

Anterior Knee Pain

Information Booklet for Patients

What is Anterior Knee Pain?

Anterior Knee Pain is pain felt around your kneecap. It is usually felt around the front of the knee although at times it can spread to the sides and occasionally to the back of the knee. Anterior knee pain is usually triggered following a recent growth spurt, a change in sport, or your muscles getting weaker and more tired. This causes an increased loading of your knee joint and pain can occur. A sudden increase in activity levels may also stress the area and the pain is nature's way of protecting the kneecap from overuse and damage.

What are the common symptoms?

The most common symptoms of anterior knee pain are:

- Knee pain either during or after taking part in sports, prolonged walking and/or walking up and down stairs
- Generalised pain and sometimes tenderness around your knee cap
- Reduced knee strength
- Tightness with reduced flexibility of your leg muscles.

These symptoms usually appear gradually and can appear in one or both of your knees.

Treatment advice

By following **all** of the advice below your knee pain should reduce;

- Reduce painful activities until the pain and swelling settle, the amount you need to reduce will vary from person to person. It is very important to stay active though so please continue with activities which do not flare up your pain such as cycling or swimming (breast stroke may not be the most comfortable if your knee is sore).
- If you are sore, you can use some crushed ice in a damp towel or a heat pack. Place this on the painful area for 10 minutes. Please check your skin regularly during this time and have regular breaks. Repeat this application as needed.
- Start the stretching and strengthening programme in this leaflet daily to improve your muscle strength and flexibility. A little discomfort whilst doing the exercises can be normal – as long as this settles after you have stopped doing the exercises then it is ok to keep going.



Please scan this QR code to watch the associated video to this leaflet. This will also guide you through some of the first exercises and teaches you what they should look like. The video shows some extra stretches which you might find helpful.

Initial Exercises;

Try and start working through the following exercises– it is safe to start trying these exercises right away. If both knees are sore, do the exercises on both legs.

1. Front thigh stretch:

Start by lying face down. Bend your sore knee back and place a hand around your ankle. Pull your heel slowly towards your bottom until you feel the stretch down the front of your leg (your quad muscle). Hold for 30 seconds and then relax, and repeat 2 more times. The goal is that your heel should be able to rest upon your glute muscle easily.



2. Back of leg stretch:

Start by lying on your back, and lifting your sore leg towards your chest. Place your hands behind your thighs as shown. Gently straighten the knee until you feel a stretch behind the leg (your hamstring muscle). Hold for 30 seconds and then relax, and repeat 2 more times. The goal is that your top leg points straight to the ceiling – with no knee bend.



3. Double leg bridging:

Start by lying on your back with both knees bent. Squeeze your buttocks together and lift your bottom off the floor by pushing through your heels. Ensure there is a straight line between your shoulder and your knees, and hold for 10 seconds. Return to starting position and repeat. Aim to do at least 20 bridges in one go.



4. Wall slides:

Start by standing with your back against a wall, and your feet planted around 45 degrees in front of you. Slide down the wall until you reach the bottom (where your knees are bent at 90 degrees) and then push through your heels to slide up the wall. This should be less sore than a normal squat. Make sure your knees don't collapse inwards or outwards, but keep facing forwards over your toes. It may be easier for you to place a ball in-between your knees and gently squeeze this during the movement. Aim to build up to at least 20 wall slides in one go.



Exercises progressions:

Start these exercises as soon as the above exercises are becoming easier, and you are thinking about restarting your activities again. These exercises are all strengthening exercises so try doing these for around a minute at a time to build up your muscles. Continue with the stretches above, particularly if you are still feeling it.

1. Marching or single leg bridge:

Start by doing a bridge like you have been, but then challenge yourself by lifting up each leg in turn at the top. Try and not to drop your hips when you do this, but keep squeezing your bottom (glute) muscles.

If this gets easy, try starting with one leg up so you are only pushing through one leg.



2. Wall sit:

Hold the wall slide at the bottom position. If you need a break then push through your legs and slide up the wall. But keep going within the minute and hold again if you can.

