

# Knee Pain

**Children's Physiotherapy Service**

**Specialist Services Unit  
(Cambridgeshire)**



## What is Patello Femoral Syndrome

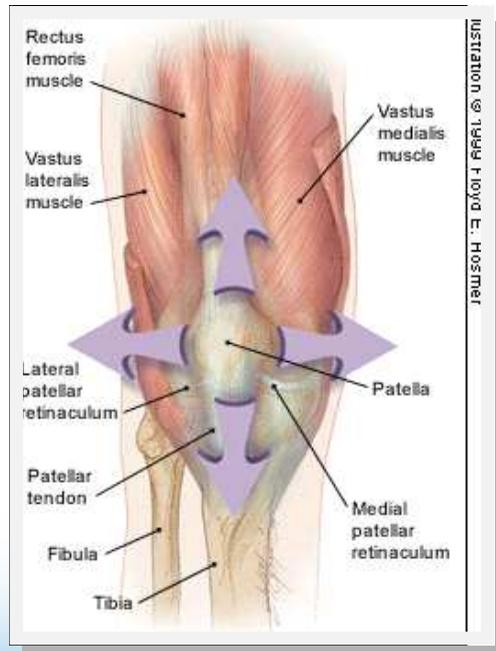
Patello-Femoral pain is usually caused by irritation of the kneecap (patella) and the bone underneath (femur).

The irritation can be caused by the patella not moving on the femur correctly when you bend and straighten your knee. It should stay centred and move up and down in a groove. If it does not it can cause pressure to one part of the underside of the kneecap.

This can be due to tight muscles that attach onto the outside of the kneecap that can pull it to that side/or weak muscles on the inside of the kneecap that allow it to be pulled.

Weak muscles around the tummy (core) and hip (bottom) muscles can also alter the position that the knee falls into when walking and running and alter the position of the foot. This can lead to more pressure on one side of the knee causing pain.

Other causes may be related to your bones growing, however your physiotherapist will discuss this in more details with you if needed.



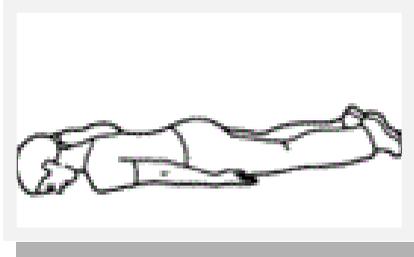
## Gluteal Exercises

Your gluteal muscles help push you along when you walk or run, they work with the other muscles down the back of your leg.

**1a Start Position:** Lie face down with the hips and back relaxed.

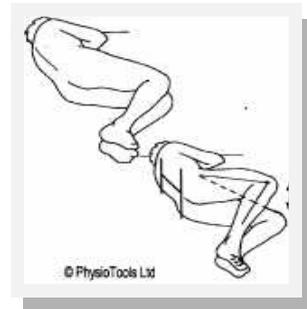
**Action:** Pull your tummy up and in, and gently squeeze your bottom to flatten the lower back.

Hold for 10-20 seconds and then relax.  
Repeat \_\_\_\_ times



**1b Start Position:** Lie on your side with your pelvis slightly rolled forwards, your hips flexed to approximately 45 degrees and your knees bent.

**Action:** Leaving your heels together, slowly lift the top knee by turning the hip out without letting the back or pelvis twist. Stop when you feel your beginning to twist. Hold this position with minimal effort. Hold for 10-20 seconds.  
Repeat \_\_\_\_ times- left and right.



**1c. Start position:** Lie on your back with your knees bent and feet flat on the floor.

**Action:** Squeeze your tummy muscle and bottom and lift your bottom off the mat.  
Hold 10 seconds.  
Repeat \_\_\_\_ times

### Progression:

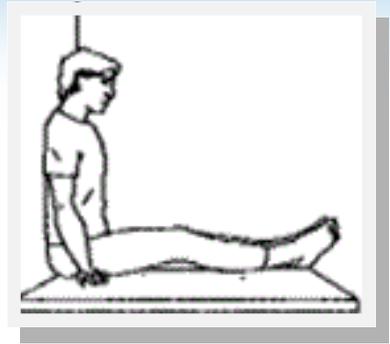
i.. Same as above but when bottom is lifted off the mat, slowly straighten one knee keeping everything else still. Hold 10 seconds. Switch legs.



## 1. Hamstring Stretches

**Start Position:** Sit on the floor with your back against the wall with legs out stretched in front of you.

**Action:** Sit up tall and straighten your knees. You should feel a stretch in the back of your legs.

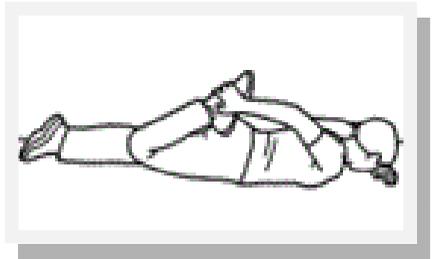


If you can, without rounding your back, tip forwards a little way from the hips. Hold for \_\_\_\_ seconds.

