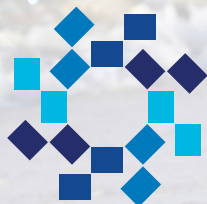




HIP FRACTURE HANDBOOK
A Guide for You and Your Family

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Hackensack
Meridian *Health*
Hackensack University
Medical Center

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This Hip Fracture Handbook contains information that can help you prepare for your surgery. It will also allow you to actively participate in your own healing, so that you can get back to work and other activities quickly and safely.

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Hackensack University Medical Center is pleased to provide access to the resource material contained herein. **This material is provided for informational use only and is not intended to be medical advice.** It is important that you discuss any questions you may have with your physician or healthcare provider.

Welcome to the Orthopaedic Institute at Hackensack University Medical Center and Our Specialized Hip Fracture Program

We welcome you to our specialized hip fracture program. Our program includes a dedicated and comprehensive team-based approach to promote your overall health and well-being.

A hip fracture in an adult is traumatic, and we are here to help guide and educate you throughout your entire stay. After a fracture occurs, potential medical complications could turn a simple break into a life-threatening illness. Our plan is to repair your hip, help make you comfortable, and get you back on the road to recovery. Research shows that the more quickly your hip is repaired, the sooner you'll get back to feeling like yourself again.

The members of your care team include:

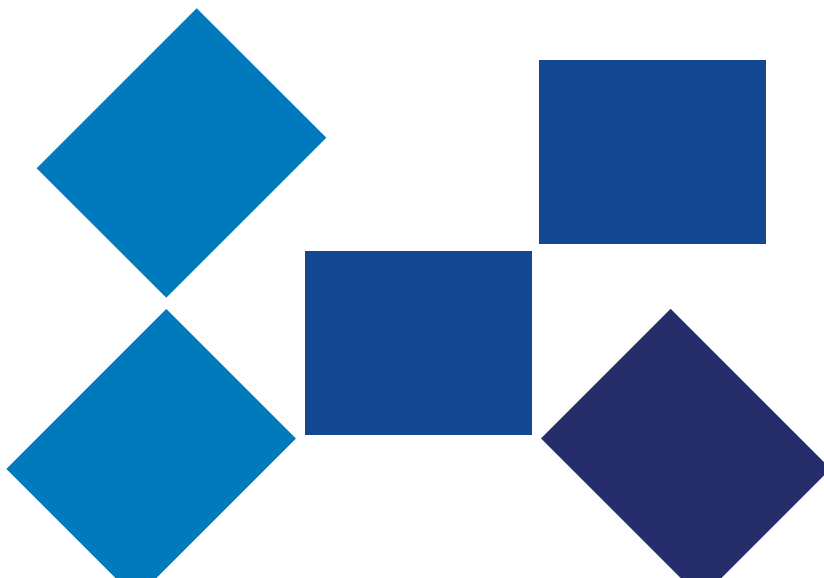
- EMS (Emergency Medical Services/Ambulance)
- Emergency and Trauma Center Staff
- Internal Medicine Physician
- Orthopaedic Surgeon
- Advance Practice Nurse (APN) and/or Physician Assistant (PA)
- Anesthesia Team
- Physical Therapists and Occupational Therapists
- Discharge Planners
- Nurse Navigator
- Hospital Elder Life Program (HELP) volunteer

Your daily bedside care will be provided by registered nurses and nursing assistants. You may also be seen by laboratory personnel, radiology personnel, respiratory therapists, and Pastoral Care representatives.

We look forward to helping you and your family!

Sincerely,

The Team at the Orthopaedic Institute at Hackensack University Medical Center



Your Experience with Us

The Hackensack University Medical Center Hip Fracture Program has been uniquely designed to provide assistance along every step of the way.



Fall at home or someplace else.



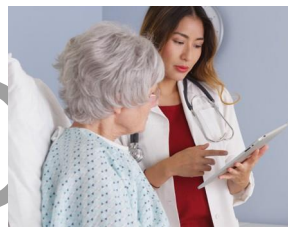
Orthopaedic surgeon fixes your broken hip.



Return to Orthopaedic unit. Team will get you ready for discharge.



EMS arrives and assesses your injury.



Arrive at Orthopaedic unit. Medical doctor to clear you for surgery.



Work with Physical Therapy to gain strength.



