

5 Foot Exercises for Runners to Build a Strong Foundation

Strengthen your foot core with these simple exercises to prevent injury,
from your feet to your hips

The muscles in your feet and lower legs are just as important to your running form as are your glutes, quadriceps, and hamstrings, but are often forgotten in strength training routines.

If you're going to ramp up training, you can't afford to ignore your foundation. Your lower limb muscles need to be strong, resilient, and function in a coordinated fashion for effective energy storage during each stride and to provide a strong balance to get you through the miles. Neglecting foot exercises that work these important running muscles may predispose you to injury and reduce your running economy.

The muscles of the lower limb and foot are divided into two categories based on their function. The *local* muscles are the intrinsic foot muscles, often referred to as the "foot-core." They are responsible for maintaining the shape of your arch and for shock absorption. They are smaller in cross-sectional area compared to the *global* lower limb muscles. Global muscles are larger and are responsible for moving your ankle and flexing and extending your toes.

Weak local muscles may result in an unstable arch that does not absorb impact very well and leads to faulty biomechanics. When local muscles fail to stabilize the foot quickly, global muscles have to do it at a disadvantage, both because this isn't their primary function and because they have a longer reaction time, exacerbating the instability. This can lead to overuse injuries of the global muscles, plantar fasciitis, and even stress fractures later in your running season. Traditional foot strengthening exercises usually involve curling the toes to pull a towel toward you or picking up marbles with your toes. These types of exercises will target the local foot muscles but also involve the global muscles. Ideally "foot core" training should only target the local foot and stabilizer muscles.

Your Lower Limb Strengthening Routine

While your mileage and running intensity are low during the off-season, you'll have time to devote to building stronger muscles and hopefully decrease your risk for injury. This routine consists of three exercises you can do daily (short foot, toe splay, and big toe press) and two exercises to do two to three times per week (leg swings and calf raise to big toe press).

1) Short Foot Exercise



The goal of the short foot exercise is to “shorten” the foot by contracting the intrinsic muscles to raise the arch, or in science-speak, pulling the first metatarsophalangeal joint toward the calcaneus (heel bone).

- Sit in a chair in your bare feet. Form a 90-degree angle at your knees and ankles. Without crunching your toes, try to shorten your foot by bringing the ball of your foot toward your heel, doming the arches in your feet. You can focus on one foot at a time or do both at once.
- Try not to curl or extend your toes and make sure to keep your foot neutral, not rocking inward or outward—it's harder than you think. Note that being completely barefoot will enhance your ability to feel sensory input from the bottom surface of the foot, and help you develop the sense of creating the short foot posture.
- Hold for eight seconds and relax. Repeat 5–15 times.
- Practice this throughout the day. You can even practice while sitting at your desk.
- Once you become competent doing the short foot sitting, attempt the exercise standing on two legs, then on one leg. Eventually you can activate your arch this way when doing functional activities such as squats, deadlift, lunges, hops—even running.

2) Big Toe Press



- Press your big toe into the floor while lifting your other four toes.
- Hold each press for eight seconds and do 12–15 reps per foot.
- Practice throughout the day.

3) Toe Splay



- Try pulling your toes apart as wide as possible staying flat on the ground—be careful not to curl or extend them. Focus particularly on moving your big toe away from your other toes. You will feel the arch muscle contract—one study found this exercise is one of the most effective ways to activate your arch, if your toe position isn't compromised by a bunion.
- Hold for eight seconds and relax. Start with five repetitions and build up to 25 to 30.
- Practice throughout the day.

4) Leg Swings



Unlike dynamic leg swings that use a large amplitude—swinging to the end of your range of motion—do these leg swings with a small amplitude to challenge your balance and hip and ankle stability.

- Stand on one leg in your bare feet and create the short foot posture.
- Swing the non-stance leg forward and backward 15 times.
- Without rest, swing the same leg left and right in front of your stance leg, also 15 times.
- Repeat this sequence without resting, then repeat on your opposite leg.

5) Calf Raise to Big Toe Press



- Performed barefoot or with running shoes donned
- Stand on the edge of a stair in your bare feet.
- Let your heels drop below the level of the stair.
- Do a traditional calf raise, then finish by pressing onto your big toe. This part is difficult for most.
- Feel free to hang on to something for balance. Do 12-15 reps.

Feet strengthening exercises tailored to runners can help optimize the biomechanics of your feet with benefits like:

Fewer injuries. Up to 39% of runners experience foot injuries, which are more common in experienced runners than beginners. Stronger feet are less susceptible to injuries like plantar fasciitis, tendinitis, shin splints, and more.

Better running form. Strengthening your arch contributes to a healthier, more stable running form with greater motion control to protect against injury.

Increased speed. Stronger feet make for a stronger toe-off, giving you faster turnover in every stride and increased speed.

Reduced fatigue. Foot muscles that are balanced and fully engaged put less stress on your body overall to help minimize impact forces so you can run for longer and further.

Improved balance. Balanced muscle strength creates a stable foundation for each foot strike, ensuring proper weight distribution and fewer missteps for a more efficient run.