

Plain Language Summary

Hip Fractures in Older Adults

Background

This plain language summary is an overview of the surgical management of hip fractures in adults over 55 years of age.

The hip joint is a ball and socket joint that allows you to move your leg; with the ball being the top of the femur (thigh) bone, and the socket being the cup portion of the hip (pelvis). A hip fracture is a break in the upper quarter of the femur bone. Femoral neck fractures and intertrochanteric fractures are the most common type of hip fractures. A femoral neck fracture is when the bone breaks about 2 inches below where the femur bone meets the socket. An intertrochanteric hip fracture is located below the femoral neck and is where several muscles attach. It is estimated that 325,000 hip fractures occur annually in the United States, with most fractures being in women over 65 years of age. As the population ages, this number is expected to increase.

What are risk factors for a hip fracture?

Low energy hip fractures typically occur with a fall from a standing position or direct impact to the hip. Hip fractures in older adults are often associated with bones becoming weaker from a loss of calcium, which is generally due to osteoporosis (low bone density). Additionally, other issues such as impaired balance, the pattern in which you walk (gait disturbance potentially caused by osteoarthritis of the hip or knee), poor vision, unsafe living conditions (cluttered spaces, throw rugs, lack of grab bars), and

absence of supervision may increase the chance for falls, and potentially result in a hip fracture.

What are treatment options for a hip fracture?

Treatment options depend on many factors including the severity of the fracture, patient's overall health, and activity level of the patient. Surgery is typically the preferred option for patients with a hip fracture. Strong evidence states that the routine use of preoperative traction, or the use of weights to pull bones into a better aligned position, should not be used for patients with a hip fracture. Strong evidence also indicates that interdisciplinary care programs should be used in the care of all hip fracture patients to decrease complications and improve outcomes. These programs involve clinicians from many specialties who work together to care for the patient and may include management of pain related to the fracture and associated surgery, treatment of low bone density, and those to reduce the risk of falls, improve overall quality of life, optimize nutrition, and minimize increased disorientation in patients with dementia or other underlying cognitive issues.

What is done to prepare for surgery?

Moderate evidence shows that surgical treatment for a hip fracture should be within 24-48 hours following hospital admission, as this is associated with better patient outcomes. While this timeframe from admission should be the targeted surgical goal, this may not always be possible, due to the patient's

underlying health factors, or resources within the medical facility, such as the availability of the surgical team, and/or operating room.

Prior to surgery the medical team will make any adjustments in the patient's medications which may promote a better outcome. Lab tests and other diagnostic tests may be ordered prior to surgery. Additionally, pain management prior to surgery may be a combination of medications and nerve block. Strong evidence recommends that a preoperative nerve block injection be administered to numb the injured hip, as this helps control pain from the fracture.

Surgical treatment

Before surgery, anesthesia will be administered to keep the patient from feeling pain. General anesthesia or spinal anesthesia are the most common types of anesthesia used during hip fracture surgery, and both are very safe and have similar patient reported outcomes.

For displaced (unstable) femoral neck fractures, moderate evidence supports hip replacement instead of stabilizing the fracture with rods or plates and screws. During partial hip replacement, the fractured femoral head is removed, a metal stem is inserted into the top of the femur and a ceramic or metal ball is placed on top of the metal stem. While most patients are treated with a partial hip replacement, some patients benefit from total hip replacement (THA) in which a socket is placed into the cup portion of the pelvic. Strong evidence also supports that the metal stem placed into the upper femur should be anchored there with bone cement, as this results in higher patient reported outcomes, as well as lower risk of an additional bone fracture around the hip implant replacement.

When undergoing THA or a partial hip replacement, there are several areas where the surgeon will make an incision into the skin and muscle to repair the damaged hip. The surgeon may make an

incision from either the anterior (on the front of the upper thigh), posterior (along the buttock and outside of the hip), or the lateral (incision on the side of the hip) approach. Moderate evidence shows no difference in patient reported outcomes when utilizing any of these approaches.

For stable intertrochanteric fractures, strong evidence shows that either a sliding hip screw or a cephalomedullary device (a rod that is inserted inside the bone marrow of the femur), should be used. However, for unstable or certain fracture types, strong evidence supports use of a cephalomedullary device

What to expect following surgical treatment for a hip fracture

Postoperative care consists of a team of doctors, which may include geriatric and orthopaedic providers, as well as nursing, dietary, and occupational and physical therapists. The medical team may use blood tests to monitor the need for a transfusion. Moderate evidence shows hemoglobin levels (hemoglobin is a protein in your red blood cells that carries oxygen throughout the body) lower than 8g/dl as a threshold for a patient needing to receive blood. For pain management, a combination of medications in different modes may be used to help manage pain following surgery. Nerve blocks may also help control postoperative pain.

After surgery, the patient can expect to get up and move around as soon as possible, as early movement lowers the chances of developing a blood clot. Additionally, medicines to thin the blood, as well as compression stockings that squeeze the legs to reduce swelling and move the blood through the veins, may be prescribed.

Physical and occupational therapy both in the hospital and after being discharged is recommended to improve the patient's ability to function and help prevent future falls, and a possible secondary fracture.