

Osteoporosis – It's more than a DEXA Score!

Fall Session of UC Olli 2026

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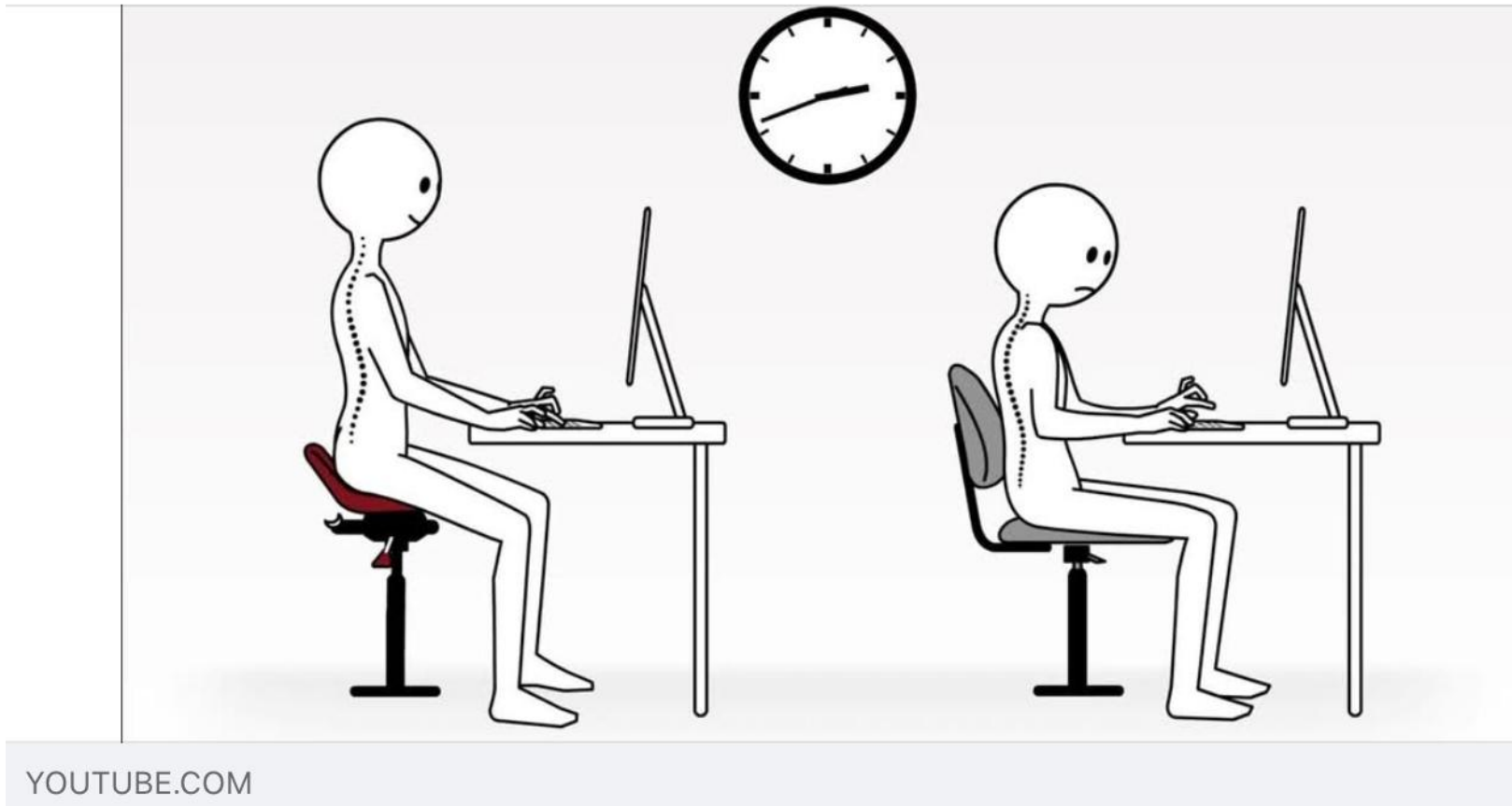
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Passive versus active sitting, which one looks better for your back



PART 1 OF 2



BONE HEALTH
EDUCATION SERIES

Understanding Osteoporosis

What it is, who it affects, and how it is diagnosed — building the foundation for prevention

A Comprehensive Guide for Adults Over 50

What We'll Cover Today

Use the chat for questions, but most will be addressed during our ending Q & A.

