

**If you require this information in an alternative language or format (such as Braille, audiotape or large print) please contact Children's Physiotherapy.**

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*You matter most*

## ANTERIOR KNEE PAIN IN ADOLESCENTS



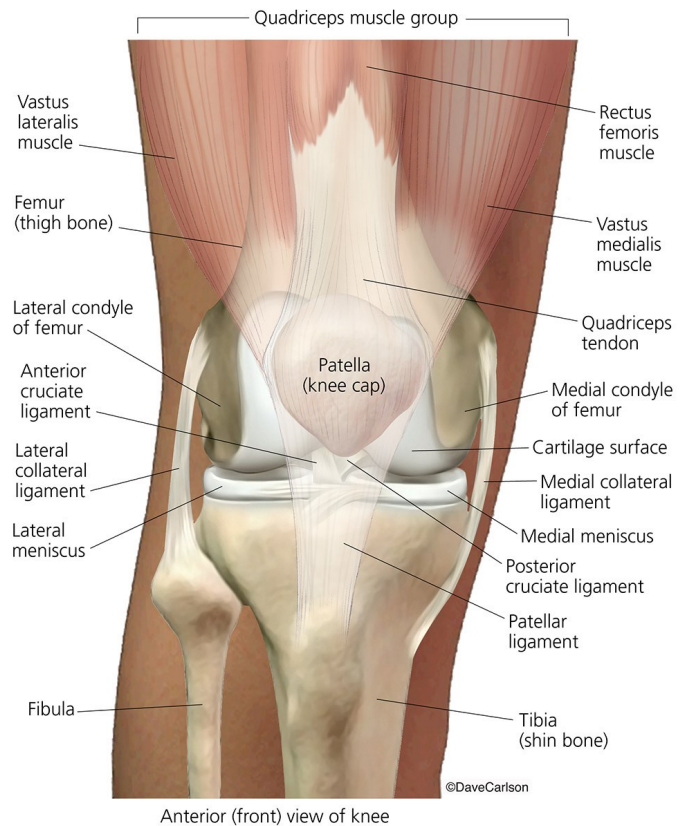
This booklet has been written to give you advice on your current knee condition. It should act as a guide and enable you to look after your knee now and in the future.

It contains advice and exercises appropriate for the rehabilitation of your knee.

**YOU play the main role in your rehabilitation!!!**

## What Is Anterior Knee Pain?

Anterior knee pain is pain around the front of the knee and can be caused by lots of different factors. Some of which will be discussed in this leaflet.



## Keeping a healthy weight

Having a healthy lifestyle, keeping yourself active and losing weight can help reduce knee pain if you have a high Body Mass Index. If you have concerns regarding your weight discuss this with your GP.

## Will I get knee pain again?

Be aware that anterior knee pain can return. Most knee pain will resolve if you follow the advise in this booklet.

Occasionally the exercises will cause some discomfort, which is normal. The discomfort should ease soon after stopping the exercise. The more exercises you do the less pain you should be in.

However if your knee pain has not improved in **6 weeks** please contact the Children's Physiotherapy Department on 01423 553023.

### Other Activities

Excellent activities that you could try are cycling and swimming (avoid Breaststroke). These are low impact activities that also help with strengthening your legs.

### Ice/Heat

Applying ice 2 - 3 times daily for 10 minutes as required. **BE AWARE** ice can cause ice burns. To avoid this do not apply ice directly to the skin, wrap the ice in a damp towel and monitor the area it is applied to.

### Taping may help



## ANATOMY OF THE KNEE

Three main bones make up your knee joint along with four main ligaments.

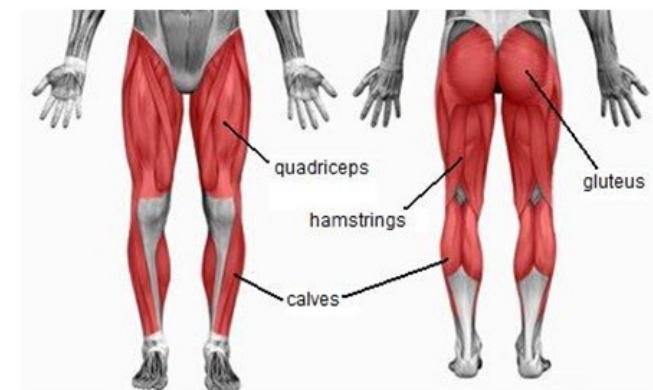
- The femur (thigh bone)
- The tibia (shin bone)
- The patella (the kneecap)
- Medial and lateral collateral ligament - helps stop your knee from moving side to side.
- Anterior and posterior cruciate ligament - helps to stop the knee moving forwards and backwards.

