

## Simple knee exercises

One very powerful way of controlling your knee pain is to do daily range of motion exercises, putting your knee through full movement several times a day. This prevents stiffness developing and stretches all the attached muscles, making them less vulnerable to sudden demands.

Please note that exercises can make your pain worse as well as better so please consult the [simple exercise guidance](#) before getting on with them. If you have any doubts, please consult your physio, other manual therapist or medical practitioner.

These exercises are meant to maintain range of motion or regain loss of movement in the knee region and to help control pain. Regular performance of movements can help with pain problems.

They are simple and not magical in any way. However, with regular performance, you should find your problems are improved.

If you have long term knee pain with some disability these exercises may help mobility but may not be very effective against pain.

Do each movement slowly five times, resting a short time in between each set of movements. Do two or three times a day although more often can be useful. You can increase the numbers over time as you get more confident.

## Quadriceps tensing

The quadriceps ("four heads") is the main muscle controlling the knee. For normal knee function it is essential that the quadriceps muscles remain strong and well co-ordinated. The stability of the knee largely depends on this muscle. The quadriceps, along with the buttocks, are the main muscles which allow us to go up and down stairs, rise from a chair and walk normally.

The first image shows the knee muscles in a relaxed state, with a smooth outline over the thigh.



Lie with your leg out straight. Tense up the thigh muscles, trying to push to knee down and raise the heel. Hold that for a few seconds. Try not to tense up the buttock muscles, you should be able to see the muscles on the front of the thigh tensing up and the kneecap move.

You can see the difference here in the second picture, although it is not very obvious in most people. The ability to do this exercise is a basic requirement in the self-management of knee problems. Some people find this very difficult and can't quite get the tensing up right, so they might find the next exercise more appropriate.



## Inner range contractions

I like this exercise, I think it's one of the best for activating the quadriceps muscles. When you do this exercise, the correct muscles have got to be working.

Place a small object under your knee such as a rolled up towel, then keep the knee on the roll while you lift the heel. Try and get the knee completely straight without raising the knee from the roll. If you do this properly, the quadriceps (the most important stabilising muscle around the knee) must be contracting properly.

If this is difficult, start with a larger roll so you can get your heel up. As the roll gets smaller the exercise gets harder. You can progress your ability this way.



## Straight leg raise

I'm not terribly fond of this exercise, as it stresses the hip and its muscles a lot, but it can be useful.

Keep your knee absolutely straight and lift the leg up six inches/18 cm off the surface.

**NB if you have a hip replacement on the same side do NOT do this.**



## Knee bending

Knee bending is important for normal life. We need 70 degrees for normal walking and 110 degrees to go up and down stairs. It's more common in knee problems to have problems with straightening the knee, but knee bending is worth practising.

Bend your knee as far as it can easily go, making sure you get to the end of the movement. Hold for a second or so then straighten and repeat.



## **Prone knee bends**

Lie on your front. Keeping your thigh down, bend your knee as far as you easily can. This is more difficult because one of the knee muscles is tighter on your front.

This is just a list of the simplest exercises, for an injury or after a knee replacement. There are many other exercises but they need to be designed to fit with the knee problem concerned, so consult your physical therapist.