01 Welcome and learning objectives

02 What is osteoporosis?

03 Bone biology: a living tissue

04 Peak bone mass and decline

05 The scale of the problem

06 Why it's called the 'silent disease'

07 Who is at risk?

08 Risk factors you cannot change

09 Risk factors you CAN change

10 How osteoporosis is diagnosed

What You'll Take Away Today

This is general health education — always discuss your individual situation with your healthcare provider.

- A clear understanding of what osteoporosis is and why it matters after age 50
- Knowledge of the risk factors — including those you can influence today
- Confidence in talking with your doctor about screening, T-scores, and FRAX
- Awareness of the warning signs and complications of fragility fractures
- A foundation that prepares you for Part 2: prevention, treatment, and daily living
- Chat tip: drop your questions in the chat or write them down as they come up — we'll address most of them during the Q & A at the end of each part

What Is Osteoporosis? A disease...or a process?

The word literally means 'porous bones' — and that's exactly what happens, but everyone loses bone mass with age.

- The World Health Organization defines Osteoporosis as a progressive skeletal disease defined by low bone mass and deterioration of bone tissue that is a global public health problem
- Bones become fragile, porous, and far more vulnerable to fracture than they should be
- Bone is constantly broken down and replaced — osteoporosis occurs when removal outpaces replacement...frailty syndrome may result
- The internal honeycomb scaffolding of bone weakens; the outer shell thins, therefore knowing what is normal bone loss vs. what is cause for concern is important
- Knowing, also, that Osteoporosis is currently determined by an arbitrary standard set by a WHO study group (including advisors from associations sponsored by main drug companies.)



Bone Is Living, Changing Tissue

- Bone is made of living, growing tissue — not a static structure
- An outer shell of cortical (dense) bone surrounds trabecular (sponge-like) bone
- Bone remodeling: old bone is broken down (resorption) and replaced with new bone (formation)
- Healthy young adults: formation slightly exceeds resorption — bone mass increases
- After roughly age 30: resorption begins to outpace formation — bone mass slowly declines
- Key nutrients drive this process: calcium, vitamin D, protein, and weight-bearing activity

Peak Bone Mass and the Long Decline

Age 30

Peak bone mass is typically reached

1–2%

Annual bone loss for women after menopause (early years)

0.5%

Average annual bone loss for men over 50

65–70

Men and women lose bone at similar rates

*After peak bone mass, the goal shifts from building bone to preserving the bone you already have.****

****Yes, and No (This need to ‘build bone’ was Ruthy Alon’s inspiration for creating Bones for Life®)*

Osteoporosis in the United States

10.2M

Americans 50+ with
osteoporosis

43M+

Adults with low bone
mass (osteopenia)

1 in 2

Women 50+ will break
a bone in their
lifetime

1 in 4

Men 50+ will break a
bone in their lifetime

For women, lifetime fracture risk equals the combined risk of breast, ovarian, and uterine cancer.

Why It's Called the 'Silent Disease'

- No pain accompanies the loss of bone density — you cannot feel your bones thinning
- There are typically no warning signs until a bone actually breaks
- Many people first learn they have osteoporosis after a minor fall results in a major fracture
- Symptoms, when they appear, may include back pain, height loss, or stooped posture (kyphosis)
- A bone that breaks 'much more easily than expected' is itself a diagnostic red flag
- Once one fragility fracture occurs, the risk of another is 86% within two years

