

Femoral Shaft Fracture

You have broken a bone (*fracture*) in the shaft of the thigh bone (*femur*). This is the bone between the hip and the knee. It usually takes a large amount of force to break this bone. There are often other injuries present. Most femur fractures do not penetrate the skin (*closed fractures*). An open fracture occurs when the end of the broken bone punctures the skin.

CAUSES

A fall, a car accident, or other injury with sufficient force can break a healthy femur. A femur weakened by osteoporosis or other diseases can be fractured with less force. Rarely, can cancer affect a bone and weaken it at a certain point, leading to a fracture with minimal force.

SYMPTOMS

The symptoms of a femoral shaft fracture are usually obvious. The main findings are severe pain and an inability to walk. The area will likely develop a large black and blue mark. Bleeding can be substantial.

DIAGNOSIS

The fracture may be suspected based on symptoms and examination. The fracture will be confirmed with an x-ray of the thigh bone. X-rays are often taken of the hip, knee, and pelvis as well. This is because the force usually required to break the femur can break other bones. If there are injuries to large blood vessels associated with this injury, you may need specialized x-rays (*arteriograms*) to evaluate this. Evaluation of the nerves in the area is also important.

PREVENTION

The elderly, people with damage to the nerves in their feet, and people with balance disorders are at increased risk for falling. They should use aids for walking (walkers, canes) as directed by their caregiver. People whose bones are thinning (*osteoporosis*) should follow their caregiver's advice regarding strengthening the bones in order to avoid a fracture if they fall.

PROGNOSIS

Traumatic fractures usually heal well. Mild degrees of weakness and functional disability is expected following healing of the fracture. It generally takes a full year following a femur fracture to reach full recovery. Older persons have a higher chance of complications, including death. If the fracture was the result of cancer in the bone or osteoporosis, the prognosis for recovery depends on the severity of the underlying illness.

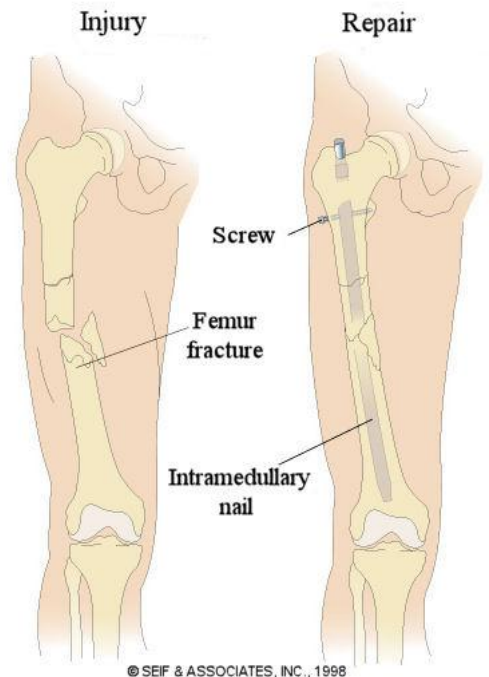
RISKS AND COMPLICATIONS

Significant anemia can develop if blood vessels are damaged from the fracture. People with a femur fracture are at risk for blood clots developing in their legs. This is because of the swelling and the immobility after the fracture and after treatment. Talk to your caregiver about ways to prevent a blood clot. Infection can complicate an open fracture. The infection can complicate any surgery done to treat the fracture. Nerve damage can also result from a femur fracture.

TREATMENT

The treatment of this injury requires a surgical procedure. There are usually three options for surgery:

- If there is extensive soft tissue injury, your caregiver may hold the bones in place with pins (*external fixation*). After a period, this may be converted to a different surgical treatment such as intramedullary nailing (see below).



- **Intramedullary nailing** is usually the best treatment if there is not a fracture in the neck of the femur. The neck is the portion of the femur between the ball of the hip joint and the shaft of the femur. Intramedullary nailing is preferable because only a small skin cut (*incision*) is used to insert a rod. The intramedullary nail (*rod*) goes down the center of the shaft of the femur. It may be inserted from the top of the femur near the hip or through the knee joint. Generally, screws are placed through the rod at both ends to prevent shortening and/or rotation of the femur as it heals. Nails provide good stability and have excellent results. The procedure has a 99% success rate. Complications are rare.
- **Plates** may be used to stabilize the fracture of the shaft, particularly when the fracture is at either end of the bone, near the hip or knee. Plating has a higher complication rate. Complications from plating include infection, delayed healing (*delayed union*), and the inability of the plates to hold the bones in place (loss of *fixation*).

Your caregiver will discuss your injuries with you. You and your caregiver will decide which procedure will be best for you.

BEFORE AND AFTER YOUR SURGERY

Prior to surgery, an intravenous line connected to your vein for giving fluids (IV) may be started. Through the IV, you will be given fluids and eventually medications and gas to make you sleep (*anesthetic*). After surgery, when you are awake, stable, and taking fluids well without complications, you will be returned to your room. You will receive physical therapy and other care until your caregiver feels it is safe for you to be transferred either to home or to an extended care facility. Your caregiver may increase your activity level as you are progressing.

- You may resume normal diet and activities as directed or allowed.
- Change bandages (*dressings*) if necessary or as directed.
- Only take over-the-counter or prescription medicines for pain, discomfort, or fever as directed by your caregiver.

SEEK IMMEDIATE MEDICAL CARE IF:

- Swelling of your calf or leg develops.
- Shortness of breath or chest pain develops.
- A rapid increase in pain develops.
- Redness, swelling, or increasing pain in the wound develops.
- Pus is coming from wound.
- An oral temperature above 102° F (38.9° C) develops.
- You notice a bad smell coming from the wound or dressing.
- The wound starts breaking open (edges not staying together) after sutures or staples have been removed.

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