

Patellar tendinopathy advice leaflet (Jumper's knee)

What is a patellar tendinopathy?

Patellar tendinopathy (often called Jumper's knee) is a common soft tissue injury of the knee. It can occur when the patellar tendon is unable to cope with the level of strain placed on it. This can lead to microscopic changes within the tendon fibres. As the tendon tries to heal, the fibres within the tendon become disorganised this can become painful.

It is sometimes called a tendonitis or a tendinosis. Often the tendon will feel tender to touch and many people describe stiffness of the tendon in the morning or if they sit or drive for a long time.

Why do you get a patellar tendinopathy?

Most commonly a patellar tendinopathy is caused by a sudden change of activity, this might include:

- Excessive sport involving jumping e.g. basketball, volleyball, gymnastics, high jump and ballet.
- Excessive lower limb weight training e.g. squatting with a weight (too many squats, repeated squats that are too deep or squatting with a weight that is too heavy).
- Too much hill running, particularly running downhill.
- Increasing running distance or speed too quickly.
- Increasing the intensity of sport too quickly e.g. playing football more often or playing to a higher level.

Investigations

A clinician may confirm a patella tendinopathy by a considering your symptoms and the findings of an examination.

The diagnosis is sometimes confirmed on an ultrasound scan or an MRI (Magnetic Resonance Imaging).



What is the treatment for a patella tendinopathy?

Changing your activity

Depending on your pain, it may be necessary to reduce some of the load on your patellar tendon. This may include avoiding sports that involve jumping, hopping, or sprinting. However, it is important to stay as active as possible with other exercise such as swimming, cycling, or using a cross trainer. It is important not to rest completely.

Strengthening exercises

You will need to do exercises that increase the strength of the tendon. You may need to start with a low weight, exercising slowly and then gradually increase the speed and the load of the exercise until you can cope with the forces involved in your sport. Your pain will guide you in the progression of your exercises, e.g. if your knee pain is more painful the day after doing your exercises you may need to make your exercises easier by reducing the load, speed or number of repetitions.

It is also important to strengthen the other muscles in your leg including the calf and the buttock muscles, they can help to work as shock absorbers reducing the load on the tendon.

Unfortunately, there is no quick fix for a patellar tendinopathy. You need to gradually strengthen the tendon until it is strong enough to cope with more activity.

You should avoid stretching the tendon as this can aggravate the pain. You may also need to avoid deep squats e.g. squatting beyond 90° as this can also aggravate the pain.

Are there any other treatments for a patellar tendinopathy?

Simple insoles in your trainers may help to reduce the pain.

Steroid injections should be avoided around the patellar tendon, there is a risk it may weaken the tendon and may be associated with rupturing the tendon.

Other injections such as PRP (platelet rich plasma), have shown to help with the pain but they are only as effective as doing strengthening exercises.

Exercises for patellar tendinopathy

The amount of pain in your knee will guide you in your exercises. If the exercises make your knee pain worse the next day you should reduce the number of repetitions, the weight or the speed of the exercises.

Stage 1 - Exercise for the patellar tendon (isometric exercises)

If your knee pain is moderate or severe and is painful on simple activities such as walking or going up and down stairs you should start on this exercise.

1. Start with you back against a wall with your feet shoulder width apart.
2. Stand on the painful leg.
3. Slowly slide your back down the wall
4. Hold the position for 30 seconds

Repeat this exercise 5 times.



Stage 2 - Exercises for patellar tendon

If your knee pain is mild and you have no pain when walking but mainly when you are running, hopping, jumping or during your sport you should start gentle exercises for your quadriceps using weights.

If you can go to a gym, you can use the leg extension or leg press machine:

It is ideal if you use the weights on just your painful leg.



- You should start with a gentle weight that does not aggravate the pain the day after exercising.
- Repeat 4 sets of 6 repetitions.
- Repeat this exercise 2/3 times a week
- Start by doing this exercise slowly.

You can make this exercise more difficult by increasing the weight and then by increasing the speed. (If there is more pain the day after exercising you may need to reduce the intensity of your exercise).

As a general guide, if your sport is high impact you will need to continue this exercise until you can repeat it using weights approximately 1 to 1.5 times your body weight, using one leg.

If you do not have access to a gym, you can do a similar exercise at home (see next section).

Stage 2 - Alternative exercise for patellar tendon (if you are unable to go to a gym)



Retro step down

- Stand on a step on your painful leg (you should start holding a small weight)
- Slowly step down with your non painful leg and the return to the start position.
- Repeat 4 sets of 6 repetitions.
- Repeat this exercise 2/3 times a week.

You can make this exercise more difficult by increasing the weight and then by increasing the speed. (If there is more pain the day after exercising you may need to reduce the intensity of your exercise).



As a general guide, if your sport is high impact, you will need to continue this exercise until you are able to step down with weights as heavy as half of your body weight (you may need to put the weights in a rucksack).

You will need to continue the stage 2 exercise twice a week for at least 6 months to continue your improvement.

Stage 3 - Exercises for patellar tendon (hopping/jumping)

If your sport involves hopping and jumping you will need to start hopping and jumping exercises.

You are ready to start hopping and jumping when you can do the stage 2 exercise using a heavy weight (mentioned above) without increasing your knee pain the next day.

Gradually build up the amount of hopping and jumping.

An example of hopping and jumping exercises are:

- Jumping- build up to 2 sets of 60 reps
- Hopping 2 x20 reps,
- Jumping up onto a step 2x5 reps.
- Finally, you can start hopping up onto a step 2 x5 reps

Additional exercises for the rest of your leg

You may also improve you knee pain by strengthening the rest of your leg

An example of exercises for the calf and glutes:

- Single leg glut bridge and heel lifts (see picture below)
- Repeat these exercises until light fatigue 2/3 times a week.



If you have any queries regarding the contents of this leaflet, please contact the RUH Physiotherapy Department. Telephone: 01225 824293

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