#### **Patient Name:**

DXA (Bone density scan):

TBS (trabecular bone score):

FRAX Score:

## LABS

Calcium:

Vit D:

Parathyroid Hormone:

Thyroid Hormone:

Magnesium:

Phosphorus:

Celiac Panel:

24 hr Urine Calcium:

Testosterone (male only):

Other labs:

## **Previous/Current Treatment:**

## YOUR BONE HEALTH & FRACTURE PREVENTION PLAYBOOK

Thank you for joining our team at ValleyOrtho. We have the most comprehensive fracture prevention program in the valley. Our goal and the goal of this playbook is to help you learn how to stay active and healthy. We aim to prevent fractures, height loss, and continued bone loss. Each member of your Fracture Prevention Team plays a valuable role and has been trained to assist you every step of the way.

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# YOUR FRACTURE PREVENTION TEAM

## **Meet Your Physician**

Dr. Susan Inscore, MD

Dr. Inscore is a board-certified internal medicine physician and certified clinical densitometrist, specializing in the treatment and diagnosis of osteoporosis. Dr. Inscore joins ValleyOrtho from Valley View's Internal Medicine practice, where she provided primary care and bone health services to adults in the community for over 30 years. In her new role at

an and certified diagnosis of ew's Internal bone health her new role at

ValleyOrtho, she leads the Bone Health & Fracture Prevention Service, providing comprehensive treatment of osteoporosis as well as other metabolic bone conditions.

In addition to leading the Bone Health & Fracture Prevention Service at ValleyOrtho, Dr. Inscore also works as a hospitalist at Valley View. Originally from Arizona, she completed medical school at the University of Arizona and residency at the Marshfield Clinic in Wisconsin. In her free time, she enjoys hiking, camping, tele skiing and spending time with her family and 2 dogs.

## **Meet Your Physician Assistants,** Amanda Hunter, PA-C

Amanda grew up in the Colorado Springs area and knew she wanted to pursue a career in medicine from an early age. Amanda received her undergraduate degree in chemistry, with a minor in sports health and wellness. She went on to complete her physician assistant studies at Midwestern University in Chicago, where she worked in Orthopedics and

neurosurgery for several years. Amanda primarily works with Dr. Tito Liotta in orthopedics as well as working with Dr. Inscore in the Bone Health Clinic. In her personal time, Amanda enjoys spending time in the outdoors with her husband, who is a special education teacher here in the Roaring Fork Valley, and her two kids.

## Meet Your Nurse Clinical Supervisor

Maggie Leyendecker, RN

Maggie Leyendecker has been a registered nurse since 2010. She earned a BS in Kinesiology from the University of Wisconsin-La Crosse and completed her nursing education at Loyola University Chicago. Her professional journey includes significant experience managing the pediatric orthopedic trauma program at Children's Hospital Colorado. Recently, Maggie has focused her expertise on osteoporosis care. She excels in care coordination and treatment management, ensuring that each patient receives personalized and comprehensive care. Maggie is dedicated to enhancing patient education and providing compassionate care to improve the quality of life for adults with osteoporosis.



# **OSTEOPOROSIS AND OSTEOPENIA**

#### Osteoporosis and osteopenia are both conditions of low bone mass, which put you at risk for fractures.

- These conditions can result from either losing too much bone, making too little bone, and/or not forming bone fast enough.
- Although more common in women, osteoporosis and osteopenia can affect both men and women.



#### Osteoporosis is different from osteoarthritis.

- **Osteoarthritis** is the term for cartilage loss throughout a joint, causing joint pain.
- **Osteoporosis**, on the other hand, refers to weakened bones throughout the body, and is generally not painful.
- People are often unaware they have osteoporosis or osteopenia until they break a bone (fracture) due to poor bone quality/density associated with osteoporosis and osteopenia.