Arrive at Hackensack University Medical Center Emergency and Trauma Center.



Tests:

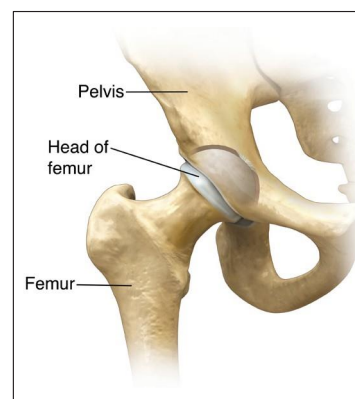
- X-ray/CT scan
- EKG
- Echocardiogram, if necessary



Return home or go to a sub-acute rehabilitation facility.

Understanding Your Hip

The hip is a ball and socket joint. The socket is part of the pelvis, and is known as the acetabulum. The ball is the top part of the thigh bone (femur) and is called the femoral head. The femoral head is attached to the femur by the femoral neck. The greater trochanter is the bump that you feel on the outside part of your hip. The lesser trochanter is a bump on your femur bone that is lower than the greater trochanter, and cannot be felt by your hand. The trochanters are where many of the large muscles attach to your hip and buttocks.



HIP FRACTURE

What is a hip fracture?

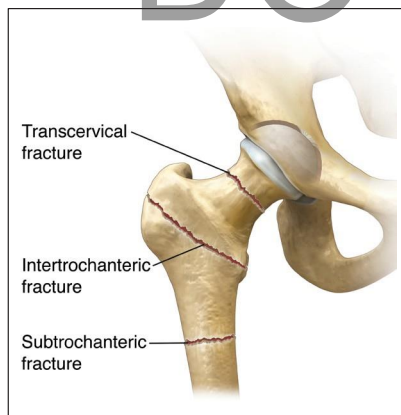
A hip fracture is a break in the top section of the femur (thigh) bone. There are a few different fractures that can occur. We will discuss these below.

How do hip fractures happen?

An impact injury (such as falling) is an obvious cause of hip fractures. While many hip fractures probably occur this way, it is also true that the fracture may have happened as a result of osteoporosis. We will discuss osteoporosis on page 13 of this booklet.

Types of Hip Fractures

As seen in the picture here, there are a few ways your hip can break:



Transcervical Fracture (Femoral Neck Fracture): In this type of fracture, the ball breaks off the top of the femur. This can disrupt the blood flow to the femoral head, which affects your treatment options.

Intertrochanteric Fracture: This type of fracture runs through the trochanters (the greater trochanter and the lesser trochanter, below the femoral neck).

Subtrochanteric Fracture: This is a break that occurs just below the trochanters, in the top part of the femoral shaft.

DIAGNOSING A HIP FRACTURE

The diagnosis of a hip fracture usually occurs in the Emergency and Trauma Center. An X-ray is the test most likely used to diagnose what type of hip fracture has occurred. The orthopaedic surgeon will use X-rays to determine if and which surgical procedure will be necessary to fix the fracture.

Sometimes, an X-ray does not adequately show the fracture. In these cases, the doctor may order a Computed Tomography (CT) scan or a Magnetic Resonance Imaging (MRI) to get a better view of the bones and structures.

Treatment Options

The surgeon can begin to treat your hip fracture once you are medically stable. When you are stable, the orthopaedic surgeon will discuss with you the type of fracture that has occurred and your treatment options. Although sometimes rare, surgery may not always be necessary for the fracture. Your doctor will discuss with you treatment options in those cases.

Metal Screws

If the fracture is through the femoral neck, but the pieces of the bone are still in place, metal screws are used to hold the fractured pieces of the bone together.

Metal Plate and Screws

For intertrochanteric fractures, the pieces are held together using a combination of a plate and screws. These are specially designed to hold the fracture together.

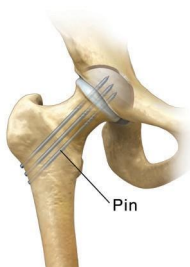
Cephalomedullary Nail

For intertrochanteric or subtrochanteric fractures, a metal rod placed inside the bone and screws connect the fragments of the fracture together.