The main muscles of the knee are:

Quadriceps - thigh muscles at the front of your leg

Hamstrings - muscles at the back of your thigh

Two other important muscle which can effect the way in which your knee functions are your calf muscles and your bottom muscles (glutes).



Some Causes of Anterior Knee Pain in Teenagers:

- Weakness of thigh muscles (quadriceps) that help to support the knee joint.
- Tight quadriceps, hamstring or calf muscles.
- Overdoing sports activities, or changes in the type of training.
- Using improper sports training techniques or equipment.
- Changes in footwear or playing surfaces.
- Being overweight - this will put more weight through your joints.
- Increased stressors in your life - exams, family problems and being bullied can contribute to your pain experience.
- Foot problems.
- Bony differences.

Exercise	Day 4			Day 5			Day 6		
1. Straight Leg Raise									
2. Bridges									
3. Mini Squats									
4. Quad stretches									
5. Hamstring Stretches									
6. Calf Stretches									
7. Single Leg Balance									

To get you started with your exercises, tick off the sheet below when you have completed the exercise. Remember you should be doing each exercise 3-4 times every day!

Exercise	Day 1			Day 2			Day 3		
1. Straight Leg Raise									
2. Bridges									
3. Mini Squats									
4. Quad Stretches									
5. Hamstring Stretches									
6. Calf Stretches									
7. Single Leg Balance									

What can I do to help my knee pain?

Knee pain is really common in teenagers so you are not alone! Knee pain is not usually caused by any physical abnormality in the knee.

We know that there are a few things that you can do to try and help keep knee pain to a minimal, these include:

- Keeping the muscles in your leg strong  
- See exercises over the page. This is one of the best ways in protecting your knee.
- Stretching your muscles and making sure they are not too tight.
- Having a healthy lifestyle, keeping yourself active and losing weight if you have a high BMI.
- Over the counter pain relief - discuss with your pharmacist or GP.
- Applying ice.
- Taping - see over the page.
- Appropriate footwear.

Exercises to begin to strengthen your knee.

The following exercises are key to strengthening your knee and assist with your pain. Start these exercises TODAY!

The following exercises should be done 3-4 times a day for 6 weeks. If your pain has not improved in 6 weeks time then you need to contact the Children's Physiotherapy Department.

**1. Straight Legs Raises**

Lie on your back with one leg bent and one straight.

Point your toes up to the ceiling and lift your leg up approximately 20 cm off the floor. Hold for 5 seconds.

Repeat 10 times.

**Note: This exercise can also be performed with your toes turned out to the side - this will work the middle part of your quadriceps.**

**2. Bridges**

Lie on your back with knees bent and feet on the floor.

Lift your hips off the floor. Hold for 10 seconds then slowly return to the starting position.

Repeat 10 times.

**3. Wall Squats**

Place your back against a wall.

Slowly slide down the wall until you.

Make sure that your knees never go over your toes. Also make sure your knees don't collapse in together when sliding down the wall.

Repeat 10 times.

Exercises to begin to stretch your knee**4. Quadriceps Stretch**

Lie on your tummy and bring your heel to your bottom.

Hold for 30 seconds.

Repeat 3 times

**5. Hamstrings Stretch**

Place your foot on a ball. Roll the ball away from the chair and then return to starting position.

Repeat 15 times

**6. Calf Stretch**

Stand with your feet together facing a wall. Lean against it with your arms and back straight.

Let your body drop towards the wall keeping heels on the floor.

Hold for 30 seconds

Repeat 3 times.

**7. Single Leg Balance**

Practice standing on one leg.

Aim to hold this position for 20 seconds.

This can be done when you brush your teeth twice a day.

