



Burning and tingling in the back of the thigh are signs of sciatica.

## Soothe Your Sciatica

These seven simple poses target the tight muscle that often causes sciatic pain. **By Doug Keller**

Sciatica has a long (and painful!) history. As far back as the 5th century BCE, doctors and sufferers alike have tried a host of imaginative remedies, from leeches and hot coals in Roman times to 20th-century use of creams and injections. The principle causes of sciatic pain are less mysterious than its heritage suggests, yet there are still millions who suffer from it. In 2005, the *Journal of Neurosurgery: Spine* estimated that more than 5 percent of the adult population in the United States suffers from sciatica, and over a lifetime, an individual has a 40 percent probability of experiencing it. But here's the good news: in many cases, a mindful, targeted yoga practice can help you overcome the pain.

By definition, sciatica is tenderness and pain anywhere along the sciatic nerve, typically showing up on one side of the body (see sidebar for symptoms). There are two sciatic nerves—one for each leg. These are the longest nerves in the human body. Each originates from several nerve roots that exit from the spinal cord, then thread through apertures in your sacrum and merge to form the main body of the sciatic nerve. The sciatic nerve passes between layers of the deep buttock muscles (gluteus medius and gluteus maximus), through the deep muscles of the back of the thigh, and down through the outer edge of your leg to your foot (Fig. 1).

### Finding the Cause

The presence of sciatic pain often leads doctors to look for a herniated disk in the lumbar spine, which may be pressing against the sciatic nerve. This is a significant problem, and it's especially important to have your disks checked out by a doctor if you are experiencing pain in your mid-lower back, painful

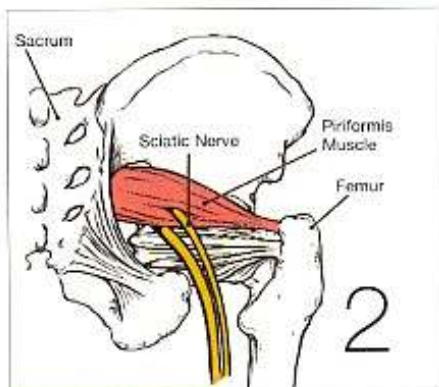


**1 THE SCIATIC NERVE** originates from the lower part of the spinal cord and runs between the buttock muscles all the way down your leg to your foot.

electric shocks down your sciatic nerve, and/or tingling, burning, weakness, or numbness in your legs or feet. These can be signs that an acute herniated disk is pinching the nerve, which is a bigger problem than sciatic pain alone.

Sciatica can also be caused by a small but significant muscle deep within your hip—the piriformis (Fig. 2). In fact, another 2005 study in the *Journal of Neurosurgery: Spine* showed that nearly 70 percent of sciatica cases are caused by this muscle. The piriformis is one of a few small deep hip rotators that you use to turn your thigh out. It also extends your hip when you walk, and abducts the thigh (i.e., takes it out to the side) when your hip is flexed. The sciatic nerve is sandwiched between the piriformis and the small hard tendons that lie against the bone of the sacrum and pelvic bone. If the piriformis is tight (and it often is), it exerts pressure on the sciatic nerve and pushes it against the tendons beneath it, which can cause excruciating pain; this is known as the *piriformis syndrome*.

How can you tell if the problem



**2 THE PIRIFORMIS** The sciatic nerve runs between the piriformis muscle and the tendons. If the piriformis is tight, it pushes the nerve into the tendons, causing sciatica.

originates in the piriformis? Here are a few indicators:

- Pain and a pins-and-needles sensation down the outside of your calf to the web space between the little and fourth toes.
- Difficulty walking on your heels or on your toes.
- Burning in the back of your thigh and calf down to your heel, with stiffness in your legs. (Note: In some cases this can signal a problem in the spine instead of the piriformis.)
- Pain from sitting, accompanied by a tingling sensation at the back of your thigh. The pain may be relieved by standing, but you still experience numbness in all of your toes even when standing.
- Buttock and sciatic pain from exercising or sitting for long periods of time, with or without sensations of numbness, weakness, or tingling. While the pain may appear during standing activities, it gets worse when you sit down.