Artificial Replacement of the Femoral Head (Hemiarthroplasty) or Artificial Replacement of the Femoral Head and Socket (Total Hip Arthroplasty)

In a femoral neck fracture, where the bones have moved out of place, there is a high risk of interruption of blood supply to the head of the femur. When this occurs, the fracture cannot be fixed. The surgeon will remove the existing femoral head and replace it with a metal ball.

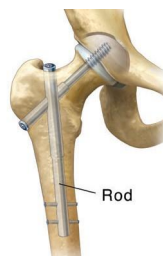
- If there is no damage to the socket, then a hemiarthroplasty is performed. In this surgery, your socket is left intact.
- If there is damage to the socket, a total hip replacement surgery is performed. This consists of replacement of both the socket and the head of the femur with metal components.



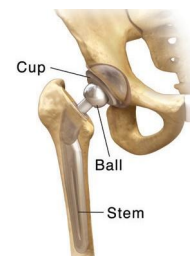
Metal Screw



Metal Plate
and Screw



Cephalomedullary
Nail



Hemiarthroplasty/
THA

Having Orthopaedic Surgery

Once the surgeon confirms that you need surgery, you will undergo medical clearance by one or more physicians. We need to ensure that you can physically tolerate surgery.

Exams/tests that may be ordered include:

- Physical examination
- X-ray
- EKG
- Echocardiogram
- Lab work
- CT

An anesthesiologist will make sure it is safe for you to receive anesthesia. Ask a friend or family member to provide an accurate list of current medications. This will ensure that you continue to receive necessary medications during your stay with us.

What to Expect: Before Surgery

Prior to your operation, you or a family member/designee will sign a consent for anesthesia and surgery. If you have questions regarding anesthesia and surgery, please make sure to discuss them with the doctors before it is time to sign the consent form.

A **team member** will help wash you with a medicated soap (such as Hibiclens®) before going for surgery. Please do not apply any lotions or powders to your body after you have been washed with the medicated soap.

Your doctor may order **Buck's traction** on your hip fracture leg. Buck's traction uses a soft boot that wraps around your foot and calf. It is connected to a string with a weight, and uses a pulley system to balance the weight off the end of the bed. Buck's traction works by pulling your leg bones into their normal positions. It helps reduce pain and prevent further damage to your leg.

A **respiratory therapist** will see you before surgery to teach you about ways to prevent pneumonia while you are in the hospital. One way to prevent pneumonia is to use a device called an incentive spirometer. An incentive spirometer is a plastic device that measures how deep of a breath you take. Take deep breathe with the incentive spirometer, as instructed by the respiratory therapist. This helps to keep your lungs clear.

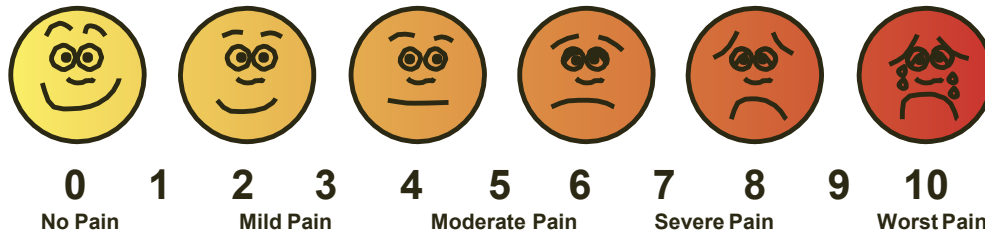


Perform **ankle exercises** in bed. Point your feet and toes up and down. Repeat 15 times every one to two hours. Rest as needed. This helps the blood circulate in your legs.

What to Expect: After Surgery

- **PAIN**

After surgery, you may have some pain. The nurses will ask you to rate your pain on a scale from 0-10 (0 is no pain, 5 is moderate pain, and 10 is the worst pain you can imagine). You can use this face scale as well:



