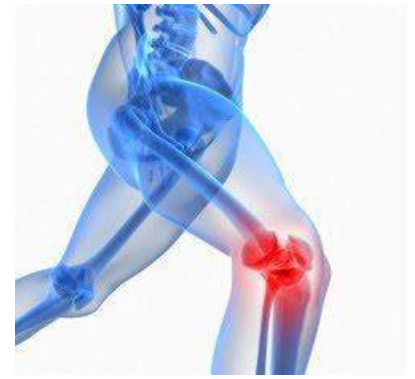


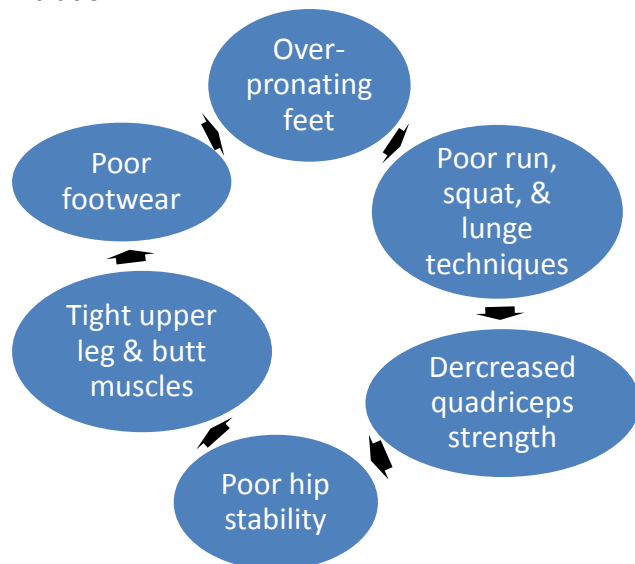
# Patella femoral pain syndrome

Peter Halstead (M. Phty, PGDipSportMed, BspEx, MPNZ)



Patella Femoral Pain Syndrome (PFPS) is pain resulting from the back of the patella (knee cap) rubbing against the femur (thigh bone). It is one of the most common problems treated by Physiotherapists. The pain is usually a build-up of pressure over a period of time but can occur suddenly. Typically, running and going down stairs/hills will increase your pain. In most cases people notice the pain when they have changed something in their activity regime, for example increased their work or training load, changed their footwear or training surface, or increased the amount of leg activity they do. For some, continually performing the same leg exercises or participating in the same gym classes can also contribute.

The pain you experience from PFPS can have several contributing factors. Some common factors that you and your therapist can improve include:



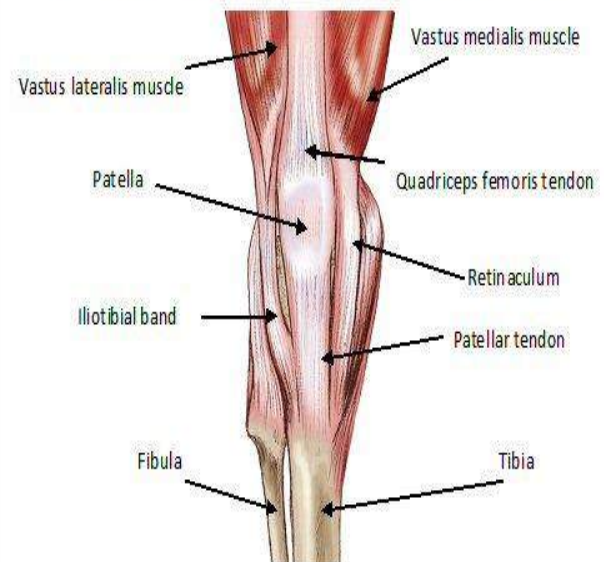
Genetic factors, including the makeup of your bones, can also contribute to your pain

**If you do not fully correct the contributing factors then the reoccurrence rate of PFPS is very high.** You may increase your risk of long term bone damage or arthritis in the knee joint.