## Symptoms of Sciatica

*Sciatica frequently flares up while bending over, running, sitting (especially driving) and during many other everyday movements, both active and passive. Symptoms can include:*

- Pain anywhere along the sciatic nerve pathway: in the lower back, buttock, back of the thigh, and/or calf.
- Fatigue, numbness, or loss of feeling in your legs and/or feet.
- An electric, tingling, burning, pinching, or pins-and-needles feeling known as *paresthesia*.
- Weakness that can cause your knees to buckle when you stand up from sitting.
- Foot drop: a condition in which you are not able to flex your ankles enough to walk on your heels.
- Reduced reflexes in your Achilles tendon and knee.

You can also try the **FAIR** test (in which the thigh is Flexed, Adducted, and Internally Rotated): Lie on your side with the affected leg on top (Fig. 3). Is it painful in your hip to have the top leg bent with the knee resting on the floor in front of you? Does it hurt especially when you try to lift your knee away from the floor against a small amount of resistance, such as a bag of rice? Sharp pain in the hip is a sign that the piriformis may be causing the sciatica. >>



**3 SCIATICA TEST** If you feel sharp pain in the hip of the bent knee, the piriformis muscle may be causing the sciatica.

## How Yoga Can Help

If the source of your sciatica is a herniated or bulging disk, a yoga practice that progresses from gentle poses to basic foundational asanas like standing poses and downward-facing dog will align, lengthen, and strengthen your lower back. A herniated disk does not always require surgery, and yoga can help you manage and reduce the problems caused by the herniation, sometimes even reducing the herniation itself. However, it's important to check with your doctor about the severity of the herniation: in some cases surgery may be required.

If the source of your sciatica is pressure on the nerve due to a short, tight piriformis, focus on stretching this muscle. Your approach should be gentle and progressive, since overworking the piriformis may lead to spasms and deep buttock pain, which may or may not be accompanied by sciatic pain.

### The Basic Piriformis Stretch:

#### Ardha Matsyendrasana

A simple half spinal twist (*ardha matsyendrasana*) gives the piriformis a mild stretch that encourages it to release and lengthen, and the intensity can be progressively increased as you approach the full pose. Stretching the muscle too aggressively can provoke sciatic pain, so it's important to proceed carefully, using the following variations and adjusting the pose so that you feel minimal discomfort. The descriptions are intended to stretch the piriformis in the left hip; be sure to repeat on the other side.

#### Prep for Spinal Twist

Sit on the corner of a folded blanket with your knees bent and your feet on the floor in front of you. Take your right foot under your left knee and around to the outside of your left hip. Your right knee should point straight forward. For the mildest hip stretch, place your left foot on the floor to the inside of your right knee, so that the left foot is roughly in line with your left hip; for a stronger stretch, place your left foot to the outside



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**SEATED TWIST PREP** With your right knee pointing forward and your left foot in line with your right hip, lean slightly to your left. This will distribute your weight equally onto both sit bones.

of your right knee (Fig. 4). It's likely that your left sit bone is now lighter on the floor than your right. Lean onto your left sit bone to balance the weight between the two hips; this is the beginning of the stretch. Steady yourself by holding your left knee with your hands, and from this balanced foundation, inhale and lengthen upward through your spine. If the stretch is too intense or if you feel pain radiating down your leg, increase the height of the padding under your hips until the stretch is tolerable.

If you don't feel a stretch in your left hip, gently pull your left knee across the midline of your body toward the right side of your chest, keeping your sit bones equally grounded, and resist your thigh slightly against the pull of your hands. This action will help keep your sit bone grounded and increase the stretch to the piriformis.

Stay in the pose anywhere from 20 seconds to a couple of minutes, then repeat on the other side. Do two to four sets at a time. As your piriformis muscles stretch out over time, gradually decrease the height of your blankets until you can sit on the floor.

#### Simple Seated Twist

In the full version of *ardha matsyendrasana*, your upper body turns toward



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**SEATED SPINAL TWIST** As you twist gently draw your left knee toward your right chest and resist the pull by pressing your knee into your hand.

the upright knee. To help your upper body turn fully, place your left hand on the floor behind you; continue to hold your left knee with your right hand (Fig. 5). Keep your heart lifted and keep the natural inward curve in your lower back. Use your inhalation to lift, lengthen, and expand; use your exhalation to twist without rounding your back.

