

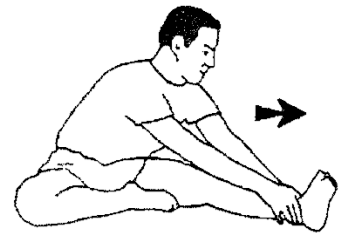
# Patellofemoral Exercises

For patellofemoral pain syndrome (PFPS), the quadriceps and hamstring stretches, quadriceps isometrics, straight leg raise, quadriceps wall slide, steps, iliotibial band stretches, and side lying leg raise exercises are very helpful.

## STRETCHING

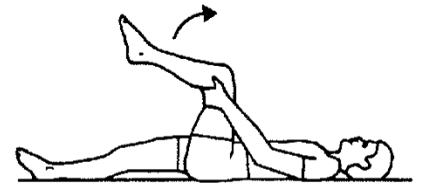
### Sitting Hamstring Stretch

- With the knee kept straight lean forward reaching for your foot feeling the stretch in the back of the thigh. You may feel some discomfort, but there should be no sharp pains.
- Hold this position for 15-20 seconds.
- Slowly relax and return to the starting position. This is one repetition.
- Do at least 2 sets of 5 repetitions on each leg, a day.



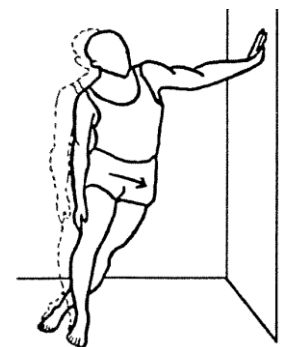
### Active Hamstring Stretch

- Lie on your back and bring the thigh up to a perpendicular position holding it with your hands.
- Slowly straighten the knee by contracting the quads and feel the stretch in the back of the thigh.
- Hold for 15-20 seconds.
- Repeat 5 repetitions 2 times a day.



### Side-Leaning Iliotibial Band Stretch

- Standing with the side you are planning to stretch near a wall, cross your uninjured leg in front of the leg you are planning to stretch, distributing your weight evenly between the two feet.
- Using the hand closest to the wall for support, lean your hips into the wall, feeling a stretch on the side of your hip.
- Hold this position for 15-30 seconds.
- Slowly relax and return to the starting position. This is one repetition.
- Do at least 2 sets of 3 repetitions on each leg, a day.



*If you have any problems or questions,  
please call your doctor's office (8am-5pm).*

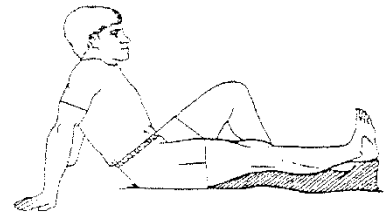
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## STRENGTHENING

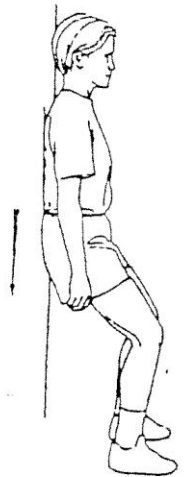
### Straight Leg Raise

- Lying on your back with your hips and knees straightened, contract the muscles in the front of the thigh you are planning to strengthen, lifting the heel about 8 inches off the floor.
- Hold this position for 15-30 seconds, keeping the thigh muscles tight.
- Slowly relax and lower the leg back to the floor.
- Repeat on the other side. This is one repetition.
- Do at least 3 sets of 10 repetitions a day.



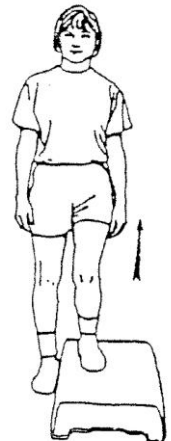
### Quadriceps Wall Slide

- Stand with the back of your head, shoulders, back, and hips against a wall. Place your feet one shoulder's width apart and about 1 foot away from the wall. (As a guide, you may also place a rolled-up pillow or soccer ball between your knees.)
- Keeping your head against the wall, but your neck and shoulders relaxed, slowly slide your back and hips down towards the floor. Tighten the muscles in the front of your thigh and those in your buttocks.
- Continue to lower your body until your thighs are parallel to the floor.
- Hold this position for 10-30 seconds.
- Slowly raise your body back up to the starting position, keeping your thighs and buttocks tight the whole way.
- Relax and take a deep breath. This is one repetition.
- Do 3 sets of 10 repetitions a day.



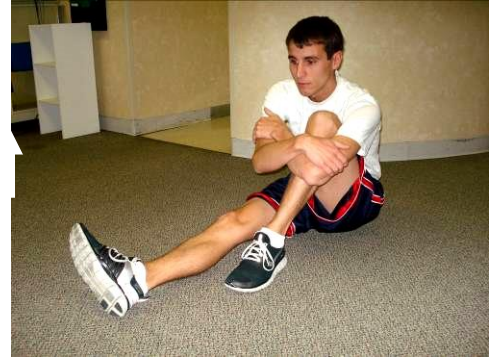
### Steps

- Stand in front of a set of stairs, and slowly step up onto the first step with the leg you plan to exercise.
- Once both feet are on the step, slowly step back down, keeping your weight on the exercising foot, on the first step.
- Relax and take a deep breath. This is one repetition.
- Do 3 sets of 10 repetitions, on each leg, a day.



## Modified Straight-Leg Raises (Muncie method)

- Sit on the floor with the knee you are planning to exercise straightened. Bend the non-exercising knee so that the foot is flat on the floor and about even with the exercising knee.
- Give the raised knee a hug, lean forward, and turn the exercising leg out slightly so that your big toe points to the 2 o'clock position.
- Raise the exercising leg slowly about 1 inch off the ground by tightening the muscles in the front of your thigh, keeping the knee straight.
- Hold this position for 5 seconds.
- Slowly return your legs to the starting position relax and take a deep breath. This is one repetition.
- Do 20 good repetitions each day.
- Note that the closer your chest is to the thigh the harder the exercise.



Excerpted from the premier patient guide to sports injuries, *100 Questions & Answers About Your Sports Injury*. Howard TM, **Ho GWK**, Lewis J. *100 Questions & Answers About Your Sports Injury*. Sudbury: Jones and Bartlett Publishers 2008.