

Injury Prevention

Runner's Knee

Work these moves into your routine to help prevent runner's knee

Hamstring Stretch: Stand in front of a chair, bench, or high step and place your left heel on it. Keep your back straight and lean forward from the hips until you feel a stretch down the back of the leg. Hold for 30 to 60 seconds, switch sides, and repeat. Perform two or three stretches per leg.



Straight Leg Lifts: Lie down, bend your left knee, and plant your left foot on the ground. Take two to four seconds to raise and lower your right leg (30 to 60 degrees), keeping the knee relatively straight with a slight bend. Do 10 repetitions, switch legs, and repeat the sequence to complete one set. Work up to 10 sets of 10 reps each.



Side Stitches

Side stitches can be a major pain -- especially when they pop up during a hard workout or race. Published 09/21/2001

Definition:

A sharp pain usually felt just below the rib cage (though sometimes farther up the torso), caused by a cramp in the diaphragm, gas in the intestines or food in the stomach. Stitches normally come on during hard workouts or races.

Remedies:

If you get a stitch on your right side (which is more common), slow down for 30 seconds or so and exhale forcefully each time your left foot hits the ground. If the stitch is on the left, exhale hard when your right foot lands. Continue until pain recedes. If this doesn't help, try slow, deep "belly breathing" (your abdomen should go in and out with each breath). Or run with your hands on top of your head and your elbows back while you breathe deeply from your belly.

Another remedy is to take your fist and dig it under your ribcage, push the fist in with your other arm and bend your torso over almost to 90 degrees. Run like this for 10 steps. This stretches the diaphragm, and most stitches are caused by a spasm of the diaphragm. If none of these techniques work, stop and walk until the pain subsides.

And here's a no-brainer: to prevent stitches caused by food in the stomach, don't eat before you run.

Shin Splints: Treatment and Prevention

Experts agree that when shin splints strike you should stop running completely or decrease your training depending on the extent and duration of pain. Then, as a first step, ice your shin to reduce inflammation. Here are some other treatments you can try:

1. Gently stretch your Achilles if you have medial shin splints, and your calves if you have anterior shin splints. Also, try this stretch for your shins: Kneel on a carpeted floor, legs and feet together and toes pointed directly back. Then slowly sit back onto your calves and heels, pushing your ankles into the floor until you feel tension in the muscles of your shin. Hold for 10 to 12 seconds, relax and repeat.
2. In a sitting position, trace the alphabet on the floor with your toes. Do this with each leg. Or alternate walking on your heels for 30 seconds with 30 seconds of regular walking. Repeat four times. These exercises are good for both recovery and prevention. Try to do them three times a day. If you continue running, wrap your leg before you go out. Use either tape or an Ace bandage, starting just above the ankle and continuing to just below the knee. Keep wrapping your leg until the pain goes away, which usually takes three to six weeks. "What you're doing is binding the tendons up against the shaft of the shin to prevent stress," Laps says.
3. Consider cross-training for a while to let your shin heal. Swim, run in the pool or ride a bike.
4. When you return to running, increase your mileage slowly, no more than 10 percent weekly.
5. Make sure you wear the correct running shoes for your foot type specifically, overpronators should wear motion-control shoes. Severe overpronators may need orthotics. Have two pairs of shoes and alternate wearing them to vary the stresses on your legs.
6. Avoid hills and excessively hard surfaces until shin pain goes away completely, then re-introduce them gradually to prevent a recurrence.
7. If you frequently run on roads with an obvious camber, run out and back on the same side of the road. "If you don't do this, you'll always be putting stress on only one leg or one hip," says Laps. Likewise, when running on a track, switch directions.
8. If you are prone to developing shin splints, stretch your calves and Achilles regularly as a preventive measure.

A New Training Model: Building tough, durable runners from the ground up. By Jim and Phil Wharton From the August 2004 issue of Runner's World

The Wharton Performance Model, a training approach that improves performance and prevents injuries, is grounded on a foundation of flexibility and strength. Once this baseline is set, you can add the additional levels: cardiovascular endurance, sport-specific strength, skill development, mental preparation, and competition. (Rest, nutrition, and hydration are integral at every level.) If you were to create a pyramid based on your current plan, chances are your model would topple over. Most training plans skip the flexibility and strength phases--and this leads to injury. For example, a runner who jumps into speedwork or long runs before establishing a solid foundation won't be able to withstand the stress of the increased intensity or mileage. To prevent injuries, we recommend that runners adopt a daily flexibility plan (including range-of-motion exercises pre- and postrun) as well as a strength-training routine three times a week.

Hamstrings: Preventing hamstring injuries before they happen.