- An **indwelling urinary catheter (IUC)** placed in your bladder. The purpose of the catheter is to drain urine from your bladder.
- An **intravenous tube (IV)** in your arm supplying fluids, blood and/or pain medication.
- A **drain** (small tube) to help draw excess blood and fluid away from your hip.
- An **ice pack** at the surgical site.
- Frequent monitoring of **vital signs** and sensation/movement assessments.
- **Oxygen** via a nasal cannula (a tube placed at your nostrils to deliver oxygen).
- **Sequential compression device** around your lower legs - a device that is made up of sleeves that go around your calves, and a machine that pumps air into the sleeves, causing them to inflate and deflate. This allows your blood to circulate and helps prevent blood clots (DVT- deep vein thrombosis).
- **Blood-Thinning Medication**
To prevent deep vein thrombosis, your doctor may prescribe blood-thinning medications, depending on your health history. Your doctor will discuss with you any medications you may or may not take.
- **Constipation**
Constipation may happen after surgery due to pain medication and limited physical activity. Ways to prevent constipation include:
 - Drink plenty of fluids.
 - Increase fiber intake at every meal (whole grains, fruits, vegetables, etc.).
 - Take medications prescribed to you that help lessen constipation issues.

Changes in Behavior or Mood

A hip fracture is a traumatic event that may cause or worsen other conditions (i.e. dementia, delirium, depression). You, your family and the healthcare team will work together to identify and manage these in the event they arise.

Delirium/Sundowning

Delirium or sundowning can happen suddenly and is sometimes witnessed in older persons following a hip fracture. The term sundowning originates from the timing of a person's confusion and is usually more noticeable when the sun is setting. Delirium can occur from traumatic injury, medical changes, medications, or for other reasons. Also being in a new environment, such as the hospital, can cause delirium.

Features of Delirium

While the staff has experience treating patients with delirium, it is important that you and your family become familiar with the symptoms of delirium. Sometimes your family may find that you are disoriented or confused. You or your family and/or friends may notice that your memory may not be as sharp as it was previously. You may become very agitated or resistant to care. You may become less active and show decreased interest in getting out of bed when asked. You may want to get up without any assistance or want to be taken home. Hallucinations are a common symptom of delirium, and you may think you are seeing things that are not real. This may cause you to become afraid.

Caring for Delirium

Here is a list of things your family and/or friends can do if you have been experiencing delirium. Please share this page with them:

- Talk with the healthcare team about the signs and symptoms you see.
- Talk with your loved one, using a calm, soft voice.
- Assure your loved one that he or she is safe.
- Realize that he or she is not himself or herself, and may forget what he or she says.
- Encourage him or her to do as much as possible for himself or herself. Help him or her with what he or she cannot do.
- Bring photos and familiar things.
- Think of a list of family and friends who may come and spend time with your loved one while he or she is in the hospital.

The Hospital Elder Life Program (HELP)

HELP is a delirium prevention program facilitated by trained volunteers. The volunteer's goal is to maintain your cognitive function by engaging you in conversation and therapeutic activities such as word searches, puzzles, trivia, and adult coloring. The volunteers also can help you order your meals and assist with feeding if needed.

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Physical and Occupational Therapy

Physical Therapy Discharge Goals

- Get in and out of bed with minimal to no assistance.
- Get from bed to chair safely with the use of a walker.
- Walk with walker/crutches safely.
- Go up and down curbs/stairs safely with and without a rail.



Occupational Therapy Goals:

- Safely manage toileting with walker/crutches.
- Get in and out of tub or shower with minimal to no assistance.
- Dress self with minimal to no assistance using dressing equipment as needed.



Helpful Tips with Exercise

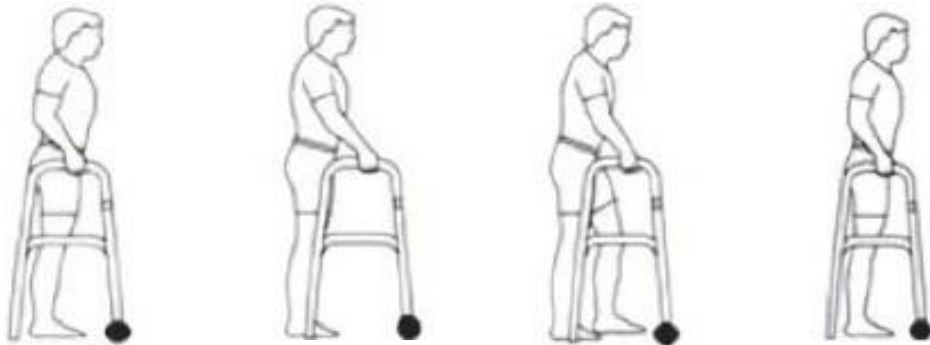
- Perform all exercises two to three times a day, 10 to 20 repetitions each.
- Take your time when doing exercises. Slow, steady repetitions are better than rushing through them. Rest as needed.
- Do not hold your breath during the exercises. Continue with slow, deep breathing.

