

Patellofemoral Pain

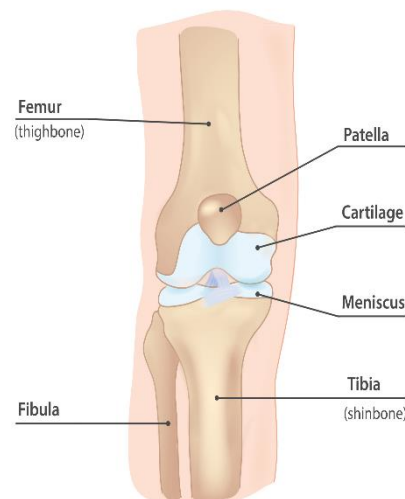
Patient Information

Anatomy of the knee

The knee has two joints, the main knee joint (tibiofemoral) and the patellofemoral joint. The patellofemoral joint is located at the front of the knee and comprises of the end of the femur and the back of the kneecap (patella).

What is Patellofemoral Pain syndrome (PFPS)?

PFPS is a very common presentation of knee pain, which frequently presents in younger age groups but can occur at any age. It is characterised by pain felt behind or around the kneecap which worsens with activities that increase loading on the knee such as sitting, squatting, running, or climbing stairs. It can develop after trauma but more commonly presents spontaneously. It may come on gradually or suddenly. It may be present in one knee or both.



www.injurymap.com/free-human-anatomy-illustrations

What causes Patellofemoral Pain?

Although the specific reason for developing PFPS is unknown, we know that the following may be contributing factors:

- Weakness of the muscles around your knee or hip.
- Sudden increases/changes to your normal activity levels OR a quick return to your normal activity levels after a period of inactivity
- In some cases, it is thought that the natural position of your hips, knees and feet may increase your chance of developing PFPS

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Symptoms of Patellofemoral Pain Syndrome

Pain in and around the kneecap is the main symptom experienced with PFPS. The pain can be quite severe and sharp, or it may be a dull ache. It is usually aggravated by movements that involve prolonged or repeated bending of the knee such as sitting, squatting, or climbing stairs.

Crepitus or clicking/popping is another common symptom of PFPS. Although uncomfortable the clicking sensation isn't serious or as a result of damage within the joint and does not usually need investigating.

What can you do to help yourself

Be positive and keep moving!

PFPS will usually improve with simple self-management including the following;

Activity modification

If you have recently increased your exercise levels, then reducing slightly may help. You can do this by reducing the time or intensity of exercise, with slightly longer recovery periods in between. If an activity causes severe pain, then you may need to rest from it until your pain has reduced. If you get mild pain that settles quickly then you can usually continue the activity.

Pain relief

You may be prescribed simple pain relief or anti-inflammatory medication; take this as prescribed until the pain settles. An alternative is to use a topical anti-inflammatory gel. Your GP or Pharmacist can advise you on this.

Heat or cold can be used to help pain. Use frozen peas wrapped in a damp tea towel for up to 15 minutes, or alternatively try a wheat bag/hot water bottle wrapped in a towel. Use whatever gets best results for you. Make sure to protect your skin with a towel and regularly check your skin as both can cause burns if used incorrectly.

Foot orthoses (insoles) can occasionally be helpful in reducing pain. Your health professional can advise if they think this is appropriate. They may refer you to a podiatrist for assessment of your feet if needed.

Strengthening the muscles around the knee and hip will give extra support and allow your knees to cope better with the stresses placed on them. A physiotherapist can assess you and guide you with a personally tailored exercise programme. To get started now, you may find the exercises in this leaflet beneficial. However, if an exercise causes increased pain, then stop and ask the assistance of a professional.

Exercises

The exercises shown on this page will help you to strengthen the muscles around the knee and hip. The exercises progress in difficulty as you work through from 1-5. Start with the easiest and gradually progress through to the next one as you feel able. Try doing 2 or 3 of the exercises every other day, working to a level where you feel muscular fatigue towards the end of each set. Try to progress the volume of exercise performed by slowly increasing the number of repetitions, sets or the time the contraction is held. This progression is needed to increase the overall strength of the muscles. It will usually take 6-12 weeks to improve your pain, and strengthening exercises need to be continued long term to maintain the effects.

1) Static quads

Lying on your back, or sitting. Slowly push your leg straight, tightening the muscles in your thigh. Hold for 5-10 seconds then slowly relax. Aim to repeat 8-12 times. Rest for 2 minutes then do another set.



2) Inner Range Quads

Placed a rolled up towel underneath your knee. Contract the muscles on the front of your thigh pushing your knee into the towel, hold for 10 seconds and then relax. Aim to repeat 8-12 times. Rest for 2 minutes then do another set.