## 2. Quadriceps Stretch

**Start Position:** Lying face down.

**Action:** Bend one knee and hold onto your ankle. Pull your ankle towards your bottom, then try to straighten the knee approximately \_\_\_\_ seconds, while resisting with your hand.



Relax your leg and repeat the exercise pulling the ankle a little bit further. Relax.

Repeat \_\_\_\_ times.

Repeat on your other leg.

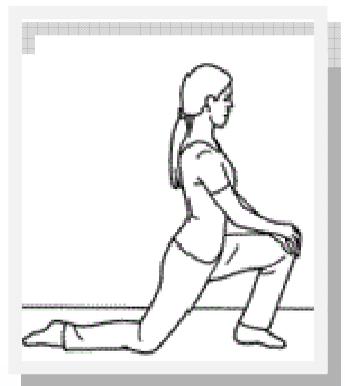
## 3. Hip Flexor Stretch

**Start Position:** Half kneeling.

**Action:** Squeeze your tummy muscles. Keeping your back straight, lean your hips forwards. Hold for approximately 20 seconds and relax. You should feel the stretch at the front of your back hip.

Repeat \_\_\_\_ times.

Repeat on your other leg.



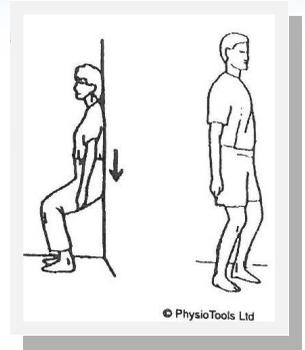
# Knee strengthening exercises

## 1. Tracking Control

Stand leaning with your back against a wall and your feet about 5 inches from the wall. Slowly slide down the wall until your hips and knees are at right angles. Make sure that your knees are in alignment with your 2nd toes.

Hold for \_\_\_\_\_ seconds. Return to the starting position and repeat \_\_\_\_\_ times.

**Progression:** Partial squats in alignment away from the wall.



## 2. Hamstring Curl

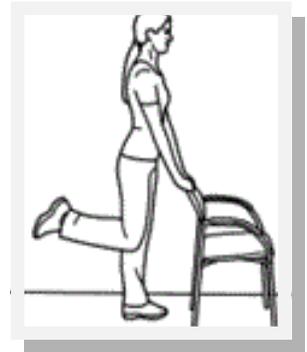
**Start Position:** Hold onto a support and bring one leg slightly backwards.

**Action:** Bend your knee and lift your foot off the floor taking your heel towards your bottom.

Hold for \_\_\_\_\_ seconds.

Repeat \_\_\_\_\_ times.

Repeat on your other leg.



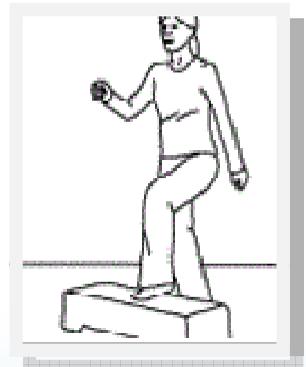
## 3. Step Ups

Stand facing a step with your effected leg on the step. Step up, straightening the knee and then lower back down slowly. Ensure that you control your knee alignment by keeping the middle of your kneecap over your 2nd toe.

Repeat \_\_\_\_\_ times.

Repeat on your other leg.

**Progression:** Start with 1-2 phone books and then increase height of step.



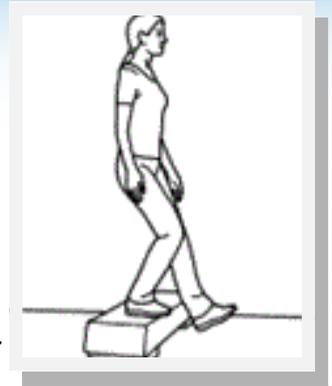
## 4. Step Down

**Start Position:** Stand on one leg on a step facing down.

**Action:** Slowly lower yourself by bending your knee so your foot almost touches the floor.

Return to starting position.

Ensure that you control your knee alignment by keeping the middle of your kneecap over your 2nd toe.



Repeat \_\_\_ times.

Repeat on your other leg.

**These exercises may cause a pull, but should not cause any pain.**

**Please contact your physiotherapist if you have any questions regarding this information.**



## For further information about this service contact:

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If you require this information in a different format such as in large print or on audio tape, or in a different language please contact the service on the details above.

If you have any compliments about this service or suggestions for improvements, contact our Patient Advice and Liaison Service on 0300 131 1000 (charges may apply depending on your network) or email: [ccs-tr.pals@nhs.net](mailto:ccs-tr.pals@nhs.net).

For free, confidential health advice and information 24 hours a day, 365 days a year please contact NHS 111.