#### Facts About Osteoporosis:

- 1 in 2 women over the age of 50 will break a bone due to osteoporosis
- 1 in 4 men over the age of 50 will break a bone due to osteoporosis.
- Currently, 80% of those who have osteoporosis do not get the care they need.

# <section-header><image>

Osteoporosis should be treated like any other chronic condition (such as diabetes or high blood pressure), using medication, lifestyle changes, and dietary changes. Treatment is key to help prevent future fractures.



# HOW IS OSTEOPOROSIS DIAGNOSED?

#### Primary diagnosis tools:

Bone Mineral Density (DXA)	A DXA (dual energy X-ray absorptiometry) scan, is a simple and non-invasive test that measures bone density. There is very little radiation with a DXA scan, far less than you would get on a cross-country airplane flight. In women over the age of 65, and men over the age of 70- a DXA should be obtained every 2 years, or yearly if there are other risk factors present. A DXA scan can diagnose osteoporosis before a broken bone, however, there are some limitations to a DXA scan. A DXA tells information about the <i>density</i> of bone but cannot provide information on the <i>quality</i> of bone (bone structure and strength). 50% of patients can still have a "normal" DXA scan even after a fragility fracture.
• Fracture History	Regardless of your bone density results, if you are over the age of 50 and have suffered a fracture of your spine, hip, wrist, humerus (shoulder), or pelvis, then you likely have osteoporosis. A fracture suggests that your bones are weaker and further evaluation and/or treatment should be pursued to prevent future fractures.
FRAX •	A FRAX score helps us to understand a person's 10-year fracture risk, based on multiple genetic, health and lifestyle factors.

#### Additional diagnostic tools available:

Trabecular Bone Score (TBS)	•	Used in patients who are at risk for low bone <i>quality</i> which a DXA does not provide Newer technology, not available at all facilities When used in conjunction with a bone density scan (DXA), the TBS can provide a more accurate fracture risk assessment for these patients
CT or Plain X-ray	٠	Can also suggest low bone mass



# WHAT PUTS YOU AT RISK?

Osteoporosis is common -1 in 2 women and up to 1 in 4 men over the age of 50 will break a bone due to osteoporosis. For women, the incidence is greater than that of heart attack, stroke and breast cancer **combined.** The first step towards prevention is understanding your risk factors for osteoporosis.



#### **Uncontrollable risk factors**

Some risk factors are out of your control, including:

Previous fracture	Having a fracture is the most important predictor of a future fracture, yet 84% of older Americans who suffer bone breaks are not tested or treated for osteoporosis. With cost-effective and well-tolerated treatments, 50% of repeat fractures could be avoided.
Female gender	Women are more likely to develop osteoporosis than men. Men and women reach peak bone mass between ages 20-25, however, menopause causes a drop in estrogen in women, causing bone loss. Post-menopausal women lose bone at a much higher rate than men.
Age	The older you are, the more likely you are to have osteoporosis. Around 75% of fractures due to osteoporosis happen in people aged 65 and older.
Family history	You are at greater risk if your parents had osteoporosis or a hip fracture
Small body frame	Men and women who have small body frames tend to have a higher risk because they might have less bone mass to draw from as they age.

#### Hormonal risk factors

Osteoporosis is more common in people who have too much or too little of certain sex hormones.

Decreased estrogen	<ul> <li>Menopause causes a drop in estrogen in women, which causes bone loss.</li> <li>This is one of the strongest risk factors for developing osteoporosis.</li> <li>Post- menopausal women lose bone at a much higher rate than men of the same age.</li> <li>Treatments for breast cancer that lower estrogen can accelerate bone</li> </ul>	tal mass of skeletal calcium in grams) Bone mass - 052 skeletal calcium in grams) - 052	Pe Bone growth	Peak bone mass Bone growth		Decreasing bone mass with age
	loss.	20 M	0 10 20	30 40 50 Age (in year	60 70 8	30 90 10
Decreased testosterone	• Treatments for prostate cancer that lower testosterone can accelerate bone loss.	_				



100

#### Medical conditions, steroids and other medications

Some diseases or medications may weaken bones and increase risk of osteoporosis and fractures.