3) Supine Bridge

Lying on your back; bend your knees just past 90 degrees. Next, pushing through your heels and squeezing your buttocks, lift yourself upwards off the floor into the position shown. Hold for 3 seconds, and then slowly lower back down. Throughout the movement, ensure your knees remain in alignment with your 2nd /3rd toes, preventing them from moving inward. Aim to repeat 8-12 times. Rest for 2 minutes then do another set.



4) Double leg squat

Start with your weight equally on both feet.

Now bend at the hips and knees, translating the hips backwards, and the body forward, like when you sit down. Keep your knees facing straight ahead – like ‘headlights’. Do not arch your back. Start by just going a short way and increase the depth of the squat as you are able.

Move slowly down over around 3 seconds and then return slowly to standing over 3 seconds. Focus on pushing through your heels and feeling the tension in your buttocks.

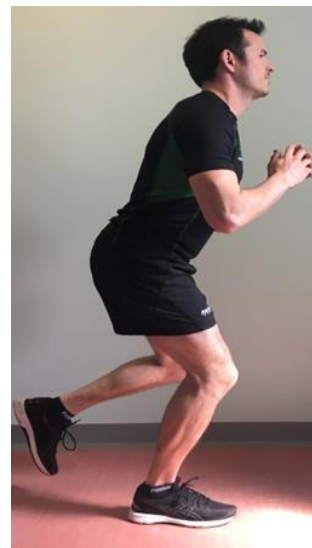
Aim to repeat 8-12 times. Rest for 2 minutes then do another set.



5) Single leg squat

Transfer your weight onto one leg. Keeping your pelvis level, perform a slow, small range squat as you did on 2 legs. Bend at the hips and knees, moving your pelvis backwards, and bringing your body a little forward. Your pelvis must stay level and your knee facing straight ahead. To come back up, think of using your buttock muscle, and push through your heel bringing yourself back to your ‘tall’ starting position.

The speed of the squat should be performed as per the double leg squat – 3 seconds down and 3 seconds up. Aim to repeat 8-12 times. Rest for 2 minutes then do another set.



Other treatments that may be offered

Physiotherapy has been shown to be effective in managing PFPS. Physiotherapy focuses on addressing the joint loading, movement patterns and providing education around activity modification. Exercise prescription is the key component used to address the muscle weakness and movement patterns in the knee and hip. These exercises may start in a seated or lying position especially if the pain is more severe. However, they should progress to a standing position as this will help improve your function during everyday activities. In conjunction with exercise, the physiotherapist can also answer any questions around your knee pain and help provide education around activity management strategies that may work for you. If you are struggling with your exercises due to pain, your physiotherapist can also try other options such as taping, for short term relief and to allow you to complete your exercises.

Surgery is usually only considered in very rare cases where pain is severe AND all other conservative management strategies have been unsuccessful.

Further Information

If you would like to seek the advice of a physiotherapist, there are a number of options within Wiltshire. Please speak to your GP practice about the ways you can be referred.

Alternatively, you can visit our website for further information on accessing our services;

<https://wiltshirehealthandcare.nhs.uk/physiotherapy/>

Other useful websites;

<https://www.activewiltshire.org.uk/>

Here you will find information on improving your activity level and details of what is available in your local area.

<http://www.wiltshire.gov.uk/public-health-weight>

Here you will find information about weight management options in your local area.

Health improvement coaches - Wiltshire Council

Health Improvement Coaches work on a one to one basis to support behaviour change and improve health. They concentrate on behaviours associated with ill health including unhealthy eating often linked to obesity, stop or reduce smoking, sensible drinking, increasing physical activity, building confidence and motivation to change and boosting self-esteem, they also signpost and support clients to access other services and activities where appropriate.

Safeguarding

Wiltshire Health and Care (WHC) are committed to safeguarding and promoting the welfare of children, young people and adults at risk of abuse, including victims and survivors of domestic abuse. We expect all WHC staff to share this commitment and promote safeguarding by implementing WHC policies and procedures, act promptly on concerns and share information appropriately.

If you or your carer have any concerns regarding a child or adult's safety, please phone Wiltshire Safeguarding Team on 0300 456 0111 (Adult) or 0300 456 0108 (Child) (9am – 5pm Monday - Friday) or please call 999 if you feel they are in immediate danger.

Patient Advice and Liaison Service (PALS)

If you have any questions, or concerns, suggestions or compliments about our service, please speak to a member of staff.

This information sheet is available in other languages and formats. If you would like a copy, please contact us on 0300 123 7797 and whc.pals@nhs.net

Patient and Public Involvement

We value your opinions which will help us to further develop our services.

If you wish to provide feedback or get involved in our patient participation groups, please email the Patient and Public Involvement Officer at ask.wiltshirehealthandcare@nhs.net or telephone 01249 454386. Please scan the QR code below to access the Friends and Family Test survey.

