

Anterior Knee Pain - Patellofemoral Joint Pain (PFJP)



Information for Guided Patient Management

Provided by

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What do we call Patellofemoral Joint Pain (PFJP)

Patellofemoral joint pain is the term used to describe pain at or around the knee cap. The patellofemoral joint is a unique joint, the patella (more commonly known as the kneecap) is a floating bone, it sits firmly within the tendon attached to the quadriceps muscle. The femur (thigh bone) is the longest in the body, at the bottom of the femur there is a groove designed to fit with your kneecap like a jigsaw puzzle. The patella slides up and down this groove, depending on whether the knee is bent or straight.

One third of young adults get PFJP and 1 in 4 adults will experience it at some time in their life. The pain often starts gradually and with no history of any trauma. Common symptoms can include;

1. A vague aching pain at the front of the knee – a pain which can move around.
2. Pain which is made worse by squatting, climbing stairs, running or jumping.
3. Mild Swelling
4. Crepitus which is the crunching, grinding, cracking or scratching that you might feel and hear when you bend and straighten the knee.

What causes patellofemoral joint pain:

There has been a lot of research to explore why young people get knee pain. There are a few well known causes for PFJP that will be discussed below.

1 – Exercising Too much or Too little. Many young and fit people exercise multiple times per week, if their training involves a lot of running and jumping, the knee joint can become overloaded and painful. It is really important to strike the right balance between activity and rest. We also know that obesity and inactivity is a risk factor for developing knee pain and so we never want people to give up exercise completely. A physiotherapist or exercise professional can help you plan how and when you should be training and when to prioritise some rest.

2 - Flat Feet and Inappropriate Footwear. We know that people with flat feet are more likely to get PFJP. Often a new pair of anti-pronation running trainers or adding an insole into your favourite shoes can really reduce knee pain. If your shoes are not offering your foot any support, it is likely that they are not helping your knee either. Ugg-style boots, ballet pumps and fashion plimsols are some of the worst culprits, especially if you are walking long distances in them each day or worse, wearing them for strenuous exercise.

3 - Weakness in the muscles around the hip and thigh.

Movement at the top of your femur is controlled by the muscles that sit underneath your back pocket. If these muscles are not working quickly or efficiently it allows your thigh bone to rotate too much. We know that poor control of femoral rotation contributes to pain around the patella.

The quadricep muscle is also a vital muscle group to consider since it wraps around the knee cap and holds it in place. The smaller your quadriceps muscle, the more likely you are to get PFJP. The good news is we can stimulate our muscles to grow through exercise.

4 – Tight Muscles

Many people with PFJP will describe a phenomenon that we call the cinema side, their knee becomes very sore and stiff during a trip to the cinema. The discomfort arises because the muscles around the knee cap are too short and too tight. The tight muscles cause an unwanted pressure between the knee cap and thigh bone sitting behind it. It is easily resolved with some effective daily stretches.

Stretching should always feature in your training session, if you don't have time to stretch after your run/ gym session then maybe you should skip that session. Pre-exercise stretching should be dynamic and help you get prepared for the activity you are about to do (think about the PE warm ups you used to do at school). Post-exercise stretching is when you need to do sustained stretches that restore your muscle length. In order to improve muscle length you really need to hold each stretch for a whole minute.

Even if you are not doing much exercise at the moment but you sit at a desk, drive or go up and down the stair's multiple times a day, it is likely that your quadricep muscles need a good stretch too.

Prevention tips:

PFJP Prevention – Quick Checklist

1. Check your activity is balanced between high impact activities and rest
2. Check your shoes are supporting your feet
3. Do some strengthening exercises x 3 per week, focus on your bum and thighs
4. However active you are right now, it is likely your knees would benefit from some daily stretching.

FAQ's

1 – My knees are grinding and crunching. Does it mean I have arthritis? Are the joints rubbing against each other? Will I need knee replacements when I am older?

The good news is No, No and No. It is very common for knee joints to crack/pop/ grind or crunch, it is something we describe as crepitus. Most people with noisy knees have no pain or underlying problems. However, most people with painful knees do worry about the sounds and sensations in their knee. Reassuringly, there is no link between crepitus and joint damage. There is also no link between crepitus and arthritis. To avoid painful arthritic joints in the future the best thing you can do is stop smoking, manage your weight and keep your muscles strong.

2 – Should I stop running? Am I using my knees too much and wearing them out?

A physiotherapist or exercise professional may recommend that you temporarily stop running if they find your muscle strength or balance is insufficient to sustain a good running gait. They will give you a strengthening programme and help you return to running in a graded and measured way, once your body is strong enough to cope with the forces associated with running.

3 – Should I rest from exercise all together?

If your knees are very sore, it can be helpful to take a short break from exercise. It is important to know that when you return to exercise or training, it should be done in a very gradual way, increasing your activity levels by about 10% each week and monitoring how your knees feel. Once you are back to regular exercise, if you balance your training and incorporate both strengthening and flexibility exercises, your knee pain should not return.

4 – Should I wear a brace or a strap?

There are many different types of knee braces; rigid braces, tight elastic braces, braces with holes over the knee cap, straps which sit under your knee cap, sports tape etc. Straps and braces can help people to continue exercising or return to exercise a bit sooner. Using a support is okay as long as you are also doing weekly rehabilitation exercises to correct your knee pain from the inside and not only from the outside.

5 – How long will it take to get better?

Most people will need to commit to at least 12 weeks of regular rehabilitation exercises (at least 3 x per week) before they will start to notice a significant difference in their knee pain.

4 – If I take painkillers will I do more damage?

You are very unlikely to damage your knees as a result of taking pain relief. In fact we see far more problems related to poorly managed pain. If your knees are hurting and the pain is making you unhappy, preventing you from participating in the things you enjoy or stopping you from sleeping, taking simple pain relief is a good idea. You should discuss your joint pain with a pharmacist/ your GP.

5 - Do I need some investigations?

If your knee pain came on gradually and without trauma, It is very unlikely that you will need a blood test, x-ray, ultrasound or MRI. The GP/ Physiotherapist can effectively diagnose and improve your symptoms with a clinical assessment.

6 – If it does not get better, will I need an operation?

Almost all patients with PFJP will improve with time, activity modification and physiotherapy. There are very few cases where people will need surgical intervention and it is normally a last resort, better avoided if possible.