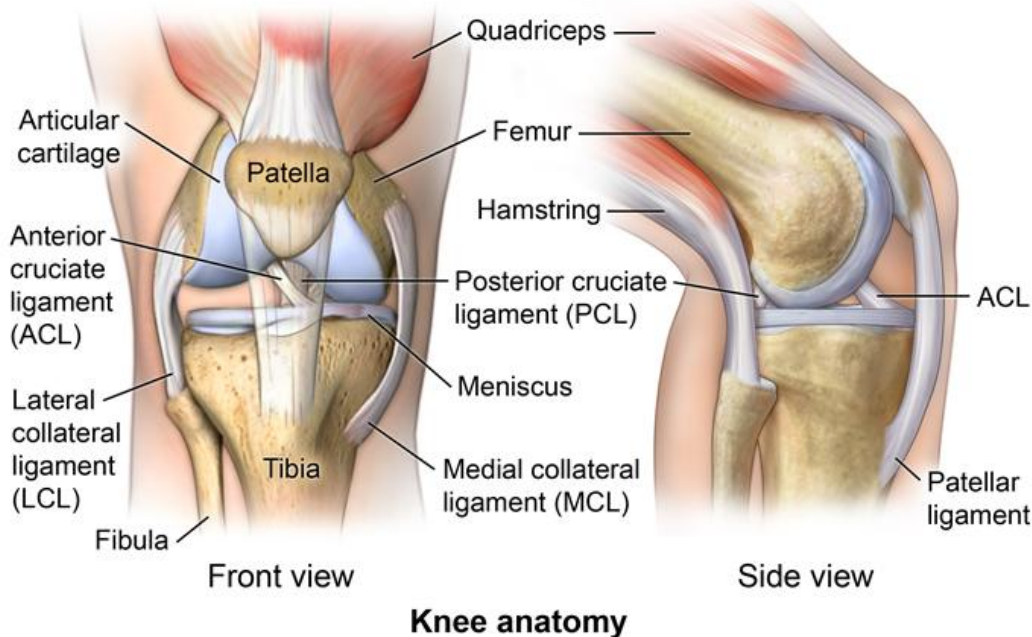


## INFORMATION FOR PATIENTS

# Anterior knee pain – causes and treatments

This leaflet aims to provide you with information regarding anterior knee pain (a common knee complaint where pain is felt in or around the knee), its common causes and treatments.

The knee is a complex joint formed of the lower part of the femur (large thigh bone), the upper part of the shin bone (tibia), the small fibula bone (on the outside of the shin bone) and the kneecap (patella). Various muscles, tendons and ligaments stabilise the knee and help it function, usually, without any problems.



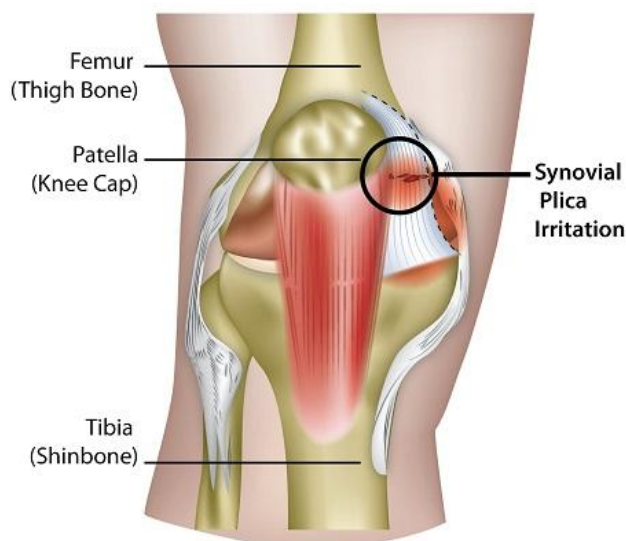
Unfortunately, sometimes we experience knee pain for no apparent reason, which can affect people of any age or level of activity. Possible causes for anterior knee pain include exercising intensely from a relatively sedate lifestyle too soon, over training, sporting activities, misalignment of the kneecap and tightness or weakness in the muscles at the front and back (quadriceps and hamstrings) of your thigh. Flat feet and hyper-mobility of your joints can be other causes.

