

# Posterior Cruciate Ligament Injury Exercises

Your provider or physical therapist will determine which exercises will best help you and show you how to do them correctly and safely. Do only those exercises prescribed until you are cleared to do more. The initial goals following PCL injury are to protect the injury, decrease pain and swelling, and activate your front thigh muscle. If you are using crutches, follow the weaning schedule recommended by your practitioner. You may do the first 6 exercises right away. When most of the swelling is gone and you can put a little more than half your body weight on the injured leg, begin the next section. Walking downhill should be avoided until cleared by your provider.

- **Ankle pumps:** This exercise may be started right away. It can be done lying down or sitting down. In fact, it is a great exercise to do when you are sitting doing something else. Point the toes of one foot downward as far as you can by bending at the ankle. At the same time, point the toes of the other foot upward as far as you can. Alternate left and right for 50 reps. If you are doing it right, your calf muscle and front leg muscle will feel tired as you near rep number 50.
- **Quad sets:** Sit on the floor with your injured knee straight and your other knee bent. Press the back of the knee of your injured leg against the floor by tightening the muscles on the top of your thigh. Hold this position 10 seconds. Relax completely. Do 2 sets of 15.
- **Short-arc quad sets:** Lie on your back on a firm surface with a foam roll or large rolled-up towel under your knees. Lift the lower part of one leg until your knee is straight. Keep the back of your knees on the foam roll or towel. Hold your knee straight for about 5 seconds. Allow the knee to bend and lower your heel back to the bed or floor. Alternate right and left until you have done 10 repetitions on each side.
- **Seated quad sets:** Sit in a straight-back chair with your injured knee bent at a 90-degree angle. Try to tighten the top of your thigh muscles without moving your leg. Hold for 10 seconds. Do 2 sets of 15.
- **Straight leg raises:** Lie on your back with your legs straight out in front of you. Bend the knee on your uninjured side and place the foot flat on the floor. Tighten the thigh muscle on your injured side (quad set) and lift your leg about 8 inches off the floor. Hold for 5 seconds. Keep your knee straight and your thigh muscle tight. Slowly lower your leg back down to the floor. Relax completely after each rep. Do 10 repetitions and repeat for the other side.
- **Side lying hip abduction:** Lie on your uninjured side. Tighten the front thigh muscles on your injured leg and lift that leg 8 to 10 inches (20 to 25 centimeters) away from the other leg. Keep the knee straight and lower it slowly. Keep your hips stacked, your toes pointed forward, and your leg in line with the rest of your body. Do 10 repetitions and repeat for the other side.

The goal of this next section is to begin working on strength and balance. Avoid hamstring strengthening until at least 12 weeks after injury.

- **Exercise bike:** If you have access to an exercise bike, you may use it once your range of motion has nearly returned to normal.

- **Double-leg calf stretch:** Stand with the balls of your feet on a block of wood such as a 2X4. Hold onto something for balance. Lean forward until you feel a stretch in your calf muscles. Hold for 15 to 30 seconds. Repeat for 3 reps. You may feel more of a stretch on one side than the other.
- **Double-leg toe stand:** Stand with the balls of your feet on a block of wood such as a 2X4. Hold onto something for balance. Lift your heels off the floor by raising up on your toes. Lift your heels as high as you can and slowly lower your heels back to the floor. Try to use your arms only for balance.
- **Single-leg partial squat:** Stand on your injured leg with hands on hips, toe pointed straight forward (you may hold onto something for balance if needed). Squat down on your injured leg as deep as possible driving the hips back and maintaining good form. Make sure the knee is aligned with the toe and that your back doesn't round or excessively arch. Do not allow the knee to collapse inward or the hips and torso to rotate. Repeat as many repetitions as you can with perfect form up to 10.
- **Knee stabilization:** Wrap a piece of elastic tubing around the ankle of your uninjured leg. Tie a knot to the other end of the tubing and close it in a door at about ankle height.
  - A. Stand facing the door on the leg without tubing (your injured leg) and bend your knee slightly, keeping your thigh muscles tight. Stay in this position while you move the leg with the tubing (the uninjured leg) straight back behind you. Do 2 sets of 15.
  - B. Turn 90 degrees so the leg without tubing is closest to the door. Move the leg with tubing away from your body. Do 2 sets of 15.
  - C. Turn 90 degrees again so your back is to the door. Move the leg with tubing straight out in front of you. Do 2 sets of 15.
  - D. Turn your body 90 degrees again so the leg with tubing is closest to the door. Move the leg with tubing across your body. Do 2 sets of 15.

Hold onto a chair if you need help balancing. This exercise can be made more challenging by standing on a firm pillow or foam mat while you move the leg with tubing.

- **Wall squat with a ball:** Stand with your back toward a wall. Look straight ahead. Your feet should be 2 to 3 feet (60 to 90 centimeters) from the wall and shoulder width apart. Place a Swiss ball behind your back. If you do not have one a soccer or basketball-sized ball may be used. Keeping your back against the ball, slowly squat down to a 45-degree angle. Do not exceed this angle. Your thighs should not be parallel to the floor. Try to keep your knees aligned over your second toe as you bend them. Hold this position for 10 seconds and then slowly slide back up the wall. Repeat 10 times. Build up to 2 sets of 15. Once you have mastered this, move on to squats without the ball and wall.
- **Step-up:** Stand with the foot of your injured leg on a support 3 to 5 inches (8 to 13 centimeters) high, such as a small step or block of wood. Keep your other foot flat on the floor. Shift your weight onto the injured leg on the support. Straighten your injured knee as the other foot comes off the floor. Return to the starting position by bending your injured knee and slowly lowering your uninjured leg back to the floor. Do 3 sets of 15.