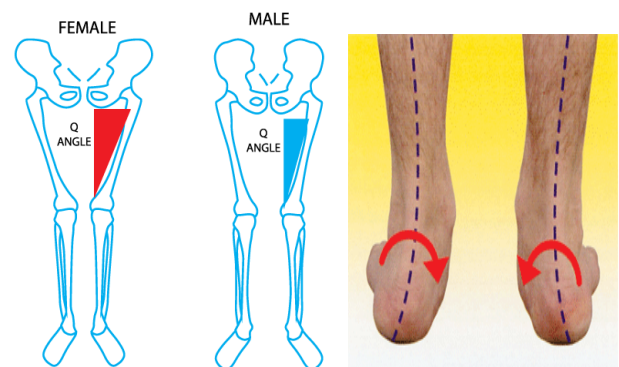
To resolve your pain and make sure it doesn't return again it is essential that you correct the imbalances identified and fully participate in all steps of your rehabilitation plan.

***Please turn over for treatment advice***

## Basic Anatomy: Front View of the Right Knee:



Loaded flexion (bending) activities, for example stair climbing, can increase the load on the knee joint by up to 8 times your body weight.



Wider hips (Q-angle) and over-pronation of the feet can contribute to PFPS

## What treatment is recommended?

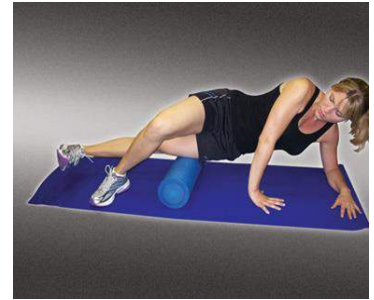
### Stage 1: Relief of symptoms

In stage one the purpose is to identify the structures contributing to your pain and use the techniques below to help decrease it. Successful techniques include:

- Soft tissue massage and muscle release
- Dry needling
- Joint mobilisation
- Knee joint or foot taping
- Gentle muscle stretching

To assist in your recovery your therapist may recommend that you modify your exercise regime and ice your knee after exercise.

Foam rollers are great for relieving the tightness in your ITB (down the side of your leg), quadriceps (thigh), and calf muscles



### Stage 2: Local muscle strengthening

The purpose of this stage is to begin to perform local exercise strengthening and stretching in the areas that have been identified as most likely contributing to your pain. Common areas/imbbalances are listed on page one of this information sheet.

Your therapist may also analyse how you are walking and where the pressure is going through your feet. In the lower limb if you are putting too much pressure on one side of your foot or on one leg then this can contribute significantly to your knee pain. A referral to a podiatrist is sometimes necessary, especially if your feet excessively pronate.

Local muscle strengthening of the deep hip muscles



### Stage 3: Larger integrated muscle strengthening

Once you have learnt how to perform isolated muscle strengthening and stability in stage 2 you then need to learn to use these muscles in larger, full body movements. Squats, lunges, bulgarian squats are common exercises included in this stage of rehabilitation.

**Step 3 and 4 are the most important steps to manage and prevent the reoccurrence of your knee pain.**

Squats with a band



### Stage 4: Return to sport and maintenance

If you wish to return to higher level gym training, running, or a particular sport then your therapist will look at how you are performing the key movements involved in your sport/activity. For example, if running is involved then your therapist may video your running technique, analyse it, and give you technique advice to stop this pain coming back as you return to running again.

Running analysis:



When learning to use new muscles or new movement strategies it is essential that your technique is correct. Your physiotherapist can assist you with this. If your technique is incorrect you will reinforce the old movement patterns that may have led to your knee pain in the first place. If your therapist is concerned about your technique then they may choose to do an exercise-based treatment session with you, instead of hands on treatment.

**Learning and then maintaining new movement strategies can take weeks-months to master.** To avoid reoccurrence it is recommended that once you reach stage 3 and 4 of your rehabilitation program that you then incorporate some of the key exercises into your weekly training regime long term.

*This educational hand-out was developed by Peter Halstead in 2012. The content is based on the most up-to-date research available at the time and it is reviewed on a yearly bases. The information contained is for the general public. If you have current pain or issues with your health please discuss this with your health professional prior to beginning the exercises discussed. If you have any questions regarding the content of this hand-out please contact Peter at [www.PTPete.co.nz](http://www.PTPete.co.nz)*

Like us on Facebook <https://www.facebook.com/ptpete.co.nz> OR visit [www.PTPete.co.nz](http://www.PTPete.co.nz)