

# Sole Mate

The right shoe can save your joints—and your workout

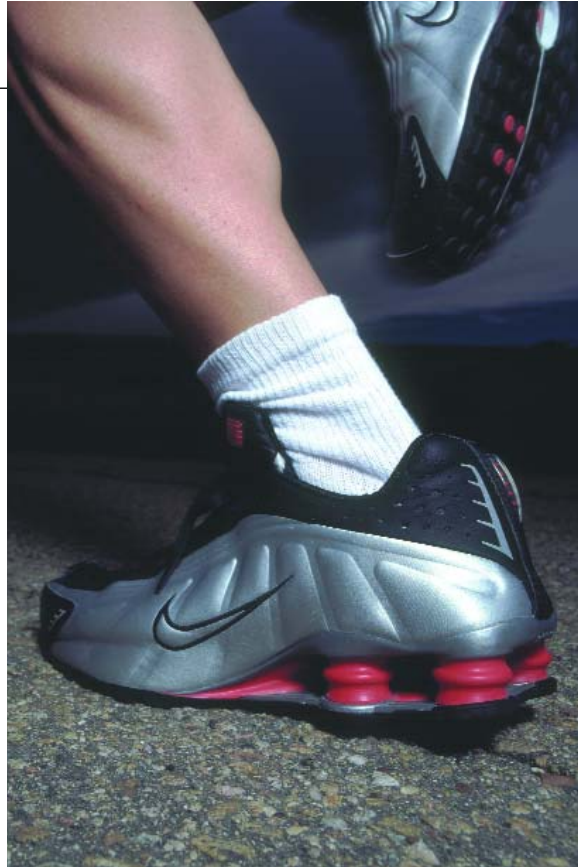
Running is a means to an end. Trail, turf and treadmill alike are stressors that induce muscles and bones to strengthen themselves, to build endurance. But the same forces that build brawny calves and stave off cardiovascular disease, may wreak havoc on your joints unless you have the right equipment for the job.

So listen to your feet. They have a lot say.

**BY JOSEPH A. ARANGIO, M.S., C.S.C.S.**

**T**he right running shoe can protect your musculoskeletal system from the aches and pains associated with training in an ill-fitting or tattered shoe. "Failing to replace worn shoes is a major cause of running injuries," says Stephen M. Pribut, D.P.M., a sports medicine podiatrist from Washington, D.C. "A shoe gradually loses its shock absorption capacity and stability somewhere between 350 and 500 miles," says Dr. Pribut. So if you are running 20 miles a week, consider replacing your shoes by weeks 20 to 25.

A great shoe isn't necessarily the latest \$150, Velcro-and-zipper-laden eyesore recommended to you by the teenage salesguy—it's the shoe that collaborates with the anatomy of your foot and the biomechanics of your running style. A decent shoe will stabilize, support and protect you from the punishing forces that assault your body when foot meets pavement.



Short of scheduling an appointment with a sports medicine foot specialist, there are several measures you can take to select the best shoe for your particular needs. A few simple tips will ensure that you slip into the shoe that either protects your dogs from rolling out (underpronation or supination) or more commonly, turning inward (overpronation)—both may lead to overuse injuries. Your best fit may even involve an orthotic insert or a pair of blister-resistant socks.

### Identify your feet

First-class strength and conditioning professionals know that the best coaching bridges the gap between training and competition. Competition for you may be the Boston Marathon or a brisk trail run before work. In any case, a good trail shoe may not be your best choice for a three-hour race over asphalt. Match the terrain demands with your foot type to maximize performance and minimize grief.

### The wet test

Place your bare foot in water and then step onto a paper bag. Notice the imprint that is left behind. The anatomy of your foot is the compass, which will guide you along the path to choosing the right shoe. Use the footprint to find a complimentary shoe style.





**new balance 904** (\$100)



**asics gel trabuco** (\$80)



### FLAT FOOT

**Footprint:** Low arch is a term for sensitive people with flat feet. The arch of the sole is flattened down so that the undersurface makes contact with the ground. Your flapjacks create an imprint that looks like the complete sole of the foot.

**Foot behavior:** "A low arch foot will often overpronate as the foot strikes on the outside of the heel and rolls too far inward," says William Lackey, M.D., sports medicine orthopaedist from Temple University in Philadelphia. If left untreated, your flat foot may cause numerous overuse injuries, adds Dr. Lackey.

**Footwear:** Look for a stability or motion-control shoe—one that does not bend in the middle of the arch. Dr. Pribut recommends testing the shoe by pushing up on the forefront of the sole in order to make sure the shoe bends where the toes bend—not in the middle of the arch or the middle of the foot itself. Stay away from super-cushioned shoes that allow overpronation.

## track



**brooks beast** (\$110)



**new balance 1121** (\$100)



**saucony grid stable III** (\$80)

Shoes courtesy of  
Just for Feet, Golden, CO



**adidas response** (\$80)



**mizuno wave switchback** (\$80)

**trail**



### ***NORMAL FOOT***

**Footprint:** The outline of a normal foot reveals a normal-sized arch. Your impression looks strangely like the state of Florida, minus the retirement communities. A broad strip connects the heel and forefoot

**Foot behavior:** The outside of your heel is first to contact the ground, followed by an efficient inward rolling motion. "The normal foot absorbs shock and usually demonstrates good biomechanics," says Thomas Cusumano, D.P.M., podiatric sports medicine specialist from New Jersey.

