

Physiotherapy – Orthopaedics

Fractured shaft of femur - intramedullary (IM) nail

What is a fractured shaft of femur?

A fractured shaft of femur is a break in the long, straight part of the thigh bone. The femur is the longest and strongest bone of the body, and a break is usually the result of a motor vehicle collision or a heavy fall.

How is it treated?

Your fracture has been fixed by an orthopaedic surgeon with an intramedullary nail (IM nail). An IM nail is a titanium rod that is surgically placed into the hollow centre of the bone. The rod is fixed in place with screws. This will keep the bone ends together and allow them to join together over time to give a strong, stable, full-length fixation.



What can I expect afterwards?

You will need to rest until the effects of the anaesthetic have worn off. You will be given painkillers which will make you feel more comfortable and enable you to move your leg.

You can expect swelling after this type of injury, and this may last for a few weeks. Apply an ice pack to the injured area for 15 minutes to help bring down the swelling and to help ease the pain. This process can be continued at home by using some frozen peas wrapped in a damp towel.

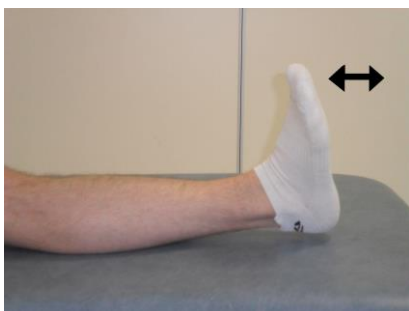
Usually, you will be able to get out of bed with the guidance of a physiotherapist the day after your surgery. You may also be able to start walking with a frame or elbow crutches.

Your physiotherapist will advise you on how much weight you can put through your leg. They will work with you to improve your mobility, joint range of movement and muscle strength until you are ready for home.

Exercises

To get the best outcome from your surgery, it is essential that you do the exercises given to you by your physiotherapist at least 3 times a day.

Ankle pumps



Whilst lying on your back, briskly point your toes up and down for the count of ten.

Patient Information

Static quadriceps



Pull your toes up towards your shin, tighten the thigh muscles at the front of your leg and push the back of your knee into the bed. Hold for 5 seconds and **repeat 10 times**.

Inner range quadriceps



Place a rolled towel underneath your knee. Push your knee down into the towel and lift your heel off the bed as high as you can, without lifting the knee from the towel. Return to the resting position and **repeat 10 times**.

Hip/ knee flexion lying down



Slide your heel up the bed and bend your hip and knee. Return to the resting position and **repeat 10 times**, trying to take it a little further each time.

Patient Information

Knee flexion sitting



In a sitting position, bend your knee as much as you can. Place your good leg over the lower half of the operated one to increase the stretch and hold for 5 seconds. **Repeat 10 times.**

Open chain quadriceps



In a sitting position, lift your heel off the floor and straighten your knee. **Repeat 10 times.**

Patient Information

Contact details for further information

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X-Ray image of IM nail is from Ha, Sung-Soo, et al. "[Exchange nailing for aseptic nonunion of the femoral Shaft after Intramedullary nailing.](#)" Journal of Trauma and Injury 33.2 (2020): 104-111, used under [CC BY-NC 4.0](#).

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