Medical Conditions	<ul> <li>Rheumatoid arthritis</li> <li>Nutritional/gastrointestinal problems (celiac disease, Chron's disease, etc.)</li> <li>Chronic obstructive pulmonary disease (COPD) and asthma</li> <li>Endocrine disorders</li> <li>Chronic kidney disease</li> <li>Cancer</li> </ul>
Medications	<ul> <li>Corticosteroids: Use of corticosteroid medications, such as prednisone or cortisone, interferes with the bone-rebuilding process. Using these types of medications for 3 months or more can increase your risk for osteoporosis.</li> <li>Seizure medications</li> <li>Gastric reflux medications</li> <li>Cancer medications</li> </ul>

#### **Dietary risk factors**

Low calcium intake	Lack of calcium intake contributes to diminished bone density, early bone loss, and increased risk of fractures
Eating disorders	Severely restricting food intake and being underweight causes weakened bones in both men and women
Gastrointestinal surgery	Surgery to reduce the stomach or to remove part of the intestine limits the amount of surface area available to absorb nutrients, including calcium.
Caffeine	Coffee, tea and soft drinks (sodas) contain caffeine, which may decrease calcium absorption and contribute to bone loss.
Sodium	Eating foods that have a lot of salt (sodium) causes your body to lose calcium and can lead to bone loss.

## Consume caffeinated beverages in moderation, and aim to get less than 2,300 mg of sodium per day.

Tip: Limit the amount of processed foods, canned foods and salt added to the foods you eat each day. To learn if a food is high in sodium, look at the Nutrition Facts label. If it lists 20% or more for the % Daily Value, it is high in sodium



#### Lifestyle choices

Smoking	<ul> <li>Many studies have shown a direct relationship between smoking and decreased bone density, as well as increased fracture risk</li> <li>The longer you smoke and the more cigarettes you consume, the greater your risk for fracture</li> <li>Smokers who fracture tend to take longer to heal than nonsmokers and have increased risks for complications during the healing process</li> <li>Exposure to secondhand smoke during youth and early adulthood may increase the risk of developing low bone mass</li> </ul>
Excessive alcohol consumption	<ul> <li>Interferes with the balance of calcium and vitamin D, both nutrients essential for healthy bones.</li> <li>Chronic heavy drinking can cause nutritional and hormonal deficiencies in men and women, decreasing the testosterone levels in men and estrogen levels in women. These hormones play an important role in healthy bone formation.</li> <li>Regular consumption of more than 2 alcoholic drinks a day increases the risk of osteoporosis.</li> <li>Because of the effects of alcohol on balance and gait, people with high alcohol consumption tend to fall more frequently, which increases fracture risk.</li> </ul>
Sedentary lifestyle	<ul> <li>People who spend a lot of time sitting have a higher risk of osteoporosis.</li> <li>Weight-bearing exercise and activities that promote balance and good posture are beneficial for your bones, see section on Exercise.</li> </ul>

# Summary of recommendations to modify YOUR risk factors (circle all that apply):

Quit smoking	Reduce Alcohol consumptions		Reduce sodium intake		Reduce caffeine intake
Exercise progra	m	Nutrition	consult	Med	ication changes

Details/additional notes:



# WHY PREVENT OR TREAT?

Osteoporosis is called a "silent disease" because it is not painful. Many people don't know they have low bone density until they have an osteoporotic fracture or experience height loss due to compression fractures of the spine. Unfortunately, a broken bone can be the first sign of a diagnosis of low bone density.

The goal of treating osteoporosis is to strengthen the

**bone and prevent fractures.** Osteoporotic fractures can limit your mobility and independence. One of the most common types of fractures seen in osteoporosis is a hip fracture.