**Footwear:** Look for a shoe with a combination of motion control and shock absorption.



**asics gel cumulus**  
(\$80)



**mizuno wave rider** (\$90)

**track**



**nike international triax** (\$90)



**adidas response trail** (\$80)

**trail**



**mizuno wave switchback** (\$80)



### **HIGH-ARCHED FOOT**

**Footprint:** High-arched imprints illustrate a narrow strip linking the heel and forefoot.

**Foot behavior:** Generally speaking, a high-arch foot lacks shock absorption, says sports podiatrist Richard Braver, D.P.M. Since you tend to underpronate, the joints, ligaments and muscles of your foot are subject to additional injury-producing stressors.

**Footwear:** Shoes for the high-arched foot require good shock-absorbing properties. Cushioned shoes with plenty of flexibility will encourage foot motion. Stay away from motion-control or stability shoes that reduce foot mobility, cautions Dr. Braver.



**nike international triax** (\$90)

**track**



**mizuno wave rider** (\$90)



**new balance 750** (\$80)

## Shoe-related running injuries

As a species, humans are in a constant state of evolution. Consider yourself a work in progress, complete with many design flaws: low back pain, shin splints and foot problems, to name a few. In fact, the relatively small human foot is under constant stress to support your body weight. This means sore feet, calluses and fallen arches.

Now think of your body as a series of rigid, overlapping segments (your bones) connected by various joints. Movement at one joint influences other joints within the system. It's easy to see how the wrong shoe can affect your running style. "If your shoes fit poorly and cause pain, a subtle change in posture might reduce discomfort, which in turn, may result in pain somewhere else," explains Pennsylvania-based physical therapist Lisa Gemmel. In other words, the wrong shoe may be responsible for your nagging back. But don't take our word for it. Your doctor or physical therapist will get you on the road to recovery if you suffer from one of these common overuse injuries.

### CONDITION—ACHILLES TENDONITIS

*Feels like*—Burning, pulling sensation in the back of the heel.

*Remedy*—A quarter-inch heel lift will not only reduce stress on the Achilles tendon, but it may improve the fit of your shoe, says Gemmel. Remember to change your shoes frequently (350 to 500 miles) if you have discomfort.

Try this stretch, after your warm up activities: Place your hands on a wall. Assume a shoulder-width stance and position your left foot about 24 inches in front of your right foot. Now lean into the wall without raising your back heel from the floor. Hold for 30 seconds. Repeat on the opposite side.



### CONDITION—PLANTAR FASCIITIS

*Feels like*—Pain at the bottom of the foot, typically at the arch.

*Remedy*—Check out gel/soft inserts for your shoes. "You'll get some control but also cushioning—without having a rigid plastic shell pressing against the tender area of the foot," says Dr. Pribut. "It should bend where the toes attach to the foot—not in the arch." If pain persists, take a seven-day vacation from running. Ice the bottom of your foot for 20 minutes, several times each day, to control inflammation, says Gemmel.

Try this stretch: Sit on the floor and straighten your legs. Place a towel around the base of your left foot. Gently pull your toes toward your shin. Hold this position for 15 to 30 seconds. Repeat three times on both feet.

If you still have discomfort in three weeks, consult your physical therapist.



### CONDITION—SHIN SPLINTS

*Feels like*—Dull aching sensation in the front of the lower leg—usually tender to the touch.

*Remedy*—Perform the calf stretch featured above and shorten your stride when you run. "If you are not accustomed to running, some shin pain is expected but should pass as your body adapts to the stress," says Gemmel. Short-term relief involves ice and flexibility activities. Get motion control shoes and try this strengthening exercise: Sit at the edge of a bench or on a chair. Position a light dumbbell between your feet. Slowly raise and lower the dumbbell. Increase the weight when you can perform 3 sets of 15 repetitions with excellent form.



## CONDITION—ILIOTIBIAL (IT) BAND SYNDROME

*Feels like*—Pain around the outside of the knee.

*Remedy*—Your first line of defense is stretching. Try the Hip Abductor Stretch: Stand about an arm's-length away from a wall (the wall is on your left side). Cross your right foot behind the left ankle. Keep your right foot on the ground as you lean toward the left. You should feel the stretch on the outside of your right thigh. Breathe normally as you hold for 30 seconds. Repeat for the opposite leg.

Squats and lunges will strengthen the glutes and abductor muscles and may prevent future injury, says Gemmel. Consult your doctor if pain persists for more than two weeks.

## CONDITION—RUNNER'S KNEE (patelofemoral complex disorder)

*Feels like*—Aching toward the inside part of the kneecap.

*Remedy*—"Runner's knee usually results from weak quadriceps and tight hamstrings," says Dr. Lackey. To strengthen the quadriceps, perform a single-leg leg press. Assume a normal shoulder-width stance on the leg press machine. Carefully remove one foot from the machine. Bend your knee about 30-degrees from the start position. Repeat on both sides for three sets of 10 repetitions.

Try this hamstring stretch: Place your left heel on a bench or chair. Keep your back straight as you lean toward your left foot. Hold for 30 seconds. Repeat on both sides. See your doctor to rule out a more serious knee injury.



## socks

Knee-high cotton tube socks with running shoes made a fashion statement in the '70s. These days the retro combination will get you beat up on the playground *and* give you blisters. "Cotton socks don't pull moisture away from the foot," says Dr. Braver. Choose a sock with a synthetic wicking material, such as CoolMax. "Especially if you are plagued by moisture-control problems like athlete's foot or blisters," adds Braver. Remember to wear your choice sock when you try on the shoe—sock thickness will affect fit and thus function. We recommend these:



**thorlo jmx-13  
mini crew**



**ridgeview  
coolmax**



**thorlo lite  
running**



**new balance  
sport series**