If this gets easy, try starting to lift one leg when you are in the sitting position for a few seconds, and alternate each one for the minute.



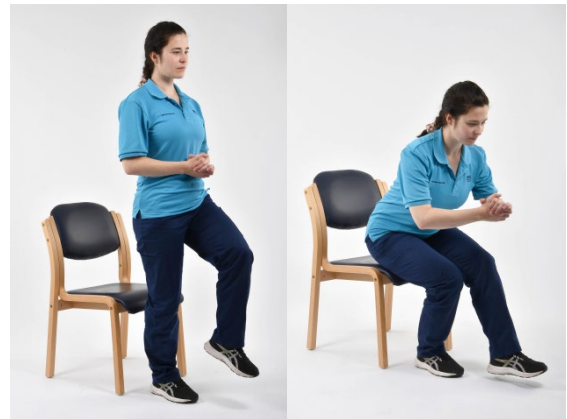
3. Step up and downs sideways:

You can use a bottom stair, or a mini stool (if stable and safe) for this. Please make sure there is something for you to hold on to if you want. Turn round so only your sore leg is on the step, and your other foot is hovering off the ground. Bend your standing leg so your hovering foot lowers towards the floor, and then push through your leg to stand tall again. Try not to place your hovering foot on the floor.



4. Single leg chair sits:

Stand tall on your sore leg in front of a chair. Ensure the chair will not move backwards if you were to sit down. You can hold onto a wall/surface if you need to. Bend the knee and push your bottom back so you feel the chair behind you. Try not to sit down. Then push up through the leg to stand tall again. If this is too hard you can just sit down & stand up on one leg, but try and do with this smooth movement and not 'fall' into the chair.



Returning to sport journey

Once your knee pain has decreased and the flexibility/strength of your leg is improving you should gradually return to normal activities. If you can hop, skip, and jump without pain you are probably ready to restart your sports. This often has to be a flexible process as some days your knee may feel better than others.

- Always try and pace your return: restart one activity or training session a week
- Remember to always warm up and cool down
- Keep going with your stretches
- Inform your coaches that you may need to adapt the activity for a wee while whilst you get back to your normal. They should be able to help you.

It is ok to exercise when you still have a little bit of pain, but this discomfort should settle quickly after you finish exercising.

Further treatment advice

Other advice that may help your knee pain is:

- Avoid sitting with your knees bent with your legs folded under you. Try sitting with your feet flat on the floor. Remember to change position regularly to keep moving and stop feeling stiff.
- Try stay fit, healthy and move regularly. It is important to eat healthily and follow the recommended daily exercise guidance of 30 minutes activity each day.
- Shock absorbing footwear such as supportive trainers that have been designed for this purpose can help to ease the loading and stress on your knee cap.
- Pain relief can help if your pain is really bothering you – please contact your pharmacist for advice around what to take.
- Stay positive – anterior knee pain can be frustrating and can take a long time to settle. It is safe to continue being active despite your pain.

Managing Physical Activity Levels

Managing the amount of high intensity exercise you participate in each week will allow your body to properly recover. After holidays and injuries remember to build back up to normal levels of activity slowly.

A useful guide is to limit high-intensity activity to no more than 4 sessions per week and to try not to participate in high-intensity activities on 2 consecutive days. By planning recovery days you are allowing your body to get stronger, adapt and repair. Getting high quality sleep is also a key factor in this.

Try to limit your total number of hours of structured sports per week to no greater than your age.

Below is a useful table for you to manage what you are asking your body to do;

Training	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
PE							
School activities							
Out of school activities							

Further advice

If you have followed all of the advice above and you have not noticed any improvement in your symptoms within 6 weeks, you can contact the physiotherapy department on details below.

Physiotherapy Team
Therapies Department,
Royal Hospital for Children and Young People,
50 Little France Crescent
Edinburgh
EH16 4SA

Telephone 0131 312 1079