- **Golfer's lift:** Stand on the foot of your injured leg and bend your knee slightly. Reach down with your hand as if to pick up a water bottle. Do this by bending at your hips and keeping your back flat. Extend your other leg behind you to help you balance, without bending your injured knee further. Hold on to a chair if you need extra support. Repeat 15 times. Do 2 sets of 15. To make the exercise more challenging, reach lower as if to pick up a golf ball.

If you have access to a wobble board, do the following exercises:

- **Wobble board clock and rotation exercises:**

Stand on a wobble board with your feet shoulder-width apart. Imagine you are standing on the face of a clock with your toes pointing toward 12 o'clock and your heels pointing toward 6 o'clock.

- A. Balance on the wobble board for as long as you can without letting the edges touch the floor. Try to do this for 2 minutes without touching the floor.
- B. Rock the board from 12 o'clock to 6 o'clock 30 times. Try not to bend at the waist as you move to 6 o'clock. Next, rock from 9 o'clock to 3 o'clock 30 times. Allow the "uphill" knee to bend. Try other combinations like 10 o'clock to 4 o'clock, or 2 o'clock to 8 o'clock. Hold on to a chair if you need support. As you get stronger and your balance improves, try without the chair for support.
- C. Rotate the wobble board in clockwise and counterclockwise circles, but do not let the edge of the board touch the floor. As you rotate, you will notice that your entire body will turn in the direction opposite of your rotation. This is normal.
- D. Rotate the wobble board around so that the edge of the board is in contact with the floor at all times. Do this 30 times clockwise and then a counterclockwise direction.

When you have mastered the wobble exercises standing on both legs, try repeating them while standing on just your injured leg. After you are able to do these exercises on one leg, try to do them with your eyes closed. Make sure you have something nearby to support you in case you lose your balance.

*This content is reviewed periodically and is subject to change as new health information becomes available. The information is intended to inform and educate and is not a replacement for medical evaluation, advice, diagnosis or treatment by a healthcare professional.*

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Quad sets



Seated quad sets



Golfer's lift



Knee stabilization: A



Knee stabilization: B



Knee stabilization: C



Knee stabilization: D



Straight leg raise



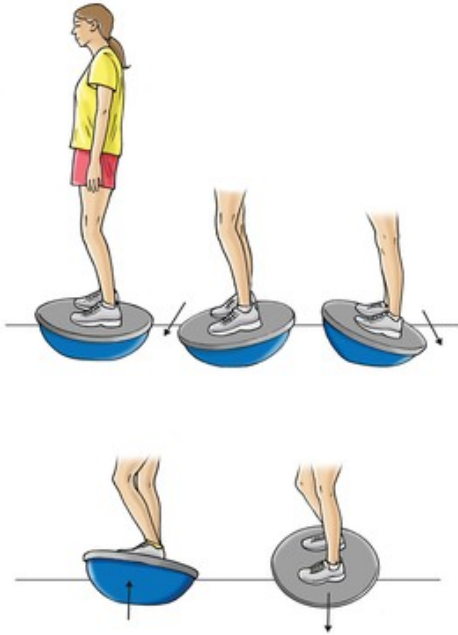
Wall squat with a ball



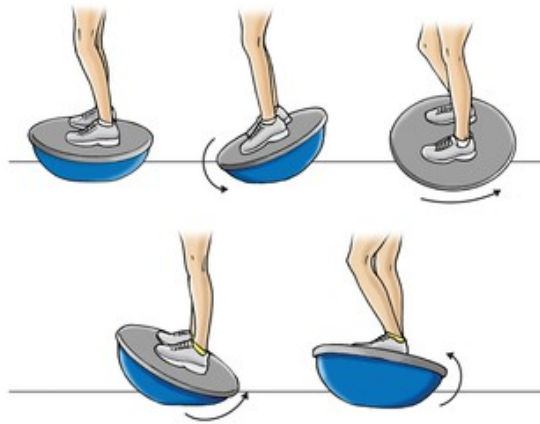
Step-up

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# Wobble Board Exercises



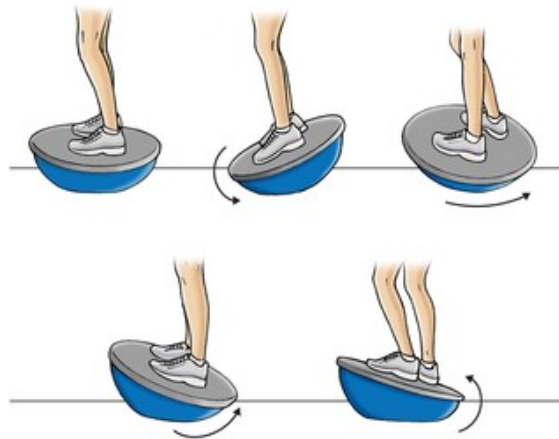
Wobble board exercise A



Wobble board exercise B



Wobble board exercise C



Wobble board exercise D

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