

Femoral Shaft Fracture

You have a *fracture* (break in bone) of the shaft of the *femur* (thigh bone). 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 are *closed fractures* (without skin penetration); an open fracture occurs when the end of the broken bone punctures the skin.

CAUSES

A fall, 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, cancer can 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, with severe pain and inability to walk as the main findings. Bleeding can be substantial, and the area will likely develop a large black and blue mark.

DIAGNOSIS

The fracture may be suspected based on symptoms and examination, and is confirmed with an x-ray. Because the force usually required to break the femur can break other bones as well, X-rays are often taken of the hip, knee, and pelvis. If there are injuries to large blood vessels associated with this injury, you may need to be 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 (*peripheral neuropathy*), 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 with osteoporosis should follow their caregiver's advise regarding strengthening the bones in order to avoid a fracture if they fall.

PROGNOSIS

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

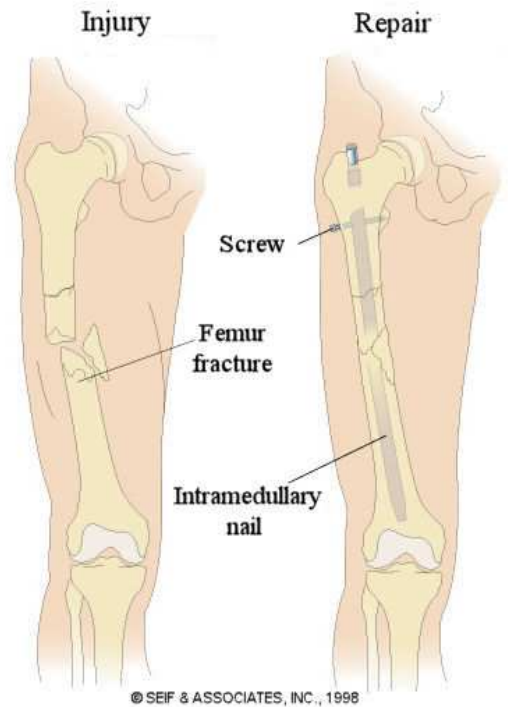
RISKS AND COMPLICATIONS

Significant *anemia* (low blood count) 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 because of immobility after the fracture and after treatment. Talk to your caregiver about ways to prevent a blood clot. Infection can complicate an *open fracture* (where the end of the broken bone punctures the skin), and can complicate any surgery done to treat the fracture. Nerve damage can also result from a femur fracture.

TREATMENT

The treatment of this injury almost always requires an operation. There are usually three options for surgery:

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



nailing. This technique is also used where there is severe lung injury involved.

- Intramedullary nailing is usually the best treatment if there is not a fracture of 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 it is nearly percutaneous treatment. This means that only a small skin incision (cut by the surgeon) is used to insert a rod. The intramedullary (IM) 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. IM nails provide good stability and have excellent results. The procedure has a 99% success rate. Complications are rare. Complications include infection, shortening of the leg following healing, and small degrees of malrotation. This means the toes may point out or in a few degrees as compared to the intact leg.
- 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 union* (delayed healing), and *loss of fixation* (the inability of the plates to hold the bones in place).

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 IV (intravenous line connected to your vein for giving fluids) may be started. Through the IV, you will be given fluids and eventually an *anesthetic* (medications and gas to make you sleep). You may alternatively be given medications in your back to make you numb from the waist down. On occasion, blood may have to be replaced during or prior to the procedure. After surgery, you will be taken to the recovery area where a nurse will monitor your progress. You may have a *catheter* (a long, narrow, hollow tube) in your bladder following surgery that helps you pass your water. The catheter will be removed as soon as it is appropriate. When you are awake, stable, and taking fluids well and without complications, you will be returned to your room. You will receive physical therapy and other care until you are doing well. 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 activity level will change as your caregiver feels you are progressing.

- You may resume normal diet and activities as directed or allowed.
- Change dressings if necessary or as directed.
- Take prescribed medication as directed. You may use ibuprofen (Advil[®] or Motrin[®]) or acetaminophen (Tylenol[®]), in their usual doses, for discomfort if approved by your caregiver.

SEEK IMMEDIATE MEDICAL CARE IF YOU HAVE:

- Shortness of breath or chest pain.
- Rapid increase in pain and swelling in the leg.
- Redness, swelling, or increasing pain in the wound.
- Pus coming from wound.
- An unexplained oral temperature above 102° F (38.9° C) or as your caregiver suggests.
- A bad smell coming from the wound or dressing.
- A breaking open (edges not staying together) of the wound after sutures or staples have been removed.