

# PATELLOFEMORAL PAIN

The knee comprises of three bones: the femur (thigh bone), tibia (shin bone) and patella (kneecap). The femur and tibia meet and form the main knee joint however the femur also meets the patella, forming the patellofemoral joint. There are many structures surrounding the knee, such as muscles, ligaments and fat pads that provide stability, cushioning and strength.



Pain around, behind or under the kneecap is referred to as patellofemoral pain. This pain is very common and can affect both males and females of all activity levels. Symptoms of patellofemoral pain include:

- Pain around the kneecap
- Pain with running or hopping (or walking if more aggravated)
- Pain with squatting
- Pain with stair climbing
- Pain with a sustained knee bend

There are a number of different causes of patellofemoral pain. The main causes are:

- Excessive loading or a rapid increase in physical activity that the knee cannot cope with
- Poor biomechanics that can lead to 'tracking' of the kneecap
- Muscle imbalance/weakness which can result in poor biomechanics
- Anatomical structure of the knee

Muscle/biomechanical issues that can cause patellofemoral pain:

- Pelvis drops on the opposite side, which can place more tension on the outside of the leg and pull the patella outwards
- Hip collapses inwards due to weak hip muscles which then affects knee alignment
- Weak thigh muscles, resulting in poor support for the knee
- Tight lateral structures of the leg, which can pull the patella outwards
- Foot rolling inwards, which can place more tension on the inside of the knee

## Treatment

- If there has been an increase in load, reducing the load to settle the knee
- If there are muscle imbalances/weaknesses that is causing knee pain, exercises to strengthen the muscles around the knee and hip
- Knee taping can relieve pain in the short term and help to ensure that the patella is tracking correctly, however exercise is the optimal form of treatment
- Manual therapy/stretching to reduce muscle tightness
- Orthotics may reduce pain if the foot is impacting on knee position