

# Anterior knee pain

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## Information for patients from the Paediatric Orthopaedic Service

### What is anterior knee pain?

Anterior knee pain is when you experience pain around the front of your knee. The symptoms you may experience are: pain on activities such as running, walking for long distances, or using stairs, clicking, grinding, knee stiffness after long periods sitting, and giving way.

There could be many different reasons why you have anterior knee pain. This information sheet will go over the most common reasons.

Your doctor or physiotherapist will highlight which causes are relevant to you.

Here is a list of the common causes:

- muscle tightness
- muscle weakness
- growing pains (Osgood Schlatters condition)
- hypermobility (flexible joints).



## • Muscle tightness

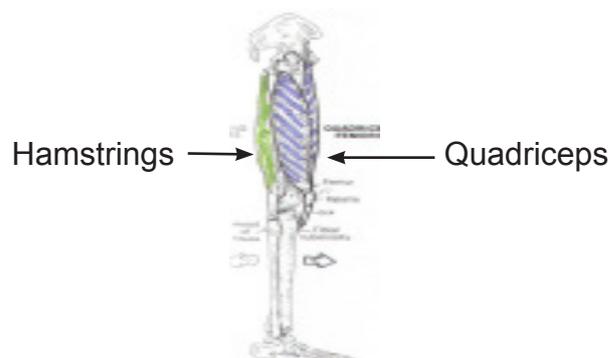
Occasionally as you grow, your bones grow at a quicker rate than your muscles and they begin to become tight. This can either be caused by you having a “growth spurt” or because your muscles are not as elastic and are more difficult to stretch.

### Treatment for muscle tightness

You will need to stretch your tight muscles and relieve the pressure on your patella (kneecap) joint. Your doctor or physiotherapist will instruct you on the most appropriate stretches for you.

These stretches must be done two to three times a day for them to work. The good news is that if you follow the stretching program as advised most muscles will stretch in six weeks and your knee pain will improve!

The most common muscles to become tight and cause anterior knee pain are your hamstring muscles (at the back of your thigh) and your quadriceps muscles (at the front of your thigh) - see diagram.



If these muscles become tight they cause pressure over your patella (kneecap) causing it to rub on the joint beneath it.

## • Muscle weakness

As you grow and your muscles stretch, they can become weaker. In some cases one muscle becomes weaker than others and they pull on your patella unevenly.

Usually the muscle on the inside of your thigh is the weaker muscle (shown in light blue on the diagram) and the muscle on the outside of your thigh is stronger (shown in dark blue).

Many describe the sensation as their “kneecap popping out”. It is not, it is being pulled sideways rather than straight up and down due to the muscle on the outside of your thigh pulling harder than the muscle on the inside.



### Treatment for muscle weakness

You will need to strengthen your weaker muscle to allow the patella to glide more evenly. Your doctor or physiotherapist will instruct you on the most appropriate exercises for you.

These strengthening exercises should be performed two to three times every day.

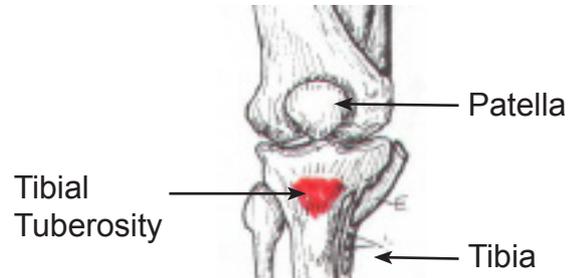
## • Growing pains

This pain is caused by irritation of the growing areas of bone, called growth plates, around your knee. It happens where a large muscle attaches to a growth plate and is aggravated by activities such as football and running.

There are two areas around the knee where a muscle attaches to a growth plate and each has a different name depending on which growth plate is irritated.

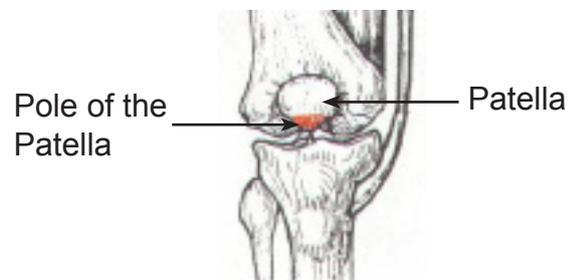
### 1. Osgood Schlatters condition

This is where the growth plate of the tibia, called the Tibial Tuberosity, is irritated (the knobby bit below your knee).



### 2. Sinding Larsens

This is where the growth plate at the tip, or Pole of the Patella, is irritated.



## Treatment for growing pains

Problems that cause irritation of your growth plates stop once you have stopped growing. They usually resolve within 18 months to three years. However there are many things you can do to help the pain in the meantime.

1. Use painkillers - you can have your painkillers either in pill form or as a gel that you rub into the painful area. Ask your pharmacist or GP for advice.
2. Use an ice pack - you can use a bag of frozen peas. Make sure you place a damp cloth on your leg first to stop the bag sticking to your leg. **Do not** leave on for more than five minutes as you can burn your skin.
3. Do stretches daily - your doctor or physiotherapist will tell you the most appropriate stretches. Stretching the muscle relaxes the pull on the irritated growth plate and allows it to rest.
4. Change your exercise if your knee is very painful, stop what you are doing and rest. Once the pain has calmed down you can continue. You **do not** need to stop exercising altogether as this can cause tightening of the muscles and can lead to more problems with knee pain! Chat to your PE teachers and explain that you may need to rest from exercise occasionally to help your pain.
5. Strapping - if you have to miss a lot of exercise or PE, ask the physiotherapist to show you how to strap your knee. This can sometimes help with your pain as you exercise.

- **Hypermobility (flexible joints)**

This means that your joints have more movement than most people. This can sometimes lead to you spraining and straining your joints more easily, leading to pain and swelling.

### **Treatment for hypermobility**

The stronger your muscles are around your joints the more control you will have over your joints and the less you will sprain and strain them. The best treatment is to strengthen your muscles either with exercise such as the ones advised or by keeping yourself active and fit. The best forms of exercise for painful joints are:

swimming, aqua aerobics, pilates, and cycling.

### **In summary**

Knee pain is very common in children and in adolescence. The good news is that because your anterior knee pain is related to you growing; once you stop growing most anterior knee pain stops as well.

However, you must remember that if you are still growing, your knee pain may return once you have stopped your exercises. If this happens you will need to practise your exercises again.

### **Further information**

If you have any further questions regarding your treatment and/or condition then please contact the paediatric musculoskeletal team.

**Email:** [ekh-tr.PaedMSK@nhs.net](mailto:ekh-tr.PaedMSK@nhs.net)

**Telephone:** 01303 854445 or 01233 616618

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