

What do I do if I ever get this knee pain again?

If in the future you ever get an episode of similar knee pain, restart the same programme of exercises. It may be necessary to decrease your level of sporting activity on a short-term basis, then gradually increase again. The knee pain should settle again with time and helped by the exercises.

ANTERIOR KNEE PAIN

PATIENT INFORMATION BOOKLET

Kingston Hospital

Physiotherapy Department

Anterior Knee Pain

What Is It?

Anterior knee pain is a condition which results in diffuse ache in the vicinity of the patella (knee cap). This knee pain can occur spontaneously or after trauma (such as a fall on the knees) or due to increased activity levels. It is very common, 1/4 of the population gets anterior knee pain at some stage and this proportion increases in the sporting population. It often affects both knees and is more common in women.

What Symptoms May Be Experienced ?

Pain

Aching, throbbing or sharp stabbing pain can be felt in front of the knee, deep in the knee or to either side of the knee cap. This knee pain is often aggravated by going up and down stairs, prolonged sitting, squatting, kneeling, running or cycling.

Crepitus

Creaking or cracking sounds can be heard in the knee on movements.

Weakness

The knee often feels weak - like it could give way. The muscles around the knee cap can become weaker or waste a little.

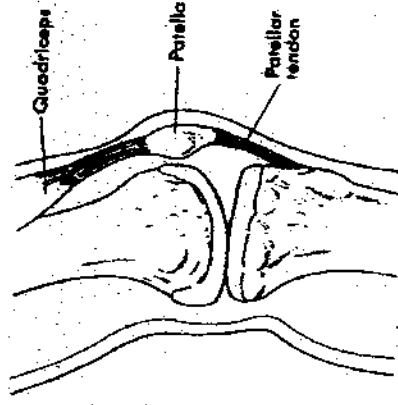
Stiffness

The knee often feels stiff, especially after sitting with the knees bent.

Swelling

Sometimes the knee can become swollen or puffy around the knee cap.

The Normal Knee Joint



- The patellofemoral joint is the joint between the knee cap (patella) and the thigh bone (femur).
- As you bend and straighten your knee, your knee cap moves up and down.
- The movement of the knee cap is controlled by the muscles, tendons and other soft tissues attached around the knee cap.

What Causes Anterior Knee Pain?

- Anterior knee pain is due to irritation of the patellofemoral joint (knee cap joint) and its surrounding soft tissues.
- Anterior knee pain can occur where there is unequal pull on the knee cap, often there is weakness of the muscles on the inside of the knee cap or tightness of the muscles on the outside of the knee cap, pulling the knee cap to the outside.
- Anterior knee pain can also occur due to tightness of other muscles in the leg (such as the calf or hamstring muscles) resulting in extra pressure around the knee cap joint.

What Can Be Done To Treat Anterior Knee Pain?

In order to reduce your knee pain and ensure a quicker recovery, implement the following self-help measures.

- Keep using your knee.
- Decrease (do not necessarily stop) any sport / activity which aggravates your knee pain.
- Stretch your knee out straight regularly when sitting.
- Wear appropriate footwear (low heel, good arch support and good cushioning).
- Use ice to decrease any swelling. This can also help to reduce any pain.

THE BEST NEWS IS THAT ANTERIOR KNEE PAIN RESPONDS VERY WELL TO A PHYSIOTHERAPY PROGRAMME OF EXERCISES. 80-90% OF ANTERIOR KNEE PATIENTS IMPROVE WITH EXERCISE.

Anterior Knee Pain Treatment Involves:

- Strengthening the quadriceps muscles that control the position of the knee cap.
- Stretching any tight muscles in the leg.
- Improving the alignment of your leg and how the knee cap moves as you bend your knee.

Quadriceps Strengthening Exercises

This is a progressive programme of exercises. Your physiotherapist will tell you when and how to progress through the programme. The exercises should not exacerbate your knee pain a great deal, if they are increasing your knee pain, it usually means that you are pushing the exercises too far or trying to do too many repetitions.

