches) in front of the body. Moving a bit further up, the shin should be close to vertical, with the knee slightly flexed. Overstriding features a foot that hits the ground at a steep angle, too far in front of the body, with an overextended knee-essentially the equivalent of putting on the brakes. Additionally, runners that overstride also tend to be too “bouncy”, with too much energy-wasting up-and-down motion.

Why is overstriding a problem?

Overstriding can make running less efficient and may contribute to injury risk. When the foot first hits the ground while running, a braking force occurs against the body. Overstriding increases these braking forces, causes energy loss, and generally slows us down. Overstriding also increases impact up the leg at initial contact. This is thought to potentially increase the risk of injury, particularly shin pain and stress fractures, and it loads the knees and hips more. Plus, it just makes sense that we should try to avoid jarring our bodies too much while running!

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How can over-striding be corrected?

What are the associated benefits?

So, then, how exactly is a runner supposed to get faster while avoiding overstriding? Finding your ideal cadence is certainly part of the equation, but stride length can (and should) increase as well. You'll notice that overstriding focuses on the initial braking portion of the stride, when the leg is in front of the body-thankfully, there's still an entire push-off phase that occurs when the leg is behind the body, and a flight phase when both feet are off the ground and the body moves forward! Increasing the action in this back half of the stride to travel farther during flight phase (while maintaining cadence) is key-think of pushing off more, vs reaching further forward. To increase speed, the leg should extend further back, generate more power, and propel the runner further forward with each stride, while still landing with the foot and shin in an efficient position. What, then, are some practical ways to work on stride length?

The magic is in the calves

The calf muscles are the underrated powerhouses of running, generating most of our push. Are you able to do 20 calf raises on a single leg without losing steam or compensating? If not, start there! If so, still keep working on that strength-add weight to those calf raises.

Power uphill!

Ever try to land with the foot far in front of the body while running uphill? It doesn't work! Hill running is a great way to train the leg to push off harder while naturally preventing overstriding. So, hit the hills for some repeats, or even just incorporate them into your runs on a regular basis.

Hop, skip, and jump away

The sky's the limit for running drills, but it doesn't even have to be fancy! Simple hopping, skipping, and jumping activities work great. Hopping in place, jumping rope, playing a game of hopscotch with the kids-all of these activities help train our legs to create power quickly, leading to a longer, more efficient stride.

So, there you have it! While running seems simple, developing an efficient, resilient gait can take some work. By concentrating on cadence and working on developing an effective, powerful stride, we can all run happier and healthier.