

Advice for distance runners from physical therapy experts

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Credit: AI-generated image ([disclaimer](#))

Distance running is a fantastic way to get outside and get moving, and a marathon can be especially rewarding. But marathon training and the race itself are hard on anyone's body and require proper preparation.

Three experts from the Doctor of Physical Therapy (DPT) programs at

Tufts University School of Medicine—Eric Hegedus, founding director of Tufts DPT-Phoenix who has worked with distance athletes for over a decade; Edward Mulligan, associate professor of physical therapy in the Phoenix program; and James Smoliga, an experienced distance [runner](#) and director of research and faculty development for Tufts DPT-Seattle—recently shared their advice for [marathon runners](#) before, during, and after the 26.2-mile race.

Training safely and slowly

Preventing injury is key to running a successful race. The stress of repetitive footsteps can make injuries likely without proper preparation. Most of the injuries that runners experience are in the lower extremities, and include bone stress injuries, as well as tendon and muscle injuries. In particular, says Hegedus, runners are at high risk of stress fractures (tiny cracks in bones), patellar tendinopathy (which causes knee pain), and Achilles tendon injuries. The majority of injuries are from overuse or under-recovery and occur when a runner tries to add mileage or speed workouts to their training routine without sufficient rest or nutrition.

"These injuries happen when people violate the rule of 'too,'" says Mulligan. "They did too much, too soon, too fast, too long, or too hard."

There are numerous factors to consider to avoid injury. The first is to pick a training plan that gradually increases in difficulty. In fact, Smoliga and Hegedus recommend training for shorter races, such as a 5-kilometer or a 10-kilometer race before trying a marathon. If your heart is set on a marathon, though, take it slow. Six months or more is an ideal amount of time to train for a marathon—any less, and it's likely that training will require a runner to do too much, too soon.

It's a common mistake for people new to the sport to make dramatic changes to their exercise routine without even realizing it, says Hegedus.

One rule of thumb to follow is the "10% rule," which guides runners to add any increases in intensity, duration, or frequency of their workouts at or below 10% each week. "That's not a hard-and-fast rule, but I think it's good guidance," says Smoliga.

Treating injury

Having a months-long training plan can also allow for a cushion of time in case of injury. While injuries are painful and frustrating, they often can be resolved in time to continue training if a runner takes the advice of medical professionals.

Treating the injury might involve undertaking a physical therapy plan specific to your body's alignment to balance the forces that may have caused the injury in the first place. "We try to strengthen parts of the body that will help you control the load that you're putting on the leg," says Hegedus. "In general, the more fit and the stronger you are, the better you dissipate that force, leading to fewer injuries."

Lifting weights as part of a training plan can help resolve pain and prevent an [injury](#) from returning, too. Though it might seem counterintuitive to lift weights while injured, strength training via weightlifting can help build up the structure of one's muscles and tendons, said Smoliga. "While you're resting from running, you can be doing a different type of stimulus that helps repair the injured site," he says.

What to know during the race

The best way to make sure race day is a fun and pain-free experience is to stay consistent. Don't introduce anything new to your diet, running form, or routine on race day. Make sure to stay hydrated and drink

electrolytes, says Mulligan.

The best marathon form is the running form that feels the most natural to the runner, though staying relaxed in the upper body could help maintain a runner's energy for the duration of the race. Mulligan says it could be helpful to shorten strides and increase cadence, which decrease the stress of each step on your body.

As with any workout, warming up can also be beneficial to help runners feel their best. Mulligan recommends a quarter- or half-mile warmup, especially before a particularly demanding workout. The warmup should be done at a fraction of the effort of the workout, he says.

Recovery is key

While it's important to structure your training plans, running form, and equipment to stay healthy, recovery is an underappreciated aspect of running, says Smoliga. "Everybody gets caught up in, "How many miles are you running?" or, "What kind of workouts are you doing?" And a lot of people don't consider what else they are doing with the other 22 hours of the day."

When a runner isn't properly resting or taking care of their nutrition, they can suffer from something called "relative energy deficiency," says Smoliga—when the body is simply so tired and under-nourished that certain processes stop working. For example, a runner experiencing relative energy deficiency might feel extreme fatigue or increased muscle soreness, or a female runner's period might stop. That's a sign to stop [training](#) and increase calorie and nutrient intake.

"The longer you keep pushing through that, the worse it's going to get," says Smoliga.

Right after the marathon, hydration and protein intake are key to replenish lost fluids and repair damaged muscles. To reduce soreness, it's also a good idea to keep moving for five to 10 minutes after crossing the finish line. Taking a complete break from running, too, will help prevent future injuries. Hegedus and Smoliga recommend taking at least two weeks off before returning to running.

The bottom line is to pay attention to how you feel, says Mulligan. "Listen to your body, it's usually pretty truthful."

Provided by Tufts University

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