1. Small knee bends

Keep back straight. Stand with feet apart.
Tighten bum muscles.
Bend knees as far as is comfortable
Keep knees out so the centre of the knee is over the 2nd toe

Hold for ___ seconds

Repeat ___ times

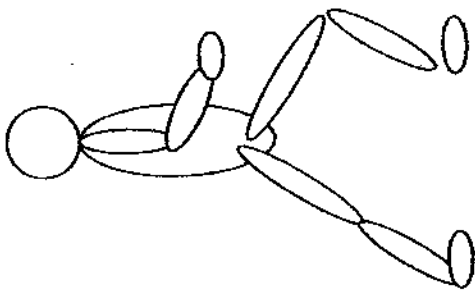
Repeat ___ a day



2. Lunges

Put affected leg forward
Lunge forward bending your knee
Keep the knee out over the 2nd toe

Hold for ___ seconds
Repeat ___ times
Repeat ___ a day

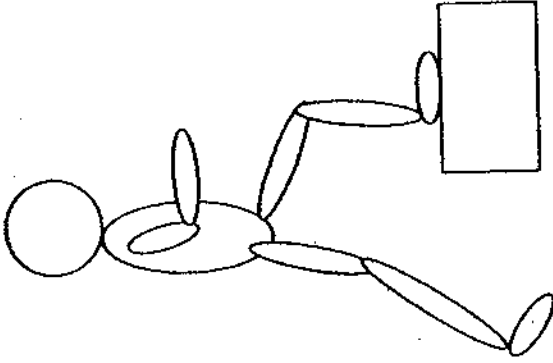


4. Step-ups

Tighten bum muscles
Step up on a step leading
with the affected leg
Keep your knee out over
your 2nd toe

Repeat ___ times
Repeat ___ a day

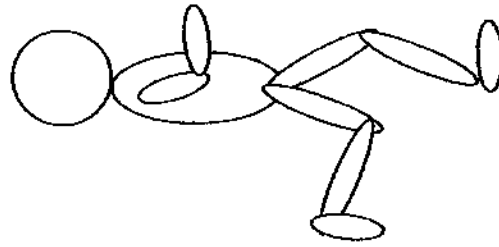
This exercise can be
made progressively
more difficult by
increasing the height of
the step.



3. Single small knee bends

Tighten bum muscles
Bend down on one leg as far as is
comfortable
Keep your knee out over your 2nd
toe

Repeat ___ times
Repeat ___ a day

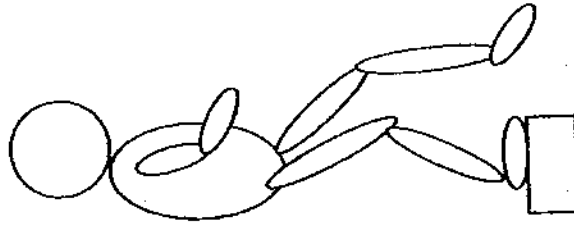


5. Step downs

Tighten bum muscles
Stand on affected leg
Step down leading with unaffected
leg

Keep knee on affected leg out
over the 2nd toe

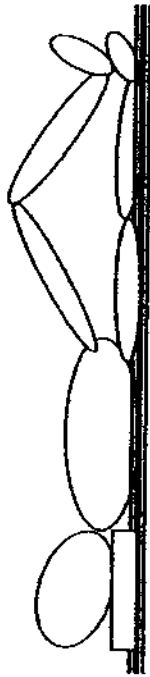
Repeat ___ times
Repeat ___ a day



Specific Exercises For Training Your Gluteal (bum) Muscles To Improve Your Leg Alignment

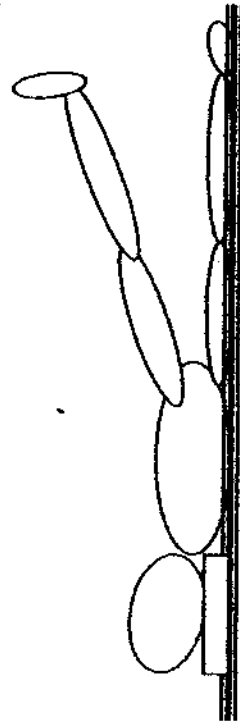
1. Gluteal Exercises With a Short Lever

Lie on your side with your affected leg uppermost. Bend up both your knees. Tuck in your stomach and your bum muscles. Lift your affected knee up towards the ceiling so you are rotating your leg out. Keep your ankles together. Do not move your back – isolate the movement to your hip.



