

## Musculoskeletal Physiotherapy

### Information for patients

# Anterior Knee Pain

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## Introduction

The purpose of this leaflet is to provide you with some general advice about how to manage your knee pain and some simple exercises.

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### **Anterior knee pain** (known medically as patellofemoral pain syndrome)

Patellofemoral pain is the medical term used when pain occurs at the front of the knee, around the kneecap (patella). It is a common problem (22.7% of the general population and 28.9% of adolescents) and can be caused by many different factors.

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The patella (kneecap) lies within the quadriceps tendon. This large tendon from the powerful thigh muscles (quadriceps) wraps round the patella and is attached to the top of the lower leg bone (tibia). The quadriceps muscles straighten the knee.

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### **What are the symptoms of patellofemoral pain?**

**Pain** - Pain can vary from a dull ache, to sharp twinges in the front part of the knee. It can be aggravated by activities such as running, jumping, walking down hills or steps or sitting for long periods with the knee bent.

**Noises** - There may be a grating or grinding feeling or a noise when the knee bends and straightens. This is called crepitus.

**Swelling** - Sometimes there is puffiness or swelling around the kneecap.

**Weakness** - The thigh muscles may feel weak and you may have episodes of giving way, especially when walking down stairs.

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## How is patellofemoral pain diagnosed?

The diagnosis is made from your symptoms, the history of the problem, and an examination of your knee.

Tests, such as X-rays or scans, cannot diagnose patellofemoral pain and are often not helpful.

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## Contributing factors:

Many things can contribute to the pain which can include:

- Weak knee and hip muscles (the exercises below will start to address this)
  - Tight leg muscles (the stretches below will help to address this)
  - Overuse - a sudden increase in activity that you are not used to e.g. running more often, significantly further, faster, increased gradients, increase in stair climbing or similar, increase in training or change in footwear.
  - Previous knee injury/ surgery
  - Foot/ankle problem (including flat feet) or previous injury
  - Once the pain is triggered it can be maintained by the fear of moving normally or feeling that you may damage the knee by being active.
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## Advice/Treatment

### Change activities that make your symptoms worse

- Try to reduce prolonged sitting especially with the knee bent.
- Reduce activities that seem to overload the knee cap (the ones that cause a significant increase in pain)
- Keep active with activities that cause no pain or only mild discomfort.

### Try to relieve the pain

There are many pain relieving medications that may help. Your GP or pharmacist can advise you on what to take.

### Physiotherapy

A long-term home exercise programme, for at least one year. Start with exercises as shown below.

### Suitable footwear

For example, arch supports if you have flat feet; suitable shoes if you are running.

### Weight Management

Being overweight or obese increases stress on your knee joints. It can put you at increased risk of osteoarthritis.

Surgery is no longer recommended.

The ultimate goal of treatment is to improve the individual's capacity to tolerate load by implementing an appropriate exercise programme and advice on activity modification.

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## Exercises

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### **Calf stretch**

Stand with one leg behind and feet facing forward  
Front knee bends, back knee straight  
Keep back heel down and lean forward  
Feel stretch in calf with back leg  
Hold 30 secs 2 repetitions  
Repeat with other leg  
Repeat daily

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### **Single leg stand – hip muscle activation**

Squeeze buttocks and then take weight onto weaker leg  
Keep balance and good upright stature  
Keep shoulders and pelvis level  
Try hold balance for up to 10 secs  
Try to repeat this little and often throughout the day

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### **Small squat behind chair**

Keep feet hip width distance apart, both facing forward.  
Keep upright stance and keep knee hip and ankle in line.  
Slowly bend knees between 30 and 45 degrees as you feel comfortable.  
Can progress to deeper squat and/or single leg as pain allows using good balance /control as in ex 2.  
Repeat 5-10 times, 3 times daily or little and often during day.

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### **Sit to stand** (if you are able to do this without significant pain)

Stand with feet hip width apart  
Bend your knees and hips and squat down onto the chair.  
Knees and toes should be pointing in the same direction.  
Sit down lightly and push back up to the starting position using your front thighs and buttock muscles.  
Repeat 5-10 times, 3 times daily or every time you get up and down from chair.

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**You may feel some mild discomfort during these exercises but if you feel a significant increase in pain then stop doing that particular exercise (or adjust it) until you can seek advice from your physiotherapist.**

If this advice sheet does not help your symptoms there are more resources available for you to look at on the TIMS website.

Most patients will improve within a six week period with this advice, however, should your knee problem persist then contact TIMS on the number below.

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## For further information

Please ring our Booking Office on **0191 4452643** or visit our website at: [www.tims.nhs.uk](http://www.tims.nhs.uk) which provides online guidance and support on managing your musculoskeletal (MSK) condition effectively.

The NHS website also provides trusted online information and guidance on all aspects of health and healthcare to help you manage your condition and/or inform your choices about your health: [www.nhs.uk](http://www.nhs.uk)

## Feedback

We also welcome feedback from patients about their experiences with our service and this can be done through our patient advice and liaison (PALS) team on 0800 032 0202 or [northoftynepals@nhct.nhs.uk](mailto:northoftynepals@nhct.nhs.uk)

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## Tyneside Integrated Musculoskeletal Service

TIMS is a partnership between Newcastle upon Tyne Hospitals NHS Foundation Trust and Gateshead Health NHS Foundation Trust

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Information provided by Senior Physiotherapist  
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