Redeemer Health

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HIP FRACTURE AND REHAB PROTOCOL

What is a Hip Fracture?

A hip fracture is a break in the upper quarter of the femur (thigh) bone. The "hip" is a ball-and-socket joint. It allows the upper leg to bend and rotate at the pelvis. An injury to the socket, or acetabulum, itself is not considered a "hip fracture." Management of fractures to the socket is a completely different consideration.

How Hip Fractures Happen?

Injury is an obvious cause of hip fractures. In the aging population, an injury can result from something as simple losing one's balance and falling to the ground. While many hip fractures probably occur this way, it is also true that the fall may have happened as a result of fracturing the hip. The hip actually breaks first, causing the person to fall. Osteoporosis is a disease in which bones become fragile and more likely to break, this can weaken the neck of the femur to the point that any increased stress may cause the neck of the femur to break suddenly. An uncertain step may result in a twist to the hip joint that places too much stress across the neck of the femur. The femoral neck breaks, and the patient falls to the ground. It happens so quickly that it is unclear to the patient whether the fall or the break occurred first. Some causes of osteoporosis may be related to:

- Aging
- Heredity
- Nutrition/Lifestyle
- Medications or other illnesses

How do doctors identify the problem?

The diagnosis of a hip fracture usually occurs in the emergency room. X-rays are typically used to determine if a hip fracture has occurred and, if so, what type of fracture it is. The orthopaedic surgeon will use the X-rays to determine if a surgical procedure will be necessary and to decide what type of procedure to suggest. In a few cases, X-rays may not show the fracture. If the hip continues to hurt and the doctor is suspicious that a hip fracture is present a CT scan, sometimes called CAT scan is recommended. This is a noninvasive medical test that helps physicians diagnose and treat medical conditions. CT imaging combines special X-ray equipment with sophisticated computers to produce multiple images or pictures. Lastly, if needed an MRI may be done. The MRI scanner uses magnetic waves rather than radiation to take multiple pictures of the hip bones. Tests such as chest X-rays, blood work, and electrocardiograms may be ordered to assess your overall condition.

The treatment for a hip fracture begins immediately by making sure you are medically stable. Once the doctor is sure that you are stable, decisions concerning the treatment of the fracture can be made. Most hip fractures would actually heal without surgery, but the problem is that you would be in bed for eight

to twelve weeks. Doctors have learned over the years that placing an aging adult in bed for this period of time has a far greater risk of creating serious complications than the surgery required to fix a broken hip. This is the main reason that surgery is recommended to nearly all patients with hip fractures. Nearly all hip fractures in the elderly are treated with some type of surgical operation to repair or replace the fractured bones.

The goal of any surgical procedure to treat a fractured hip is to hold the broken bones securely in position, allowing the patient to get out of bed as soon as possible. Many methods have been invented to treat the different types of fractures. Most hip fractures are treated in one of the following ways: with metal pins, with a metal plate and screws, metal rod and screws, or replacing the broken femoral head with an artificial implant consisting of metal and plastic.

1. Metal Screws
    a. Fractures that occur through the neck of the femur, if they are still in the correct position, may require only two or three metal pins to hold the two pieces of the fracture together. This procedure, called hip pinning, you will be partial weight bearing until I see you at follow up visit, then I will most likely allow you to bear full weight. Use walker or assistance for the first 2-4 weeks.
2. Metal Plate and Screws
    a. Some hip fractures occur below the femoral neck in the area called the intertrochanteric region. These fractures are called intertrochanteric hip fractures. These hip fractures are usually the result of a fall and often are the hardest type of fracture to treat. They often involve more than one break. As a result, several pieces of broken bone must be held together. A combination of a plate on the outside of the bone and a large screw are used to hold the pieces in place.
3. Intramedullary Nail
    a. A combination of a rod on the inside of the bone and a large screw are used to hold the pieces in place. This procedure allows you to begin putting weight on it right after surgery.
4. Artificial Replacement of the Femoral Head (Hemiarthroplasty)
    a. When the hip fracture occurs through the neck of the femur and the ball is completely displaced, there is a very high chance that the blood supply to the femoral head has been damaged. Most surgeons will recommend removing the femoral head immediately and replacing it with an artificial femoral head made of metal. This operation is called a hemiarthroplasty. (Hemi means half, and arthroplasty means artificial joint.) The procedure is called hemiarthroplasty because only half of the joint is replaced. The socket of the hip joint is left intact.

<u>Waking up from Surgery</u>

Following surgery you will go to the recovery room or PACU, post anesthesia care unit. There, a nurse will be monitoring you closely. Other recovering patients will be around you and you may hear sounds from monitors and other machines. You may be sleepy and confused upon waking up because the

anesthesia has not completely worn off. You may feel yourself drifting in and out of sleep as you slowly become more alert. Opening your eyes may be hard at first. Your incision will probably feel uncomfortable and your throat may feel sore. Your nurse may give you pain medication to make you more comfortable. Some anesthesia gases may remain in the lungs after surgery. Deep breathing is crucial for expanding and clearing the lungs. You may also find that fluid or mucus may collect in the lungs during surgery, coughing is the best way to get rid of it, after taking three deep breaths cough several times as hard as you can. Do not be discouraged if this is difficult at first.

