



AKP Exercise & information

Anterior Knee Pain

Anterior knee pain (AKP) is a broad term describing a group of conditions that cause pain at the front of the knee. It can occur in one or both knees. There are many factors that contribute to anterior knee pain.


It is a common condition in adults and is routinely managed conservatively (without any surgical intervention).



Causes

There are many causes of Anterior Knee Pain, the most common include:

- Patellofemoral pain
- Arthritis
- Patellar tendonitis
- Bursitis
- Injuries/Trauma to bones or muscles
- Being overweight
- Poor exercise habits e.g. a sudden increase in activity following a period of inactivity.



Patella is the
medical term
for the Knee
Cap

Symptoms

Patients with anterior knee pain may present with 1 or more of the following common symptoms;

- Pain around the knee
- Clicking or grating noises/sensations
- A feeling of instability or giving way.

To find out which structures may be causing the problem, Professionals such as Physiotherapists will ask what aggravates your symptoms.

This type of knee pain is often brought on by activities such as:

- Climbing or descending stairs
- Squatting
- Kneeling
- Long periods of sitting with the knee bent
- Depressing the clutch pedal in the car

Prognosis

Anterior knee pain can take time to settle as you improve the strength and mobility around the knee. Typically, symptoms of this type of knee pain settle over 6 months if you follow the advice and exercises provided. If appropriate, your Health Care Professional may discuss additional treatment options with you if they are required.

Management

Strategies you can use to help reduce symptoms:

- **Strengthen.** If the muscles around the thigh, hip and ankle are weak, this can lead to increased pressure through the front part of the knee, increasing the probability of symptoms. Research shows us that for many of the conditions giving rise to AKP, completing hip exercises may be more effective than thigh exercises. In the longer term, combining both thigh and hip muscle exercise is the most effective approach to reduce pain.
- **Stretching.** If the muscles around the knee and ankle are tight, this can cause changes to the way that the knee joint functions.
- **Activity modification.** Reducing the activities that aggravate symptoms can allow any inflammation or swelling to settle.
- **Managing your weight.** If you are overweight, then reducing your body weight will help to reduce the amount of strain on the knee. Weight reduction has also been shown to reduce inflammation in the body.
- **Pain reduction using ice/heat.** Using Ice to cool or heat to warm the painful area can be helpful in managing pain, swelling and help the healing process. The smaller the body area the less time you will need to keep the ice or heat on. Start with 5 minutes but no more than 15/20 minutes per body part. Use a damp towel between yourself and the ice to prevent any cold burns. Use a dry towel between yourself and the heat to prevent heat burns. Regularly check your skin while using ice or heat and remove immediately if any burns or injury occurs. Use Ice for Pain relief or after activity/exercise. Use heat for pain relief or before activity/exercise. Only use heat/ice if your skin sensation is normal.
- **Pain medication.** Over the counter pain relief medication can be used to reduce your pain so you can be more active or complete your exercises.

All medications have side effects and must be used carefully. Paracetamol and ibuprofen are the most common over the counter pain killers. However, some medical conditions will prevent you from taking them so, you should always check with your GP or Pharmacist to ensure they are safe for you.

Further Information

Let your health care professional know if you experience:

- Locking of your knee
- Giving way of your knee where you are unable to prevent a fall
- Swelling, heat and redness around the knee
- Inability to take weight through the leg.
- Trauma where you hear a 'pop' sound in the knee

Further information can be found on the following website:

<https://www.versusarthritis.org/about-arthritis/conditions/osteoarthritis-of-the-knee/>

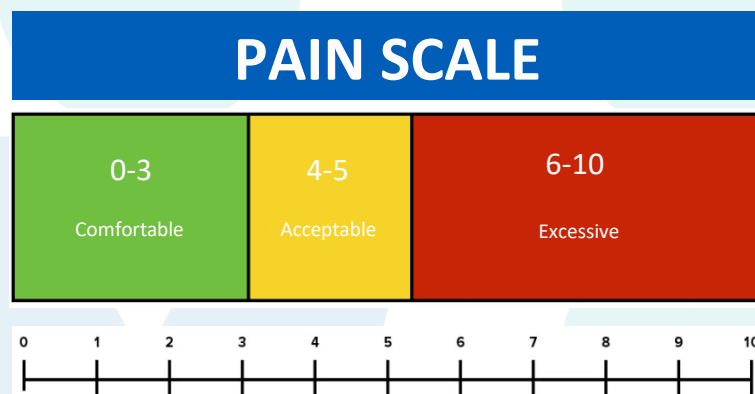
Exercise

Pain during exercises should be manageable. Aim to stay within the green and amber zones. If experiencing excessive pain then you can modify the exercise, and then slowly build it back up over time;

- Reduce the range of movement
- Reduce repetitions
- Reduce the resistance/weight being used
- Slower, less intensity and control the movement more
- Increase the rest between each set of exercises

Progress onto the next stage of exercise once they become easier and you can fully complete the exercises in the comfortable zone of the pain scale.

