

### Explanation of Diagnosis

Fragility fractures occur when the bones have become fragile due to low bone mass secondary to osteoporosis. You are at risk of broken bones if you have osteoporosis, a disorder where your bones have lost strength due to age, lifestyle behaviors, medications or other conditions. The bones of your back, wrist, and hip are more easily broken in people with osteoporosis. It is most common in the elderly. Patients who have sustained one fragility fracture have up to an 11% risk of a second fracture within 3 years of the initial injury. Fractures like the one you have often will occur because of poor bone health. There are 7 times more fragility fractures than there are heart attacks, and 11 times more than breast cancer or prostate cancer in the US each year.

### Treatment

You can prevent some osteoporosis from occurring with:

- Proper diet with calcium and Vitamin D
- Exercise
- Not smoking
- Limiting alcohol intake
- Limiting certain medications, if appropriate

Current guidelines from the Centers for Medicare and Medicaid Services recommend osteoporosis screening for adults aged 50 years and older who have sustained a fracture AND for all women aged 65-85 years AND for all men 70 and older.

If you meet these criteria, your provider may recommend a dual-energy x-ray absorptiometry (DXA).

**We recommend you follow up with a Bone Health specialist or your primary care physician for further screening and evaluation.** Having this screening is as important as checking your blood pressure, blood sugar, or cholesterol. It is easy and doing so can help prevent major problems, including future fractures. Treatment for osteoporosis can include exercise, diet changes, and/or use of specialized osteoporosis medications.

Falls are the primary cause of fragility fractures. You can help prevent falls by:

- Modifying your home environment (such as using nightlights, keeping floors clear, keeping electrical cords out of the way, using a rubber mat in the shower or tub, checking steps or curbs before stepping up or down)
- Wearing shoes with good traction. Using a cane or walker if you feel unstable
- Gradually getting up from a lying or sitting position
- Having your vision checked
- Understanding the side effects of your medications by discussing with your healthcare provider or pharmacist

Exercise preserves bone density and maintains muscle strength. Activities that improve balance, flexibility, and strength will help to reduce falls and fragility fractures. Discuss safe and effective exercises with your healthcare provider and/or physical therapist.

Calcium and vitamin D are essential for maintaining healthy bones. Calcium plays an important role in building stronger, denser bones early in life and keeping bones strong and healthy later in life. Getting the daily recommended amount of calcium through diet and supplements is essential to maintaining bone strength and can play a vital role in preventing osteoporosis related fractures.

To determine how much calcium is in beverages and foods, check the nutrition facts panel of the food label for the daily value (DV) of calcium. Food labels list calcium as a percentage of the DV. This amount is based on 1,000 mg of calcium per day. The easy way to change calcium DV % to milligrams is add a 0. For example, 30% DV equals 300 mg of calcium.

Food remains the best source of calcium. Dairy products are high in calcium, while certain green vegetables and other foods contain calcium in smaller amounts.

Calcium-fortified foods and calcium supplements are helpful for people who are unable to get enough calcium in their diets. Some juices, breakfast foods, soymilk, cereals, snacks, breads and bottled water have calcium that has been added. Soymilk that is fortified with calcium should be shaken well because the calcium can settle to the bottom. Many people do not get enough calcium in their diet and need to take a supplement or multivitamin with calcium.

Vitamin D also plays an important role in protecting your bones. Your body requires vitamin D to absorb calcium. When people do not get enough vitamin D, they can lose bone density. There are three ways to get vitamin D:

1. Sunlight: Skin makes vitamin D from the ultra-violet light (UVB rays) in sunlight. The body can store the vitamin and use it later. The amount of vitamin D your skin makes depends on age, time of day, season, latitude, skin pigmentation, and other factors. It is difficult to measure the amount of vitamin D that your skin makes.
2. Food: Vitamin D is naturally available in only a few foods. It is very difficult to get all the vitamin D you need from food. Foods that have vitamin D include fatty fish (examples are salmon, tuna, and mackerel), egg yolks, and liver. Vitamin D is also added to milk and to some brands of orange juice, soymilk, and cereals.
3. Supplements and medications: Vitamin D is available as a separate supplement, with the calcium supplement, and with some other medications (such as Fosamax, alendronate).

Below are the recommended dosages, based on age and gender for daily intake of calcium and vitamin D. If you have had a fracture, you may have a different recommendation to maintain healthy blood levels. It is important to read food labels and include food intake when considering supplementation.

Age	Male		Female	
	Calcium	Vitamin D	Calcium	Vitamin D
19 – 50 years	1,000 mg	600-4000 International Units	1,000 mg	600-4000 International Units
51 - 70 years	1,000 mg	600-4000 International Units	1,200 mg	600-4000 International Units
71+ years	1,200 mg	800-4000 International Units	1,200 mg	800-4000 International Units

### Questions

The CORE Institute is dedicated to your outcome. We are here to answer any question or concern that may arise after your surgery. If any questions or concerns arise, please call The CORE Institute at 1.866.974.2673.