Each year in the U.S., approximately 300,000 hip fractures occur. Of these patients;

- Approximately 75,000 die in the year following the fracture
- Another 75,000 move from the hospital to a nursing home and never return "home"
- The remaining 150,000 never regain their previous function. Six months after a hip fracture, only 15% of patients can walk across a room unaided.



It is important to remember that there is no cure for osteoporosis. Because there is no cure, treatment and prevention are key.

## **HOW IS OSTEOPOROSIS TREATED?**

Treatment for osteoporosis may include (1) vitamin and mineral supplements, (2) exercise and (3) medicine. Although diet and exercise alone cannot reverse osteoporosis, they are an important element of a comprehensive program to prevent bone loss and decrease fracture risk.

## **Supplements: Calcium and Vitamin D**

Calcium and Vitamin D are essential to building strong, dense bones both while you are young and as you age. Even if you are prescribed a medication to treat your osteoporosis, it is still equally as important to continue getting enough calcium and vitamin D to prevent further bone loss.



# What is Calcium and What Does it Do?

Calcium is a mineral that is essential to life. In addition to maintaining bone health, calcium also enables our muscles to contract, our hearts to beat, and our blood to clot. About 99% of the calcium in our bodies is in our bones and teeth.



Because the body cannot produce its own

calcium, it is important to get enough calcium from the food that we eat. When we don't get the calcium our body needs, it is taken from our bones, which causes our bones to get weak and easier to break.

#### How Much Calcium Do You Need?

Women	Men
Age 50 and younger: 1,000 mg daily	Age 70 and younger: 1,000 mg daily
Older than 50: 1,200 mg daily	Older than 70: 1,200 mg daily

#### **Sources of Calcium**

Food: the best source of calcium.	<ul> <li>Milk, yogurt and cheese are naturally high in calcium. Certain green vegetables and other foods contain calcium in smaller amounts</li> <li>Some juices, breakfast foods, soymilk, cereals, snacks, breads have added calcium</li> <li>If you drink soymilk or another liquid that is fortified with calcium, be sure to shake the container well as calcium can settle to the bottom.</li> <li>See page 15 for ideas of calcium-rich foods to add to your weekly shopping list.</li> </ul>	
<b>Tip:</b> A single tablespoon of nonfat powdered milk contains about 50 mg of calcium. It is easy to add a few tablespoons to almost any recipe.		

#### **Calcium Supplements**



- We typically recommend supplementing with 500-600 mg of elemental calcium daily to achieve the goal of 1200 mg daily
- Most people eating a standard diet obtain approximately 500 mg of calcium daily from the diet. The maximum daily limit to avoid other risks is 1200-2000 mg daily
- Calcium carbonate or calcium citrate are available without a prescription in many forms. The best supplement is the one that meets your needs for convenience, cost, and availability.



#### How to take calcium supplements

Calcium is absorbed best when taken in amounts of 500 – 600 mg or less.	This is the case for both foods and supplements. Try to get your calcium-rich foods and/or supplements in small amounts throughout the day, preferably with a meal.
Chewable tablets are	If you use a non-chewable pill, you can check if it can
generally absorbed better	dissolve well: place the pill in a glass of warm water for
than pills that are	30 minutes and then stir; if the pill dissolves in the
swallowed whole.	water, it should also dissolve in your stomach.
Take calcium supplements with food.	Eating food produces stomach acid that helps your body absorb most calcium supplements.
Start with a smaller	Try starting with 200-300 mg every day for a week, and
amount to better tolerate	drink an extra 6-8 ounces of water with it. Then
it.	gradually add more calcium each week.
Side effects, such as gas or constipation may occur.	If increasing fluids in your diet does not help, try another type or brand of calcium. If constipation is an issue, calcium citrate (Citracal) may be a better choice for some people.
Talk with your	Those taking antacid medication (Zantac, Pepcid,
pharmacist about	Prilosec, or Protonix) may need to take calcium citrate
possible interactions	rather than calcium carbonate.

