

## PATELLOFEMORAL PAIN SYNDROME

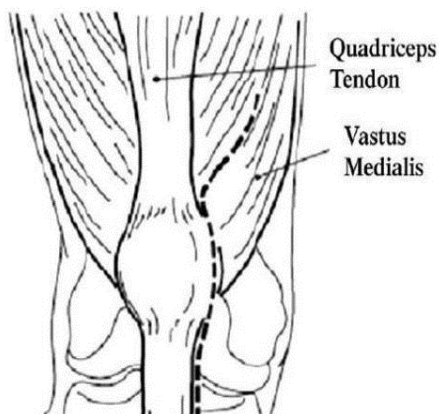
**Patellofemoral pain** is caused by a misalignment of the kneecap (patella) in relation to the thigh bone (femur). Pain occurs when the kneecap tracks incorrectly in the groove of the thigh bone causing friction of the joint surface. It can be due to any or all of the following factors;

- Muscle weakness of the upper leg, hip and pelvis
- Muscle tightness upper leg, hip and pelvis
- Poor foot mechanics

### WHAT CAN I DO ABOUT IT?

Things that can help to improve patellofemoral pain syndrome include;

- exercises
- joint mobilisation
- taping
- change of footwear
- soft tissue releases
- orthotics



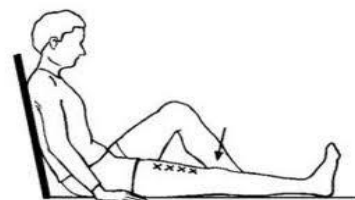
You have four quadricep muscles at the front of your thigh attaching to your knee cap. The inner most quadricep muscle is called Vastus Medialis Oblique (VMO) and plays an important role in good tracking of the knee cap. In patellofemoral pain syndrome, VMO is often weak and slow while the outer quadricep muscles are strong and tight. Focussing on improving the activation and strength of VMO can help to significantly improve symptoms.

Another very important factor is achieving good alignment of the leg. In relaxed standing, walking and running the hip, knee and ankle should all be aligned.

Below are some example exercises which may help to improve patellofemoral pain syndrome. Please be aware that, if performed incorrectly, these exercises may provoke pain. If you are unsure, ask your physiotherapist.

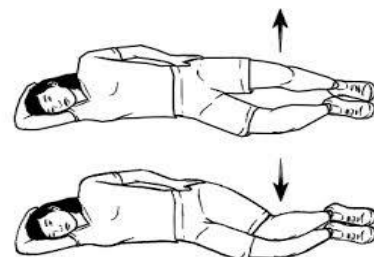
### STATIC QUADRICEPS

Sit with legs supported and fully extended on bed/couch/floor. Slowly engage your upper thigh muscles to press the knee into the bed. Try to focus on engaging the inner part of the thigh muscles as well as the outer  
Hold for 10 seconds and then relax. Repeat 3 x 12



### HIP STRENGTH

Lay on your side with knees bent to 90° and feet together. Keep heels together and lift the upper knee only as far as you can without twisting the pelvis  
Slowly lower and repeat 3 x 12



### MINI SQUAT

Stand with feet hip width apart with knees aligned over 2<sup>nd</sup> and 3<sup>rd</sup> toe. Take the bottom backwards and bend the knees to 45° ensuring they stay aligned. The knees should not move forward of the toes but rather the bottom should move back. Return to standing position and repeat 3 x 12