## Common causes of knee pain include:

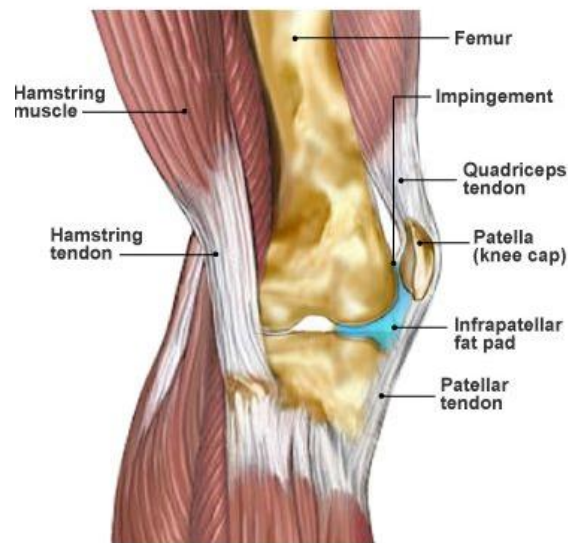
1. **Patella tendonitis.** Inflammation of the patella tendon which runs from the patella to the top of the tibia. It often occurs as a result of repetitive running or jumping.



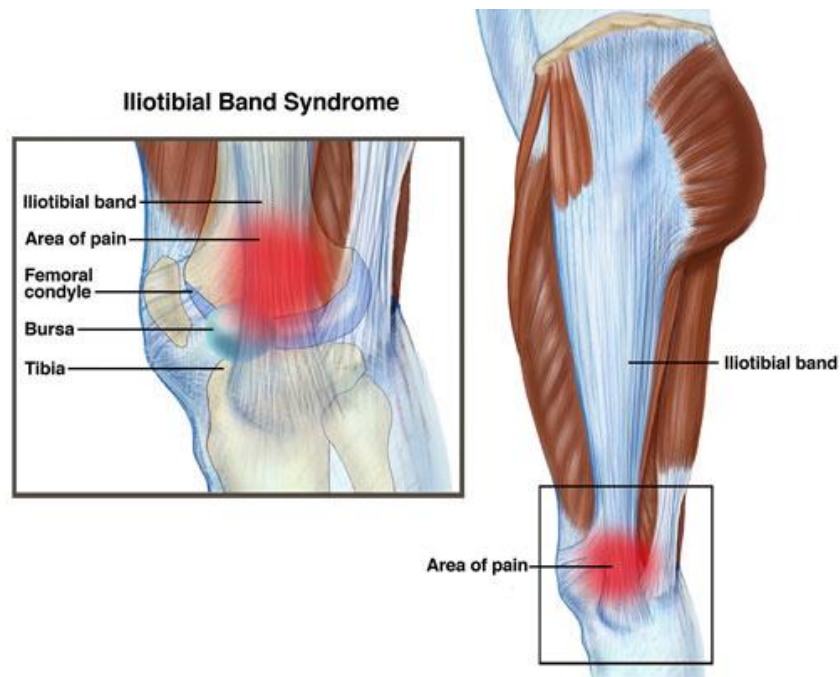
2. **Plica syndrome.** There are four different plica (synovial folds) in the knee, but usually only the medial plica, which attaches to the lower inner aspect of the patella, causes knee pain. This is often as a result of, or in conjunction with, other knee pathology such as meniscus damage, Osgood-Schlatter's disease, etc.



3. **Fat pad syndrome.** Also known as Hoffa's Syndrome, this is a condition where a fat pad (coloured blue below) situated behind the kneecap becomes inflamed, producing pain. Causes can include football, jumping activities, cycling or occupations which require long periods of kneeling.



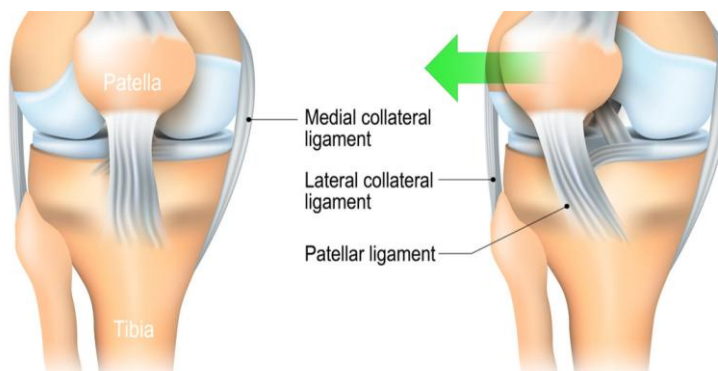
4. **Iliotibial band (ITB) friction syndrome.** A thick band of tissue (ITB) runs from your buttock down along the outside of your thigh and attaches to the side of your shin bone (tibia). As the knee bends and straightens repeatedly this band rubs against bony structures causing friction and consequently becomes inflamed and painful. Primarily runners suffer with this condition, but it also affects cyclists if they sit incorrectly on their bicycle.