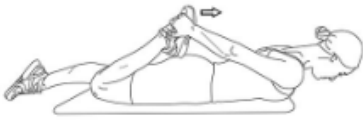
- Pain after exercise should settle to your pre exercise levels within 30-60 minutes.
- Pain or stiffness due to exercise in the next morning should not last longer than 60 minutes.
- Use your pain relief, ice/heat or anything else you have found that eases your symptoms to help manage.





Stage 1

Quadriceps stretch



Lie face down, and bend your knee bringing your heel towards your bottom. Use your hand or a towel to pull your heel further to your bottom. You will feel a strong but comfortable stretch in the front of your thigh. Continue this exercise through all 3 stages.

Hold for 30 seconds | Repeat 3-4 times | Perform 1 times daily

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Inner Range Quadriceps Strengthening

Lie on your back with a rolled-up towel underneath your knee. Contract the muscles in the front of your thigh to press the back of your knee down into the towel. At the same time, lift your heel off the floor to straighten your leg. Only your heel should lift off the floor.

Repeat 8 repetitions 3 times | Perform 1 times daily



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Straight Leg Raise



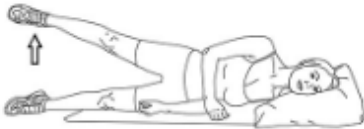
Lie on your back and straighten your knee by clenching your thigh muscles. Keeping your knee straight, lift your leg off the floor as far as feels comfortable then slowly lower. As you get stronger and more flexible try and lift it higher. Hold for 5 seconds, then relax.

Repeat 8 repetitions 3 times | Perform 1 times daily

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Stage 2

Hip Abduction



Lie on your side and lift your leg up towards the ceiling. Make sure your top leg stays slightly behind the line of your bottom leg, so your hip is slightly extended. Lift your leg as high as you comfortably can and hold for 5 seconds then slowly lower.

Repeat 8 repetitions 3 times | Perform 1xdaily

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Wall Squats

Open your legs to shoulder width and stand with your back resting against a wall. Slide down the wall to bend your knees as far as you can **WITHOUT** causing knee pain.

Make sure you push your knees slightly apart as you slide down, do not let your knees fall together. Always keep your feet flat on the ground and do not let your heels raise off the floor.

Repeat 8 repetitions 3 times | Perform every other day



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Bridge

Lie flat on your back, with your knees bent, and shoulder width apart. Squeeze your bottom muscles and lift your bottom off the floor trying to prevent your knees from wobbling or touching in the middle. Keep your arms by your side and use them to help you balance.

Avoid over arching your lower back

Repeat 8 repetitions 3 times | Perform 1xdaily



Stage 3



Lunge

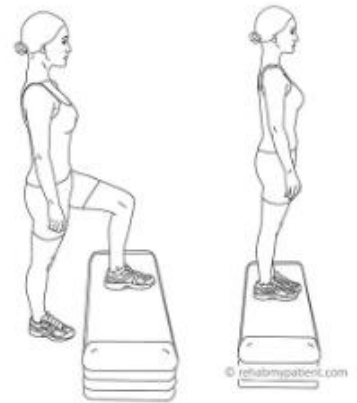
Take a step forwards and bend the front knee past the vertical. The back knee drops towards the floor. Maintain good alignment by keeping your knee in line with the middle of your foot and never letting your knee drop inwards or outwards. Only go as far as feels comfortable.

Repeat 8 repetitions 3 times | Perform every other day

Step ups (Box step)

Step onto a box or step, placing both feet on the step, and then step down leading with the same leg that you first stepped up with.

Repeat 8 repetitions 3 times | Perform every other day



Bulgarian split squat

Place one foot on a chair or bench behind you, and the other flat on the floor. Go into a squat position by bending your knee as far as comfortable. Make sure you keep your knee in line with the middle of your foot, do not let your knee drift outwards or inwards. Then straighten your leg to the start position.

Repeat 10-15 repetitions 3 times | Perform every other day