Weight-bearing Status

Weight-bearing status refers to how much or how little weight you are allowed to put on your operated leg. Your surgeon will order your weight-bearing status after your surgery. Your nurse and physical therapist will explain this to you and watch as you demonstrate to him or her that you understand.

PROPER USE OF WALKER

1. Move the walker a few inches in front of you.
2. Lean on the walker with your arms.
3. Step into the walker with the operated leg first, then follow with your other leg.



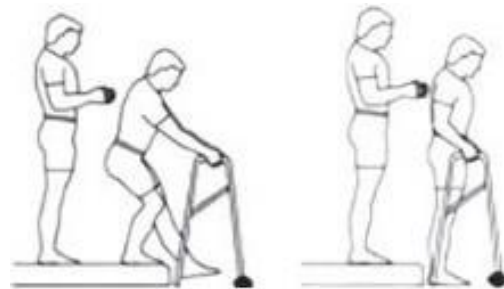
Stepping Up Onto a Curb

1. Approach edge of curb with walker.
2. Place walker up on curb.
3. Step up with non-operated leg.
4. Step up with operated leg.



Stepping Down From a Curb

1. Approach edge of curb with your walker.
2. Place walker all the way down to street level.
3. Step down leading with operated leg.
4. Step down with non-operated leg.



Discharge

Planning a successful recovery begins when you arrive at the hospital. The discharge planning team (Case Manager and Social Worker) will work with you, your therapists, and your insurance company to arrange your continued care after hospital discharge. You will either be discharged home with visiting nurse and physical therapy services, or to a rehabilitation facility. This will be planned with you by your care team.

Discharge Time

Discharge from the hospital occurs at 11 a.m. Please ensure your family brings everything that you may need for discharge, such as clothes, assistive devices and medications.

Follow-up Appointment

Please refer to your discharge paperwork to find when your surgeon will want to follow up with you after surgery. Your discharge paperwork will be given to you by your nurse.

Wound Care

Care of your incision depends on how your surgeon has closed your skin. Please refer to your discharge paperwork to find specific wound-care instructions.

Call your doctor if you have any of the following:

- Any drainage, redness, an increase in pain, odor or heat around the incision.
- Fever greater than 101.5 degrees Fahrenheit.

Call 911 if you have:

- A sudden shortness of breath or chest pain.

Basic Precautions

- Maintain weight bearing on your surgical leg as directed by your physician.
- Plan to use a chair with armrests and a seat higher than 18 inches.
- Do not twist your body with your feet planted on the floor/ground.

General Tips

- Have someone prepare your home for your return. Talk with your physical therapist, occupational therapist and case manager about equipment you may need for your home.
- Remove small throw rugs or use double-sided tape to keep rugs from slipping. Move electrical cords and wires away from walkways in order to avoid tripping or falling.
- Place frequently used items throughout the house at waist level so you can reach them easily.

Preventing Future Falls

Prevent falls from happening again. Follow these guidelines set forth by the Centers for Disease Control and Prevention (CDC):

PREVENTION TIPS

You and your family can play a role in preventing falls.

- **Get some exercise.** Lack of exercise can lead to weak legs and this increases the chances of falling. Exercise programs such as Tai Chi can increase strength and improve balance, making falls less likely.
- **Be mindful of medications.** Some medicines—or combinations of medicines—can have side effects such as dizziness or drowsiness. This can make falling more likely. Having a doctor or pharmacist review all medications can help reduce the chance of risky side effects and drug interactions.
- **Keep your vision sharp.** Poor vision can make it harder to get around safely. Adults should have their eyes checked every year and wear glasses or contact lenses with the right prescription strength to ensure they are seeing clearly.
- **Eliminate hazards at home.** Approximately half of all falls happen at home. A home safety check can help identify potential fall hazards that need to be removed or changed, such as tripping hazards, clutter and poor lighting.