Hamstring: The hamstring muscle group tends to be a runner's weakest link. Imbalances in muscle strength among the hamstring muscles or between the hamstrings and the quadriceps and hip flexors can cause cramps, strains, or even tears. You can help stop problems before they start by incorporating this hamstring strengthening exercise into your training regimen. If you take this to the gym, be careful of machines that lock you into a fixed position. This doesn't allow natural tracking of the knee joint and can cause irritation. Pulley-cable machines are an alternative.

General Hamstrings: Lie on your stomach wearing an ankle weight. Bring your foot toward your buttocks by contracting your hamstring. Keep your hips flat and your toes pointing straight. Return to the start.

Inner Hamstrings: Without adjusting your position, point the toes of your exercising foot inward and repeat the same movement, keeping your hips flat and toe in. This isolates the inside of the rear thigh.

Outer Hamstrings: This time, turn the toes of your exercising foot out to isolate the muscle on the outside of your rear thigh.

Repeat each exercise 10 times on both legs.

Stretch Standing Up

Race locales aren't conducive to stretching (what, no comfy mats?), which is why we developed this standing routine. Prerace stretching pumps blood and oxygen to your muscles to increase their range of motion so they can perform well. After a race (ideally within 20 minutes of finishing), stretching flushes out waste products that accumulate in muscles and increases circulation to enhance recovery. Hold these stretches for two seconds; repeat 10 times on each side.

Outer Calf: Extend one foot in front of you, keeping your heel on the ground. Lean slightly forward, feeling the stretch in your calf, then return to the starting position.



Hamstring: Raise your knee so your thigh is parallel to the ground. Hold your hamstring. This is the starting position. Extend your leg forward; return to the starting position.



Quadriceps: Bend your knee and extend your heel back toward your butt. Hold your ankle with the hand on the same side. Keep your knees together. You can use a tree for balance.



Core: Put one hand behind your head with your elbow pointing out. Bend at your waist, lower your other arm down the side of your leg, then return to the starting position.



Hip Strength

Khalid Khannouchi, four-time Chicago Marathon winner, adopted our model after a hamstring injury kept him from training in 2002. Despite rest and rehab, his injury wasn't going away. That's because his therapy focused just on the hamstring when the real culprit was a weak adductor (inner thigh) muscle. We prescribed a series of flexibility and strength-training exercises, including the hip adductor strengthener below, which helped Khalid alleviate the problem.

Hip Adductor Strengthener: Lie on your side with your legs straight and an ankle weight on your bottom leg. Rest your top foot on a chair. Contract your inner thighs and bring your bottom leg up to meet your top leg, then lower to the starting position. Do 10 lifts on each leg.

How to Stretch Your Calf Muscles

Elastic, flexible calf muscles can soften the shock at the first point of impact--your foot and ankle region.

Gastrocnemius (outer calf): Sit with both legs straight. Loop a rope around the ball of one foot and grasp each end of the rope. Flex your foot back toward your ankle, toes toward your knee.



Soleus (inner calf): Sit with one leg straight and the other bent. Grasp the bottom of the foot on the bent leg. Keeping your heel on the ground, pull your foot toward your body as far as you can.



Achilles Tendon (attaches heel to calf): Sit with one leg straight and one bent. Bring your heel close to your buttocks. Keeping your heel on the ground, pull your foot toward your body.



The Importance of Strengthening Hip Rotators

Most runners don't realize the importance of strengthening their hip rotators until these muscles become a real pain in the butt. Weak hip rotators, which lie under the gluteal muscles, can put strain on the piriformis muscle, causing it to place irritating pressure on the sciatic nerve. Strong rotators stabilize the hips and maintain balance in the pelvic shift that occurs with each stride. These exercises will strengthen those muscles. Do 10 reps on each leg.

External Rotators: Wearing an ankle weight, loop a rope around the arch of one foot. Grasp the rope with the opposite side's hand. Rotate your leg toward your center. Go as far as you can, gently pull up on the rope, then return to the starting position.

Internal Rotators: Grasp the rope with the hand on the same side as your exercising leg. Rotate the lower part of your leg away from your center. Go as far as you can, pull up on the rope, then release.

Abdominals

A strong midsection supports a runner's torso to help maintain good form. It also limits extraneous side-to-side movements, which sap energy. While there are almost as many ab exercises as there are runners, there are only three moves necessary to build a strong, stabilizing system. Do two sets of 10 reps per exercise.

Upper Abs: Lie on your back, knees bent. Lock your feet under a heavy object. Fold your hands across your chest; tuck your chin. Roll up until you are upright. Hold for a second; roll down slowly.

Oblique Abs: This time, interlace your hands behind your head. Twist your torso to one side. Roll up slowly, leading with the elbow. Hold and then, still in rotation, roll slowly down. Alternate sides.

Lower Abs: Lie with knees bent, ankles together. Reach overhead; hold onto a heavy object. Bring your knees to your chest. Lift your knees toward the ceiling until you're up as far as you can go. Lower.