The Diagnosis Gap



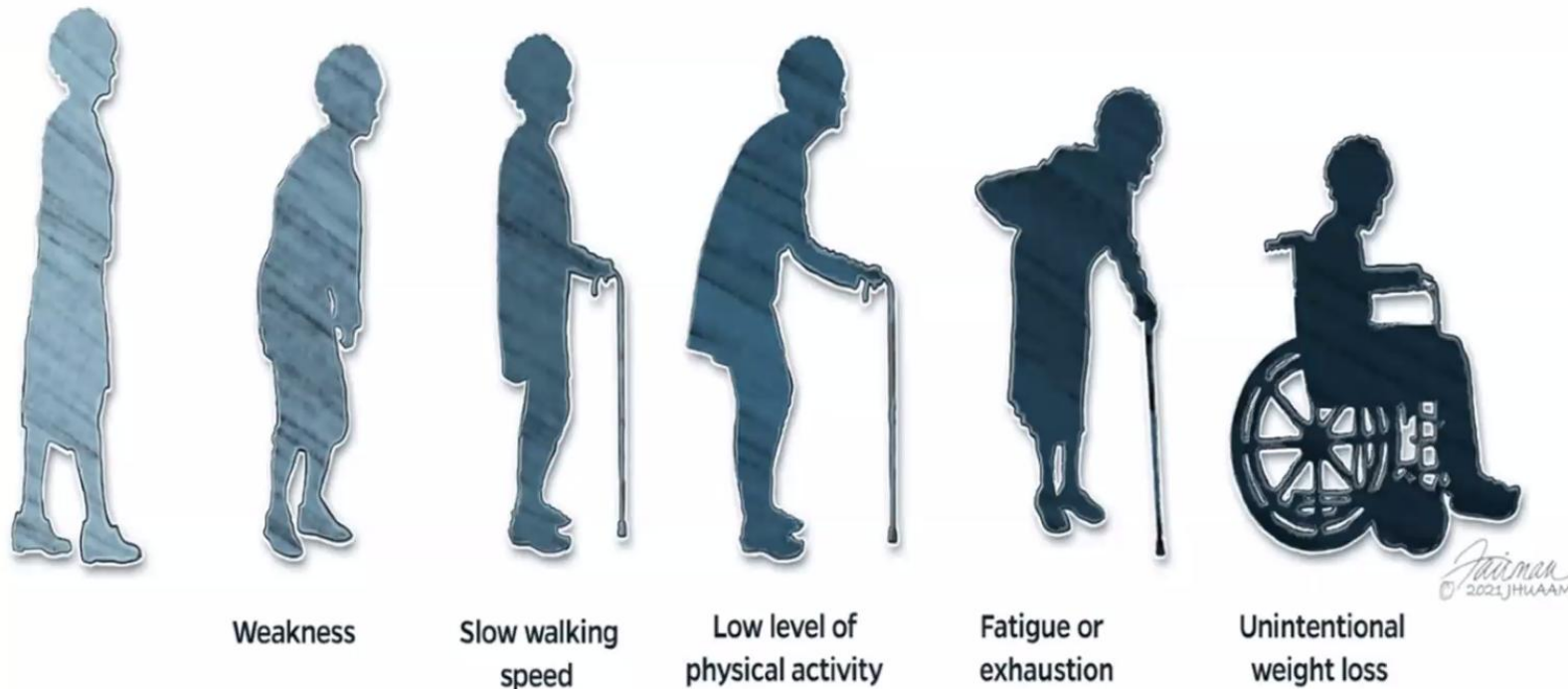
69%

*of people with osteoporosis in the U.S. remain
undiagnosed*

Because bone loss has no early symptoms, the disease is often identified only after a fracture.

The gap is even larger in men — nearly 87% of men with osteoporosis are undiagnosed and undertreated. This is why proactive screening and risk awareness matter, even when you feel perfectly well.

Fragility or Frailty Syndrome



Low BMD Vs. Frailty

Studies Linking Fractures to Frailty

1

1. Frailty and Hip Fracture Outcomes (2025)

Higher frailty scores were significantly associated with increased in-hospital mortality, complications, and longer hospital stays. Patients with severe frailty had a 6.6-fold higher mortality risk. [1](#)

2

2. Comparative Analysis of Frailty Scores (2024)

In a sample of 227,795 hip fracture patients, frailty scores were the most important predictor of in-hospital mortality, [2](#)

3

3. Frailty and Complications in Hip Fracture (2022)

A review of 11 studies with 45,979 participants found that frailty scores predicted higher risks of postoperative and inpatient complications, increased mortality, and longer hospital stays. [4](#)

4

4. Meta-Analysis of Frailty and Postoperative Outcomes (2024)

A meta-analysis of 21 studies with 49,196 hip fracture patients found that frail patients had a higher risk of inpatient mortality, 30-day mortality, and 1-year mortality, as well as postoperative complications such as delirium, pneumonia, cardiac events, and infections [3](#).

What Turns Bone Building On and Off?