#### What is Vitamin D and What Does it Do?

Vitamin D is a fat-soluble vitamin that promotes the absorption of calcium, regulates bone growth, and plays a role in immune function. If you don't get enough vitamin D, and you're more likely to break bones as you age.

#### How Much Vitamin D Do You Need?

Everyone absorbs vitamin D differently. Normal vitamin D levels in the blood are 30-100 ng/mL.

#### In treating osteoporosis, the goal vitamin D level is 40-60 ng/mL.

#### **Sources of Vitamin D**

<b>Vitamin D in Food:</b> It is very difficult to get from food alone	<ul> <li>Found in very few foods</li> <li>Sources include fatty fish (wild-caught mackerel, salmon, tuna and cod liver oil)</li> <li>Added to milk/dairy products, orange juice and fortified cereals</li> <li>In mushrooms exposed to UV light</li> </ul>		ught mackerel, nge juice and fortified t
Mile of	20		

Valley Ortho

VALLEY VIEW

Vitamin D in Sunlight It is very difficult to get from sunlight alone	<ul> <li>Your skin makes vitamin D in reaction to sunlight and stores it in fat for later use.</li> <li>How much vitamin D your skin can produce depends on time of day, season, latitude, skin pigmentation, age, and other factors</li> <li>As we age, our skin loses its ability to generate vitamin D</li> <li>Time indoors, and wearing sunscreen reduce vitamin D production</li> </ul>
Vitamin D Supplements	• We recommend 2,000 IU (50mcg) daily or 5,000 IU
For many people this is the best way to get Vitamin D	<ul> <li>(I25mcg) 3 times/wk</li> <li>Vitamin D supplements can be bought at most drug stores, food stores, and health food stores</li> </ul>

#### How to take Vitamin D

Check to see if you already are taking Vitamin D	Many other supplements, multivitamins, and medications contain vitamin D.	
Take a gel cap or liquid drops	These are usually more effective and better absorbed.	
Vitamin D3 is preferred over D2	D3 (cholecalciferol) is better at raising Vitamin D levels in the body than Vitamin D2 (ergocalciferol).	
Take full amount, with or without food	You do not need to take vitamin D at the same time as a calcium supplement, or take in small amounts throughout the day.	

## Weight-bearing, Strengthening and Physical Activity

Weight bearing exercise helps strengthen your bones	<ul> <li>When you move against gravity, muscles pull and the weight of your own body exerts forces on your bones.</li> <li>This "loading" of the bones signals to the body to lay down stronger bone and slows processes that break it down.</li> <li>Has a modest effect on bone density when compared to medications</li> <li>Can help you get the best effect from bone strengthening medication.</li> </ul>
Exercise helps reduce your risk of falling	Being physically active is one of the primary ways you can reduce your risk of falling, and reducing your risk of falling reduces your risk of breaking a bone—by as much as 40%. No drug can do that! For this reason it is critical that you get regular exercise, even if you are taking medication for osteoporosis.



#### **Tips for Starting an Exercise Program**

Start small	Starting can be the hardest part. A small, but manageable goal (5 min) helps you build a habit. People feel better when they exercise, this will help you stick with and grow your program.	
Once you start, never stop!	Exercise for bone health is a long-term commitment. It can take 18-24 months for exercise to improve your bone density.	
Find something you enjoy	This will help you stick with your program.	

#### **Do I Need Physical Therapy?**

Everyone with osteoporosis will benefit from regular exercise, some people may need help from a physical therapist to develop a program. Your doctor may recommend physical therapy if you:

- Have fallen or are having difficulty with your balance
- Have pain or other medical conditions that make it difficult for you to exercise
- Have limited experience with regular exercise

Physical therapy is an excellent way to learn movements that can keep you healthy. You will be assessed by a professional that can help you understand and learn safe activities that fit into your lifestyle. You might just need a couple of sessions to develop a good independent program, or your physical therapist may recommend ongoing clinic visits.