- 5. Patellofemoral pain syndrome.** The patella tracks in a groove as your knee bends and straightens. This tracking is controlled predominantly by the quadriceps muscles at the front of the thigh. Pain is felt in or around the front of the knee as you bend and straighten your leg often with the kneecap producing a clicking or grinding feeling. This can be a result of muscle weakness or cartilage changes under the patella.



- 6. Patella instability.** This refers to subluxation (slight misalignment) of the patella from its normal trochlear groove. Subluxation can be a result of trauma (direct blow), but is often due muscle weakness, ligament laxity or incorrect bone alignment.



Normal position of the patella

Patella instability

- 7. Referred pain from the hip or lumbar spine.** Sometimes problems with the hip or bottom of the back can cause pain in the knee. Your physiotherapist will assess the hip and back and decide on the course of treatment.

## What are the signs and symptoms?

- **Pain** - a dull ache which can occur for no apparent reason, becoming gradually worse under and around your kneecap with increased activity such as sitting, walking, running, jumping, or going up and down stairs.
- **Swelling** - may occur at the early stages of injury.
- **Weakness** - the knee may feel unstable and/or give way.
- **Clicking** - you may hear cracking, clicking, or grinding noises especially when you move your knee, but this is normal and often nothing to worry about.

## What can you do to help yourself?

- **Protection** - protect the affected area from further injury, i.e., using a support.
- **Relative rest** - when the knee is painful or becomes swollen, rest can help ease the symptoms. Refrain from activities that are exacerbating the condition. You may need to use crutches or a walking stick in the short term to aid your mobility.
- **Modify activities** - mild discomfort is usually nothing to worry about, but if the pain increases then modifying your activities may be necessary. High impact exercises can be adapted to lesser pain provoking exercises, such as swimming, cross trainer or stationary biking. It is important that you keep moving within your pain limits.
- **Ice** - applying an ice pack (crushed ice in a bag) or bag of peas to the affected area in a damp cloth/kitchen towel for 10-20 minutes, three or four times a day, may help to reduce the pain and swelling. **Do not apply the ice pack/peas directly onto the skin.**
- **Compression** - use a compression bandage during the day to limit swelling.
- **Elevation** - keep your leg elevated so the knee is raised above the level your heart as much as possible to help aid and relieve swelling.
- **Medication** - talk to your GP about appropriate pain relief for this condition and/or anti-inflammatory medications.
- **Stress relief** - utilise techniques such as mindfulness, meditation, and deep breathing cycles. Speak to your healthcare professional for more information.
- **Sleep hygiene** - consistently getting 6-9 hours is recommended by NHS. Only use your bedroom for sleeping, e.g., not for TV.
- **Nutrition** - make sure you have a balanced diet. Vitamin D has been correlated with reduction in joint pain.
- **Smoking** - has been linked with musculoskeletal pain. For more advice see smoking cessation or ask your therapist for more information.
- **Footwear** - supportive shoes with cushioned insoles may help with your pain and mobility.

**Physiotherapy is the mainstay of treatment for conditions related to the front of the knee.**

**If your symptoms significantly worsen, and you are unable to manage them, please contact your GP or physiotherapist for advice.**

## Contact details

Therapy Services Department  
Clinic 10  
King's Mill Hospital  
Mansfield Road  
Sutton in Ashfield  
Notts  
NG17 4JL

Telephone: 01623 622515, extension 3221.

## Further sources of information

NHS Choices: [www.nhs.uk/conditions](http://www.nhs.uk/conditions)  
Our website: [www.sfh-tr.nhs.uk](http://www.sfh-tr.nhs.uk)

## Patient Experience Team (PET)

PET is available to help with any of your compliments, concerns, or complaints, and will ensure a prompt and efficient service.

King's Mill Hospital: 01623 672222  
Newark Hospital: 01636 685692  
Email: [sfh-tr.PET@nhs.net](mailto:sfh-tr.PET@nhs.net)

If you need this information in a different language or format, please contact the PET (as above).

This document is intended for information purposes only and should not replace advice that your relevant health professional would give you.

External websites may be referred to in specific cases. Any external websites are provided for your information and convenience. We cannot accept responsibility for the information found on them.

If you require a full list of references for this leaflet, please email [sfh-tr.patientinformation@nhs.net](mailto:sfh-tr.patientinformation@nhs.net) or telephone 01623 622515, extension 6927.

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