STEPS FOR HOME SAFETY

The following checklist can help adults reduce their risk of falling at home:

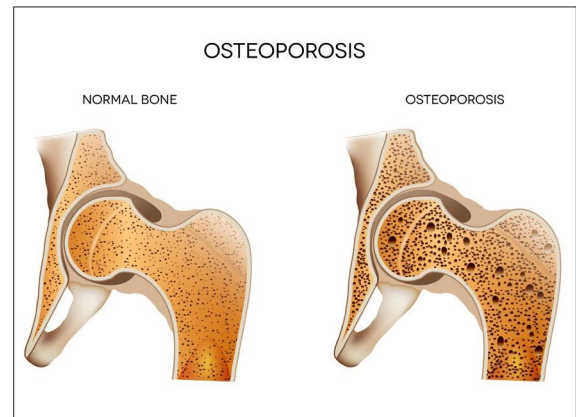
- Remove things you can trip over (such as papers, books, clothes, and shoes) from stairs and places where you walk.
- Install handrails and lights on all staircases.
- Remove small throw rugs or use double-sided tape to keep the rugs from slipping.
- Keep items you use often in cabinets you can reach easily without using a step stool.
- Put grab bars inside and next to the tub or shower and next to your toilet.
- Use non-slip mats in the bathtub and on shower floors.
- Improve the lighting in your home. As you get older, you need brighter lights to see well. Hang lightweight curtains or shades to reduce glare.
- Wear shoes both inside and outside the house. Avoid going barefoot or wearing slippers.

Osteoporosis

Osteoporosis is a disease in which bones become fragile and more likely to break. There are usually no symptoms of osteoporosis, and it can sometimes be referred to as the silent disease. Bones may weaken so much that a break can occur with very little impact.

CAUSES

The bones in patients with osteoporosis have been losing strength for many years leading up to the break. To keep your bones strong, your body breaks down old bone and replaces it with new bone tissue. As people age, more bone may be broken down than what is replaced. The picture on the right shows the bone looking like a honeycomb. When you have osteoporosis, the honeycomb grows larger (seen in the picture on the right), and the bone that forms the honeycomb gets smaller. Also, the outer shell of the bone gets thinner.



Some causes of osteoporosis may be related to:

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

PREVENTION

Prevention of weakened bones should happen at any age. Eating foods that are rich in calcium and vitamin D is important, as well as regular weight-bearing exercise.

Calcium: Getting enough calcium throughout your life helps to build and keep strong bones. Please speak with your primary care provider regarding the current recommendations for daily calcium intake.

Foods that are high in calcium are the optimal way to get the calcium that you need. Foods include: low-fat dairy, canned fish with soft bones (i.e., salmon), and some dark green, leafy vegetables. Some foods have calcium added such as orange juice, breads and cereals.

Vitamin D: Vitamin D is used by your body to absorb calcium. Most bodies are able to make enough vitamin D if they are out in the sun without sunscreen for 10 to 15 minutes at least twice a week. Vitamin D is also found in some foods including eggs, fatty fish, cereal and milk.

Please speak with your primary care provider regarding the current recommendations for daily vitamin D intake.



Exercise: When you are physically active, your bones and muscles will become stronger. Participating in weight-bearing exercises, three to four times a week, is one of the best ways to prevent osteoporosis. Examples of exercises you should be doing include walking, jogging, playing tennis, and dancing. Challenge yourself to try strengthening and balance exercises too. Just please make sure you have

someone there to spot you.

Medicines: Make sure you discuss with your primary care provider the medications that you are currently taking. Some medications can make your bones weaker. Also, an overactive thyroid gland or using too much thyroid hormone for an underactive thyroid can become a problem for osteoporosis.

Lifestyle: People who smoke have an increased risk of breaking a bone. Drinking too much alcohol can put you at risk for falling and breaking a bone.

Management of Osteoporosis

Treating patients with osteoporosis means stopping the bone loss and rebuilding bone to help prevent breaks.

As discussed, diet and exercise can help make your bones stronger. However, that may not be enough if you have lost a lot of bone density. If you have bone density loss, starting medication may be the next option. Some medications will slow your bone loss, while others can help rebuild bone. Speak with your primary care provider about which medications you can safely take.

Notes/Questions:

Control and Prevention. (2013, September 23). Preventing Falls Among Older Adults. Retrieved from: <https://www.cdc.gov/features/older-adult-falls/index.html>

National Institute on Aging. (2010, August). Osteoporosis: The Bone Thief. Age Page. pp [1-13]. <https://www.nia.nih.gov/health/osteoporosis>

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