**Physical Therapy** is recommended for you; your doctor will send a prescription to the therapy clinic of your choice:

**Independent Exercise** is recommended for you; see end of document for exercise plan and guidelines.



## **Medications that Treat Osteoporosis**

Diet and exercise alone are usually not enough to treat osteoporosis	<ul> <li>Especially in the setting of a fragility fracture</li> <li>Fortunately, there are some excellent medications that treat osteoporosis</li> </ul>
Drugs target the natural process of building up and breaking down bones	<ul> <li>We are constantly building up and breaking down our skeleton. It is said that about every 7 to 10 years we turn over a new skeleton.</li> <li>The medications for bone health are based on these 2 mechanisms of action, building up and breaking down.</li> </ul>
Anabolic medications	Help you build new bone
Antiresorptive medications	<ul> <li>Help prevent the breaking down of bone</li> </ul>

## **Anabolic** Agents

CLASS AND DRUG	BRAND NAME	FORM	FREQUENCY	GENDER
Romosozumab-aqqg	Evenity®	Injection	2 injections once monthly for 12 months	Women
Teriparatide	Forteo® Bonsity®	Injection	Daily	Women & Men
Abaloparatide	Tymlos®	Injection	Daily	Women & Men

## **Antiresorptive** Agents

CLASS AND DRUG	BRAND NAME	FORM	FREQUENCY	GENDER
Bisphosphonates				
Alendronate	Fosamax®, Fosamax Plus D™	Oral (tablet, solution)	Daily/Weekly	Women & Men
Ibandronate	Boniva®	Oral (tablet)	Monthly	Women
Risedronate	Actonel®	Oral (tablet)	Daily/Weekly/Mo nthly	Women & Men
Zoledronic Acid	Reclast®	Intravenous (IV) infusion	One Time per Year/Once every two years	Women & Men
RANK ligand (RANKL) inhibitor				
Denosumab	Prolia®	Injection	Every 6 Months	Women & Men

Notes about medications:



## Weighing Risks and Benefits of Anti-Fracture Medications

Risks related to treatment with antiresorptives (bisphosphonates and denosumab):

Atypical Femur Fracture (AFF)	<ul><li>Sudden thigh bone fracture</li><li>Rare side effect</li></ul>	This figure shows that ONJ is very rare and fragility fractures are common without treatment
Osteonecrosis of the jaw (ONJ)	<ul> <li>Non-healing area in the jawbone</li> <li>Usually seen with those taking high doses as part of cancer treatment</li> <li>Has been seen in people on lower doses used for osteoporosis</li> <li>Good dental care is a reasonable precaution</li> </ul>	Figure 1. Relative risks in patients at high risk of fracture for (a) osteonecrosis of the jaw on antiresorptive therapy and (b) osteoporotic fracture without treatment for osteoporosis PER 1,000 PATIENT YEARS

Risks related to non-treatment:

#### Fragility fracture

- Very common
- 500 women out of 1,000 will suffer a fragility fracture during their lifetime unless they get treatment for osteoporosis



Inderjeeth CA. Presented in Singapore. 27 July 2018.



Untreated probability of major osteoporotic fracture calculated by FRAX. ONJ estimate is ~1/100,000 patienttreatment-years from ASBMR Task Force by Khosla S et al. J Bone Miner Res 2007;22:1479–149. AFF estimate untreated is ~0.01/10,000 and treated is ~5/10,000 patient-years from Schilcher J et al. N Engl J Med. 2011;364:1728-1737. Risk estimates assume long-term bisphosphonate therapy resulting in 50% reduction in fracture risk. MVA and murder data from the CDC at http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56\_10.pdf. Image copyright © 2011 Lewiecki EM. Slide version.

This figure shows that fractures are more likely if osteoporosis is left untreated than if it is treated, despite the possibility of AFF or ONJ.