What to Expect Following Surgery

The aim of most surgical procedures for a fractured hip is to help people get moving and walking as quickly as possible. A physical and or occupational therapist usually works with patients in the hospital soon after surgery. You may be assisted from your bed to a chair during the day. You may begin walking with a walker or crutches, practice dressing, accessing the bathroom, and start doing exercises to tone the muscles around the hip and thigh and to prevent the formation of blood clots. The amount of weight that can be placed on the operated leg depends on the type of surgery performed. Most patients are able to start full weight bearing right away after surgery. Depending on the severity of the fracture, you may only be able to place partial weight down right after surgery.

Pain Management

The incision area may burn and you may feel stiff but as soon as your body heals you will increasingly feel more comfortable. Pain medication may be given by injecting it into your IV, using a PCA, (patient controlled analgesia), or in pill form. Do not hesitate to ask for pain medication at the first sign of discomfort. The nurse will frequently ask you what your pain level is at, 0 being no pain and 10 being the worst possible. Asking for the medication is better than letting the pain become more severe. If it is too soon for more medication the nurse may change your position, turn your pillow, or try other alternatives to make you comfortable until it is time for your next dose of pain medication. Pain medication may not completely stop the pain but will help take the edge off.

Blood Transfusions

There is a chance of needing a blood transfusion during or after your surgery based on several factors. Your blood will be drawn to see what your red blood cell count is, and if it is low a transfusion may be needed.

Hip Fracture Guide Common Problems

Most of the issues that occur after a hip fracture result from having to put an aging adult on bed rest. These can include:

- Pneumonia
- Pressure ulcers (Bed Sores)
- Deep Vein Thrombosis (DVT/Blood Clots)

• Urinary Tract Infection (UTI)
• Mental confusion

Getting you out of bed and moving can reduce the risk of developing all these complications. If an operation is necessary to stabilize the fracture and you can get out of bed quickly, this will actually reduce the overall risk of developing these complications. That does not mean that the complications may not still occur after surgery, but they are far easier to treat if you can be mobile.

Therapy/Occupational Therapy

Therapy Discharge Goals
• Get in and out of bed without physical assistance.
• Transfer from bed to chair safely with use of walker/crutches without physical assistance.
• Walk 150 feet with walker/crutches safely without physical assistance.
• Climb and descend curb/stairs with/without rail with supervision or no physical assistance needed.

Occupational Therapy Goals
• Safely manage toileting with walker/crutches without physical assistance.
• Perform safe tub/shower transfer with minimal to no caregiver assistance.
• Able to dress self with minimal to no caregiver assistance using tools as needed.
• Communicate an understanding of hip precautions if applicable.

Helpful Tips by Time of Discharge
• Do all exercises 2–3 times a day, 10–20 repetitions each.
• Take your time when doing exercises. Slow steady repetitions are better than rushing through them.
• Do not hold your breath during the exercises. Continue with slow deep breathing.
• Choose a consistent time and place to exercise where you will have everything you need without distraction or interruption.
• Do not squat or kneel on knees until cleared by your doctor.

Caution: Please ask your surgeon about bending past 90°. This may need to be avoided while your hip is healing.

Ankle Pumps
1. Extend your foot as far as you can with toes pointing forward.
2. Then bring your foot back in the opposite direction towards your leg. You should feel the calf muscles working.
3. Repeat 10–20 times.

Quad Sets—Knee Pushdowns
1. Lie on your back, press knee into bed or couch. Hold for 4–5 seconds and release.
2. You should feel the muscles on front of thigh tighten.
3. Do NOT hold your breath.
4. Repeat 10–20 times.

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Hip Fracture Guide Gluteal Sets—Buttock Squeezes
1. Squeeze the buttock muscles together. Hold 4–5 seconds and release.
2. Do NOT hold your breath.
3. Repeat 10–20 times.

Heel Slides
1. Lying on couch or bed, slide the heel of your foot towards your buttocks.
2. Slide your heel to the original resting position.
3. Repeat 10–20 times.

Short Arc Quads
1. Lie on your back. Place a towel roll under your knee.
2. Lift foot, straightening knee.
3. Do NOT raise your thigh off the towel roll.
4. Repeat 10–20 times.

Abduction and Adduction
1. Lie on your back with legs together.
2. Slide your operated leg out to the side. Keep toes pointed up and knee straight. Return to starting position.
3. Slide your non-operated leg out to the side. Keep toes pointed up and knee straight. Return to starting position.
4. Repeat 10–20 times.

Hip Fracture Guide Hip Flexion
1. Holding onto a chair or other firm surface for support, begin marching in place.
2. When marching lift the legs so that the thigh is parallel to the floor and the knee is bent at least 90 degrees.
3. Repeat 10–20 times.

Ankle Dorsiflexion—Plantar Flexion
1. Standing, hold on to the back of a chair or other firm surface.
2. Go back on heels.
3. Return to starting position.
4. Rise up on toes.
5. Return to starting position.
6. Repeat 10–20 times