Now you can deepen the action on the piriformis by increasing the resisted abduction of the thigh, while releasing any tightness in the groin. As you twist, use your hand on your left knee to gently draw or hug that knee toward your chest. Let your inner thigh or groin relax, allowing it to soften and melt downward toward the sit bone. As you draw the knee toward your chest with resistance, your thigh bone laterally releases out at the hip, pressing against the piriformis and encouraging it to release.

The twist deepens as you draw your knee into your elbow or take your upper arm to the outside of your knee. At this point, as you press your knee against the arm to leverage a deeper twist, the pose becomes more active in the hip and less effective as a piriformis release. If you're suffering from piriformis syndrome, you certainly don't want to tighten this muscle further, so it's best not to try to go so deeply into the twist! >>

### Standing Twist

The standing twist is a milder standing version of the stretch in ardhha matsyendrasana. Like the FAIR test, it brings the thigh into adduction and internal rotation. Place a chair against the wall. To stretch your right hip, stand with your right side next to the wall. Place your right foot on the chair, with your knee bent to roughly 90 degrees. Keep your standing leg straight, and steady your balance by placing your right hand on the wall. Lift your left heel up high, coming onto the mounds of the toes, and turn your body toward the wall, using your hands for balance (Fig. 6). As you exhale, lower your left heel to the floor, maintaining the twist. Allow your right hip to descend, keeping your hips relatively level. Hold for several breaths.

*Doug Keller's yoga journey includes 14 years of practicing in Siddha Yoga ashrams, intensive training in the Iyengar and Anusara methods, and nearly a decade of teaching in the U.S. and abroad.*

### More Stretches for Sciatica

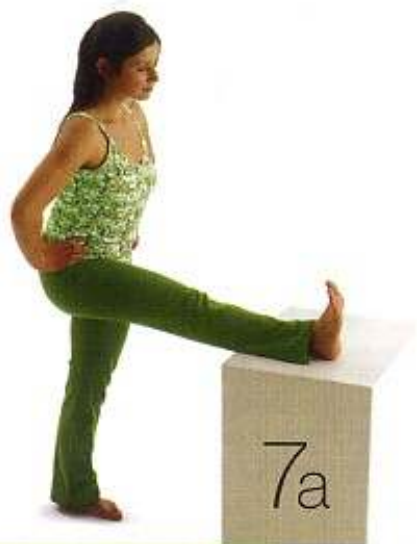
Hamstring stretches also play an important role in relieving sciatic pain, because tight hamstrings can gang up with a tight piriformis to constrict the vulnerable sciatic nerve. Sciatic pain caused by a tightening of the hamstrings and surrounding muscles often comes from activities such as driving for long periods, especially when the car seat encourages a slumped or rounded posture, or during athletic activities. In these cases, take a rest stop or a break, and try the following hamstring stretches.

### Standing Hamstring Stretches

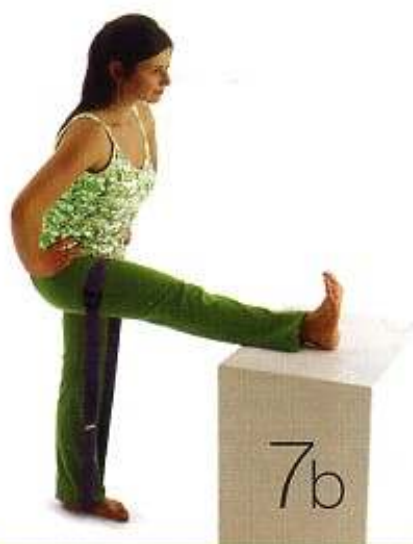
Put your right foot on a support such as a chair, a table, or a bench. Your foot should be at or below hip level, with your leg straight, your knee and toes pointing straight up, and your quadriceps engaged (Fig. 7a). If your knee tends to lock or hyperextend, protect it



**STANDING TWIST** Turn to the right and, using the wall for balance, lift your left heel off the floor. As you exhale, lower your heel to the floor and allow your right hip to fall in line with your left hip.