## Table of calcium content of common foods

Produce	Serving Size	Estimated
Collard greens, frozen	8 oz	360 mg
Broccoli rabe	8 oz	200 mg
Kale, frozen	8 oz	180 mg
Soy Beans, green, boiled	8 oz	175 mg
Bok Choy, cooked, boiled	8 oz	160 mg
Figs, dried	2 figs	65 mg
Broccoli, fresh, cooked	8 oz	60 mg
Oranges	1 whole	55 mg
Seafood	Serving Size	Estimated Calcium*
Sardines, canned with bones	3 oz	325 mg
Salmon, canned with bones	3 oz	180 mg
Shrimp, canned	3 oz	125 mg
Dairy	Serving Size	Estimated Calcium*
Ricotta, part-skim	4 oz	335 mg
Yogurt, plain, low-fat	6 oz	310 mg
Milk, skim, low-fat, whole	8 oz	300 mg
Yogurt with fruit, low-fat	6 oz	260 mg
Mozzarella, part-skim	loz	210 mg
Cheddar	loz	205 mg
Yogurt, Greek	6 oz	200 mg
American Cheese	loz	195 mg
Feta Cheese	4 oz	140 mg
Cottage Cheese, 2%	4 oz	105 mg
Frozen yogurt, vanilla	8 oz	105 mg
Ice Cream, vanilla	8 oz	85 mg
Parmesan	ltbsp	55 mg
Fortified Food	Serving Size	Estimated Calcium*
Almond milk, rice milk, soy milk, oat milk	8 oz	300 mg
Orange juice and other fruit juices, fortified	8 oz	300 mg
Tofu, prepared with calcium	4 oz	205 mg
Waffle, frozen, fortified	2 pieces	200 mg
Oatmeal, fortified	1 packet	140 mg
English muffin, fortified	1 muffin	100 mg
Cereal, fortified 35	8 oz	100-1,000 mg
Other	Serving Size	Estimated Calcium*
Mac & cheese, frozen	1 package	325 mg
Pizza, cheese, frozen	1 serving	115 mg
Pudding, chocolate, prepared with 2% milk	4 oz	160 mg
Beans, baked, canned	4 oz	160 mg

\*The calcium content listed for most foods is estimated and can vary due to multiple factors. Check the food label to determine how much calcium is in a particular product. Food labels list calcium as a percentage of the DV. This amount is based on 1,000 mg of calcium per day. For example, 30% DV of calcium equals 300 mg of calcium.

# **Exercise Program for Bone Health**

The most effective exercise programs involve weight bearing with a combination of activities that load the bones in different ways. **Remember, while these guidelines reflect best practices, every little bit counts! Doing something is always better than nothing and helps reduce your fracture risk.** 

# **1. Single Leg Weight-bearing:** Do this every day.



Single leg balance: Hold 1 minute, do 3 times, each leg

Stand on one leg, touch a counter top, chair or wall as needed to keep your balance. Stay on one leg for a full minute, then repeat with other leg.

## **2. Low-intensity Aerobics:** Do this 3 times a week.



## Walk at a moderate pace for 50 minutes

Or, select another lowintensity weight-bearing activity such as tai-chi, elliptical, dance or group exercise class

# **3. Leg strengthening:** Do these 2-3 times a week. 48 hrs rest between sessions.

\*Pro tip: Use slow and controlled movements for safety and to maximize effectiveness



#### 4. Arm strengthening: Do these 2-3 times a week. 48 hrs rest between sessions.

\*Pro tip: can do left column one day, right column the next day to shorten your workout Standing exercises with resistance Exercises w/ band anchored to a



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# **ADDITIONAL RESOURCES**



Scan this QR code to access the additional resources from the Bone Health and Osteoporosis Foundation

# **Summary and Action Plan:**

#### Testing to be completed:

#### Recommended supplements (circle all that apply):

Vitamin D3: 2,000 IU (50mcg) daily

Other:

Plan for weight-bearing exercise:

Plan for medication:

Plan for follow-up visits:

Other Recommendations:

