

# Here's To Your Health!

HAPPY NEW YEAR

A Phoenix Fire Department Health Center Publication

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## Ground Forces

To ease your aches and pains, choose your running surface wisely

The impact of running has its benefits: It builds bone and muscle strength. But it also has drawbacks: Each footfall sends strong forces up the leg with the potential of aggravating trouble spots. Luckily, runners can sidestep injuries by changing up their workout surfaces, says exercise physiologist and marathoner Tom Holland of Darien, Conn. "In the same way that you vary your mileage and intensity—short one day, long the next; hard one day, easy the next—you should also vary the terrain that you run on to minimize risk of injury," he says. If you're prone to shinsplints, for example, pounding the asphalt six days a week could cause a flare up. Mix in a trail or treadmill run here and there, and you could avoid a setback. Follow this guide to running grounds to log your miles safely.

### Asphalt roads/sidewalks

**Run freely:** If you're not particularly injury prone and not rehabbing an injury—although Achilles tendinitis becomes less aggravated on asphalt's stiff surface, which keeps the Achilles in a shorter, less-tensed position.

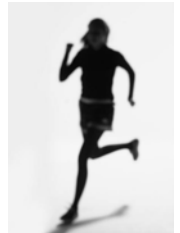
**Tread lightly:** If you've recently had shin or knee pain, or a fracture, muscle pull, or iliotibial-band syndrome (ITBS). Asphalt can rattle bones, joints, muscles.

### Dirt Trail

**Run freely:** If you've struggled with runner's knee, ITBS, shinsplints, or any injury aggravated by impact. Just be wary of technical trails that cause your feet to land at an angle.

**Tread lightly:** If you've had an ankle sprain. The ligaments of that joint never recover 100 percent. That increases your risk of a repeat sprain, which is more likely to occur on soft, uneven surfaces.

*Ground Forces* continued on page 2



## Custom Made Muscle

Modify any exercise to suit your fitness level with these simple adjustments

**Easier Squat: Band-Assisted Squat** - Place a stretchable band around a chinup bar and stand just behind the bar. Hold the band with both hands as you squat until your thighs are parallel to the floor. Stand back up.

**Why it works:** The band lends stability as you squat, and assists your legs as you press back up to the starting position.

**Easier Deadlift: Elevated Straight-Leg Deadlift** - Stand between two 6- to 12-inch-high boxes with your knees slightly bent, holding a barbell with an overhand grip. Bend at your hips and lower your torso until the barbell touches the boxes. Pause, and return to an upright position.

**Why it works:** The boxes limits your range of motion, helping you master the deadlift.

**Easier Chinup/pullup: Negative Chinup/Pullup** - Stand on a box beneath a pullup bar. Grab the bar and jump up, pulling your chest to the bar. Then take 6 to 10 seconds to lower yourself until your feet touch the box. Repeat.

**Why it works:** Slowly lowering your body can help build your upper-body muscles and increase the pulling power you need for chinups or pullups.

**Easier Barbell Bench Press: Negative Pushup** - This isn't a bench press, but it provides the same benefit. Perform a pushup, and take 6 to 10 seconds to lower your body as you keep your core tight. Once you're an inch above the ground, explosively push your body back up.

**Why it works:** When you slowly lower your body, you activate more muscle fibers, increasing your chest, back, and triceps strength.

*Muscle* continued on page 2

## Sand

## *Ground Forces* Continued

**Run freely:** Rarely. Sand is unstable and puts a ton of torque on the knee, ankle, and hip. That said, this surface requires the strength of muscles that are often neglected so it can be beneficial for strength building. Just keep the runs short.

**Tread lightly:** If you have a history of ankle sprains or Achilles tendinitis. A 2008 study found that running on sand increases the risk of Achilles pain tenfold.

## Synthetic Track

**Run freely:** If you're prone to ankle sprains or just recovered from a fracture. The surface is predictable with no roots or curbs to trip over. It's also more cushiony than asphalt, but not so soft as to cause instability.

**Tread lightly:** If you've had ITBS or calf strains. Your outside calf is shortened as you circle your way around. Tight corners can also stress your inside leg's ITB.

## Grass

**Run freely:** If you have knee pain or are returning to running after a fracture. On grass, the bulk of the energy from your footfall goes into the ground instead of reverberating back up your leg.

**Tread lightly:** If you're prone to plantar fasciitis. You're more likely to overpronate on this soft, uneven surface, which puts extra torque on the ligament that runs along the bottom of your foot.

## Treadmill

**Run freely:** If you're recovering from injury or are increasing mileage and want a break from asphalt. The belt's cushioned surface reduces stress to your back, hips, knees, and feet. And it's a clear path free of obstacles.

**Tread lightly:** If you're training for a road race. Running exclusively on a treadmill won't prepare you to navigate uneven terrain or cope with the impact of asphalt, and that could lead to injury.

*Athletes who do plyometric drills on sand improve their sprinting ability compared to those who train on grass.*

Source: Jenny Everett for *Runner's World*

## *Muscle* continued

**Easier Plank: Kneeling Plank** - Assume a pushup position, but rest on your forearms and your knees. Your body should form a straight line from shoulders to knees. Brace your core and hold the position as long as you can.

**Why it works:** Bending your knees reduces the weight your core has to support. Also, if you feel back pain when you do regular planks, this eases tension.

**Harder Squat: Box Squat** - Stand 4 to 6 inches forward of a knee-high bench or box. With a barbell loaded onto your upper back, squat and sit on the bench for a moment. Keeping your heels pressed into the ground, stand back up.

**Why it works:** When you sit, you kill the weight's momentum; to rise again, you need to use your lower-body muscles more. That teaches your body to move explosively.

**Harder Deadlift: Straight-Leg Deadlift With Shrug** - Hold a barbell at arm's length in front of your hips, using an overhand grip. Bend at your hips and lower your torso until it's almost parallel to the floor. Pause, and then come back up and shrug your shoulders.

**Why it works:** You're emphasizing your hamstrings, glutes, and lower back, which are typically weaker than your quads.

**Harder Chinup/Pullup: Commando Pullup** - Instead of facing the bar, stand so you're looking down its length. Grab it with one hand in front of the other, your palms facing inward. Now pull up and lean to the left so your right shoulder touches the bar. Then lean to the right and touch the bar with your left shoulder.

**Why it works:** This kind of pullup causes an imbalance of weight and forces you to work your back and arms more as you pull your body up on each side.

**Harder Barbell Bench Press: Cage Bench Press** - Lie on a bench inside a power rack with the barbell resting on safety bars 3 to 6 inches above your chest. Press the bar off the rack until your arms are straight. Then lower it.

**Why it works:** You're starting from your weakest position in the bench press, with no momentum to help out. This forces your chest to work harder and improves your ability to bench more weight.

**Harder Plank: Plank With Opposite Arm and Leg Lift:** From the plank position on your elbows, lift your left foot and right arm off the floor for 5 to 10 seconds. Switch sides and repeat.

**Why it works:** By adding movement and instability, you force your body to work harder to keep your core tight and stable.

Source: Todd Durkin C.S.C.S., owner of *Fitness Quest 10* for Men's Health.