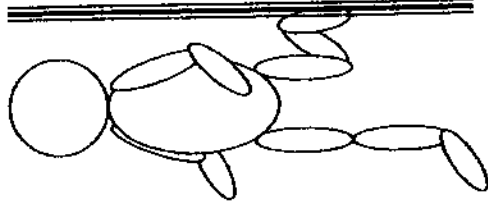
2. Gluteal Exercises with a Long Lever

Lie on your side with your affected side uppermost. Straighten both legs. Tuck in your stomach and your bum muscles. Rotate your upper leg outwards slightly so you are bringing your toes towards the ceiling. Lift the leg up towards the ceiling.



3. Gluteal Exercises against the Wall

Standing against a wall, side on, with your unaffected leg closest to the wall.



Bend up your knee of your unaffected leg and push into the wall

Bend the knee slightly of your affected, weightbearing leg
Tuck in your bum muscles

Hold for ___ seconds

Repeat ___ times

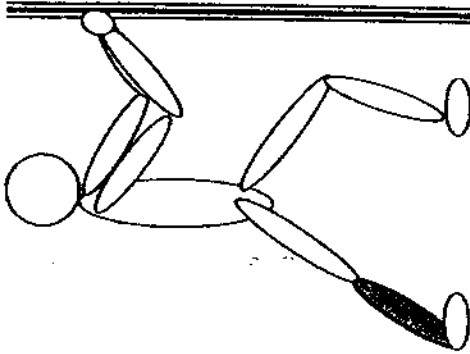
Repeat ___ a day

Leg Stretching Programme

Stretches should feel tight but not painful. Each stretch should be slow, gradual and sustained for 30 seconds. Stretches have to be repeated often to lengthen muscle. To stretch effectively and lengthen muscles, you need to do the stretches a minimum of twice a day, three times each stretch. Some people are naturally more flexible than others and will be able to stretch further than others.

Calf muscles

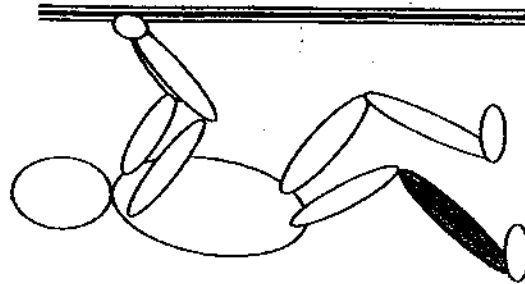
Stand facing the wall, the affected leg stretched out straight behind. Bend the front leg, taking the weight on this leg



Keep the heel of the back leg on the ground, foot pointing straight ahead and maintain the arch in your foot.

You should feel a stretch somewhere in your calf

Hold for 30 seconds and repeat ___ times, ___ daily.



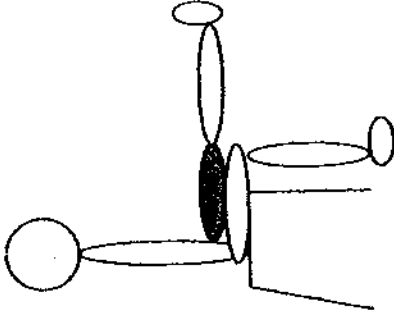
You can also stretch your calf muscles by repeating the same stretch but bending the back leg also. Keep the bent knee turned out over your 2nd toe. Maintain the arch in your foot

Hold for 30 seconds and repeat ___ times, ___ daily.

Hamstring stretches

Sitting with your thighs supported and your back straight. Straighten your knee slowly until you can feel a pull behind your knee. Do not let your back slouch.

Hold for 30 seconds, repeating ___ times, ___ daily.



Quadriceps Stretches

Standing, bend your knee up towards your bum. Grasp your foot with your hand. Tuck your stomach muscles in and do not let your back arch.

Hold for 30 seconds, repeating ___ times, ___ daily.

