

- **Straight leg raises for your quadriceps.** Lie on your back with the leg you are going to exercise straight. Bend your other knee and rest that foot on the floor next to your straight leg. Tighten the quadriceps muscles of your straight leg and lift the leg 10 inches off the floor, hold it for 5 seconds, then slowly lower the leg back down and rest a few seconds. Do 8 to 12 repetitions, 2 times a day. You can add light ankle weights as you become stronger. See the picture below.

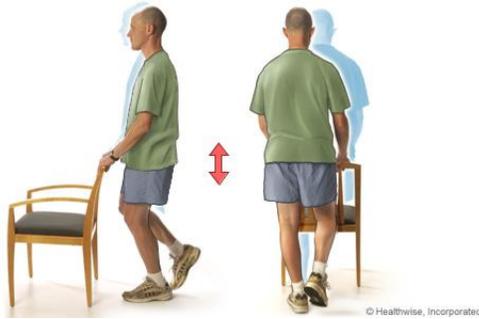


- **Straight leg raises for other muscles.** To do an inner thigh lift, lie on your side with the leg you are going to exercise on the bottom and your other foot up on a chair. To do a side leg lift, lie on your side with the leg you are going to exercise on top. To do a gluteal lift, lie on your belly. For each of these exercises, tighten your thigh muscles then lift your leg straight up away from the floor. Hold for 5 seconds, slowly lower the leg back down, and rest a few seconds. Do 8 to 12 repetitions, 2 times a day. You can add light ankle weights as you become stronger. See the pictures below.



- **Other quadriceps exercises.** Do only "closed-chain exercises," those in which the sole of your foot is pushing against something, such as quarter squats. Using your thigh muscles, extend your leg slowly from 30 degrees to 0 degrees (straight leg) and back again, also slowly. Do 8 to 12 repetitions, 2 times a day. You can do the same exercise by standing on a step on the leg you want to exercise and letting your other leg hang down off the step. Slowly bend your knee so the foot hanging down moves down toward the floor, then slowly straighten your knee again. See the pictures below.



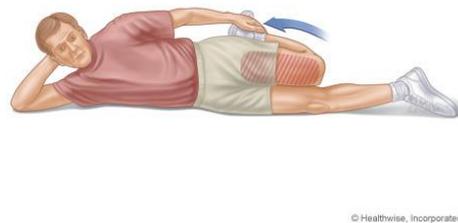


- Hip strengthening.** The muscles on the outside of your hip lift your leg out to the side, but they also help stabilize your knee. To strengthen these muscles, stand on the leg you want to exercise and raise your other foot slightly off the floor. Hold on to a chair or counter if you feel unsteady. Keeping your hips level, slowly bend the knee of the leg you are standing on, hold 5 seconds, then straighten your knee. Do 8 to 12 repetitions, 2 times a day. See the picture to the left.

Flexibility exercises

Tight muscles, tendons, and ligaments can be one cause of patellar tracking disorder. Tightness in these structures keeps the patella from moving normally as you bend and straighten your knee, or can keep the patella pressed too tightly against your thighbone.

- Quadriceps stretch.** To stretch the whole group of quadriceps muscles, your hip has to be straight while you stretch. If you are steady on your feet, stand holding a chair, counter, or wall. Bend the knee of the leg you want to stretch and grab the front of your foot with the hand on the same side (for example, if you're stretching the right leg, use the right hand). Keeping your knees next to each other, pull your foot toward your buttocks until you feel a gentle stretch across the front of your hip and down the front of your thigh. Your knee should be pointed directly to the ground, and not out to the side. Hold the stretch for at least 15 to 30 seconds. Repeat 2 to 4 times. You can also lie on your stomach or your side to do this exercise. See the pictures below.



- Hip rotator stretch.** Lie on your back with both knees bent and your feet on the floor. Put the ankle of the leg you are going to stretch on your opposite thigh near your knee. Push gently on the knee of the leg you are stretching until you feel a gentle stretch around your hip. Hold the stretch for at least 15 to 30 seconds. Repeat 2 to 4 times. See the picture to the right.



- **Hamstring stretch.** Your hamstrings are at the back of your thigh. To stretch your hamstrings, lie on the floor on your back and bend the leg you want to stretch. Use both hands to grasp your leg behind your thigh. Slowly straighten your knee to feel a gentle stretch at the back of your leg. Another way to do this exercise is to lie on the floor near a doorway, with your buttocks close to the wall. Let the leg you are not stretching extend through the doorway. Put the leg you want to stretch up on the wall and straighten your knee to feel a gentle stretch at the back of your leg. You can also do this exercise standing up if you are steady on your feet. Stand and lift the leg you want to stretch, then hold it with both hands just above your knee. Your foot will be hanging down. Extend your knee to lift your foot until you feel a gentle stretch behind your knee. Hold the stretch for at least 15 to 30 seconds. Repeat 2 to 4 times.



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- **Iliotibial band and buttock stretch.** Sit on the floor with your legs out in front of you. Bend the knee of the leg you want to stretch and put that foot on the floor on the outside of the opposite leg. (Your legs will be crossed.) Twist your shoulders toward your bent leg and put your opposite elbow on that knee. Push your arm against your knee to feel a gentle stretch at the back of your buttocks and around your hip. Hold the stretch for at least 15 to 30 seconds. Repeat 2 to 4 times. See the picture to the left.

- **Iliotibial band stretch.** The iliotibial band runs down the outside of your leg and helps stabilize the patella. If it is tight, it can pull the patella toward the outside of your leg. To stretch it, stand with your legs crossed over one another and your feet side by side. The leg you want to stretch should be in back. Bend over and stretch toward your toes until you feel a gentle stretch in the back and outside of your leg. Hold the stretch for at least 15 to 30 seconds. Repeat 2 to 4 times. See the picture to the right.



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- **Calf stretch.** Stand facing a wall with your hands on the wall at about eye level. Put the leg you want to stretch about a step behind your other leg. Keeping your back heel on the floor, bend your front knee until you feel a stretch in the back leg. Hold the

stretch for at least 15 to 30 seconds. Repeat 2 to 4 times. See the picture below.