

Your Injury

Patellofemoral pain syndrome is a condition which affects the knee cap (patella) and the structures which support it, as it passes up and down the groove in the thigh bone, during bending and straightening of the knee. Pain is caused because the patella no longer tracks correctly up and down the groove; this places greater strain on the supporting structures and the joint surfaces. This mal-tracking of the patella may be caused by a number of factors such as the alignment of your lower limb during movement, weakness in the quadriceps and lack of flexibility in the muscle of the leg. Your rehabilitation exercise programme aims to address these problems.

Warm up & Warm Down

When injured it is particularly important that you warm up with a fast walk (at a pain free pace) for 3-4 minutes before you start your exercises. This increases your circulation and helps prepare your muscles for the activity to come. When you have finished your exercises it is also important to allow your heart rate to slow down and gradually by ending the session with a gentle walk for 3-4 minutes.

Your Rehabilitation Programme

Your home exercise programme has specific exercises to stretch tight muscles, strengthen the quadriceps and correct lower limb alignment in order to improve the tracking of your patella. In order to achieve proper rehabilitation of your injury it is important to ensure the exercises are performed with good technique. Poor practice leads to poor performance and potential strain on your injury.

Stretching Exercises

Guidance for stretching exercise

Hold all the stretches for 20 seconds each and repeat them three times on each leg.

1. **Gastrocnemius stretch**

Facing the wall with feet pointing forwards and heels in contact with floor. Bend the front knee and straighten the back one keeping your head up and pelvis/hips forward and maintain neutral foot position.

2. **Soleus stretch.**

Bend your back knee to stretch the soleus muscle.

3. **Quadriceps stretch.**

Lying on your front, bend one knee, grasp the ankle and draw the heel towards your bottom. Do not allow the lower back to over-hollow.

1. **Hamstring stretch.** Lying on your back, bend one knee and hip to 90°, support the thigh at 90° and straighten the leg until you feel a stretch at the back of your thigh, maintain the hip at 90°.
2. **Iliotibial muscle stretch.** Stand side onto a wall with the affected leg closest to the wall. Place your arm on the wall for support and cross the affected leg behind the other. Lean your hips towards the wall. Keep your spine and pelvis in a neutral position.

Strengthening Exercises

Progress from exercise 1 to exercise 12. Repeat 3 sets of 10 reps.

1. Static squat against wall.
2. Mini-squat on both legs with support.
3. Mini-squat on both legs without support.
4. Mini-squat on both legs with a weight.
5. One leg mini-squat with support.
6. One leg mini-squat without support.
7. One leg mini-squat with weight.
7. Step up.
8. Step up with weight.
9. Step down.
10. Step down with weight.
11. Hop.