**HAMSTRING STRETCH** Keep your right knee pointing upward, your quadriceps engaged, and your hips level. To deepen the stretch, bend forward from the hips.



**HAMSTRING STRETCH WITH BELT** To help draw the left hip down in line with the right hip, loop a belt around the top of the right thigh and under the left foot.

with a microbend. Make sure the hip of your raised leg is not lifted, but rather is releasing downward (without the leg or foot turning outward). Hold for several breaths, repeating on each side. For a deeper stretch, bend forward over your leg at the hip crease, with your spine and leg straight and your quadriceps firm.

To help the descent of the right hip, loop a belt around the top of the thigh of the lifted leg and the foot of your standing leg (Fig. 7b). Tighten the belt or pull gently downward on the belt at your outer hip to help draw the thigh bone down. You can alternate legs or concentrate on the affected side. Hold for a few breaths.

#### Helpful Hip Openers

In general, sciatic pain is helped by poses that *passively* stretch the hip with the thigh externally rotated, but not from poses such as *baddha konasana* (cobbler's pose) which *actively* rotate the thigh outward and thus tighten the deep hip rotators.

#### Modified Gomukhasana

*Gomukhasana* (cow's face pose) is a good example of a passive stretch to the hip rotators. Sit on the floor and extend your legs forward in *dandasana* (staff pose). If you have trouble sitting upright, you can sit on the edge of a blanket, but also keep a second blanket or a towel nearby. Bend your right knee and bring your right leg over and across your left leg. Use your hand to draw your right foot close to your outer left hip. Move your left foot across the midline to the right. Using your hands on the floor, lift and wiggle your hips until your knees are stacked, with your right knee above your left.

If you are sitting on a blanket, or the back of your left leg is not touching the floor, or your left knee locks or hurts during the stretch, roll up your second blanket or the towel and place it under your left knee for support. Hold your right foot in place with your left hand. As you breathe in, lift and lengthen through your spine to the crown of your head; as you exhale, fold forward at the

hip crease, bringing your chest toward your knee, keeping your neck long and relaxed (Fig. 8). Move as if you are bringing your navel toward your knee and keep your spine extended.

You'll probably feel the most stretch along the outer edge of the straight leg, along the outer hamstring and calf, as well as a milder stretch in your right hip. Keep your quadriceps engaged to help the hamstrings release. To increase the stretch in your outer right hip, turn your chest slightly to the right. Extend through the mound of the big toe and inner heel of the straight leg, so that the little toe side of the foot draws slightly back, firming the outer shin. Keep the toes pointing directly upward. If you can, hold the outer edge of your left foot with your right hand—but don't pull back too strongly, since this will jam your outer knee and hip. Hold for anywhere from several breaths to a minute or more, and repeat on the opposite side. >>



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#### MODIFIED GOMUKHASANA

As you inhale, lengthen through your spine. As you exhale, bend forward from the hips.

### King Pigeon Hip Stretch

*Raja kapotasana* (king pigeon pose) is the strongest of the piriformis stretches. Bring yourself only to the edge of the stretch, so that you can remain there, breathe, and allow the piriformis to release. Start on your hands and knees. Bring your right knee forward and out to the right. Bring your right foot forward as well, until your heel is in line with your left hip and your shin is at about a 45-degree angle. Keep your foot flexed to protect your knee. To stretch the right piriformis, lean your upper body forward, tuck your left toes under, and slide or walk your left leg straight back, allowing your right thigh to rotate out passively as your hip descends toward the floor (**Fig. 9**). Keep your hips level to the floor and square to the front of the mat; don't let your pelvis turn or fall to one side. Support your right hip with a blanket if it does not reach the floor,



**PIGEON POSE** Move your right heel in line with your left hip, and your shin to a 45-degree angle. Keep your front foot engaged to protect the knee.

and remain in the pose for anywhere from several breaths to a minute. Experiment with leaning your upper body forward over your shin, and with bringing your torso more upright to vary the stretch to the hip.



**STANDING PIGEON POSE** Keep your hips level and square to the front of the room as you draw your navel toward your bent leg.

If you find this pigeon pose stretch too intense or difficult, try a variation: Place your right leg up on a table and lean forward, using your hands on the table for balance, as you walk your left foot back (**Fig. 10**). ■