The Mechanostat Theory

- In contrast, when bones experience greater than typical peak loads above the daily loads, bone formation increases.
- This bone formation occurs where the high strains are detected, creating targeted reinforcement exactly where needed.
- In other words, bones become stronger specifically where they are challenged to respond to greater loading.
- This has implications for how and where we build bones based on the forces they are exposed to.
- The system rewards consistent mechanical challenge while responding quickly to neglect, making regular movement loading essential for maintaining optimal bone health.



SECTION 3

Who Is At Risk?

Some risk factors you're born with. Many others are choices you make every day.



Who Develops Osteoporosis?

WOMEN

- About 1 in 5 women over age 50 has osteoporosis
- About 80% of all cases occur in women
- Postmenopausal estrogen loss accelerates bone loss
- Lifetime fracture risk of more than 50%
- Risk begins to climb a year or two before menopause

MEN

- About 1 in 20 men over age 50 has osteoporosis
- 1 in 4 men over 50 will suffer an osteoporosis-related fracture
- Hip-fracture mortality is **higher** in men than women
- Severely undertreated and underscreened compared with women
- Slower, steadier bone loss — but cumulative over time

Risk Factors You Cannot Change

- Age — risk increases substantially after 50; about 75% of osteoporosis fractures occur in people 65+
- Sex — women are roughly 4 times more likely than men to develop osteoporosis
- Ethnicity — non-Hispanic white and Asian adults face higher risk, though all groups are affected
- Family history — having a parent or sibling with osteoporosis or a hip fracture raises your risk
- Body size — smaller, thinner frames start with less bone mass to lose
- Early menopause (before 45) or surgical removal of ovaries before menopause
- Certain medical conditions: rheumatoid arthritis, thyroid disorders, diabetes, celiac disease, kidney disease

Risk Factors You CAN Change

- Smoking — reduces bone mineral density 5–10% in women and 3–7% in men
- Heavy alcohol use — more than 2–3 drinks per day accelerates bone loss
- Physical inactivity or prolonged bed rest — **bones need weight-bearing stimulus to stay strong**
- Low calcium, low vitamin D, or low protein intake — the building blocks of bone
- Underweight or rapid weight loss — adequate body mass helps protect bone
- Excessive caffeine and high-sodium diets — both can increase calcium loss
- Falls — most fractures happen from falls, so balance and home safety matter enormously

Medications That Can Weaken Bone

COMMON CULPRITS

- Glucocorticoids (prednisone) used long-term
- Proton pump inhibitors (PPIs) for reflux
- Some antiepileptic medications
- Certain cancer therapies (aromatase inhibitors)
- Excessive thyroid hormone replacement
- Long-term heparin therapy
- Some drugs for diabetes

WHAT TO DO

- Never stop a prescribed medication on your own
- Ask your doctor about bone-protection strategies
- Ensure adequate calcium and vitamin D intake
- Request a baseline DXA scan if treatment will be long-term
- Discuss timing and dose — sometimes lower or shorter courses are possible

Menopause: The Tipping Point for Women

- Estrogen protects bone by slowing the resorption side of remodeling
- When estrogen drops at menopause, bone loss can reach 1–2% per year for several years
- Women can lose up to 20% of their bone density in the first 5–7 years after menopause
- Early menopause (before 45) or surgical menopause sharply increases lifetime risk
- This is why the years immediately around menopause are a critical screening window
- Hormone therapy is one — but not the only — strategy to mitigate this loss (we'll cover it in Part 2)

Don't Overlook Men's Bone Health

- 1 in 4 men over 50 will have an osteoporosis-related fracture in their lifetime
- Hip-fracture mortality in men is roughly twice that of women
- Roughly 87% of men with osteoporosis are undiagnosed
- Major secondary causes: low testosterone, chronic steroid use, heavy alcohol use
- USPSTF does not yet routinely recommend screening for men, but BHOFF recommends DXA at age 70+
- Men with risk factors should ask their doctor about screening earlier — don't wait for a fracture

SECTION 4

How Is Osteoporosis Diagnosed?

From clinical assessment to DXA scans and FRAX scores.



Three Pillars of a Bone Health Assessment

- Medical history and physical exam — including height measurement and review of fracture history
- Fracture-risk assessment — using a validated tool such as FRAX or FRAXplus
- Bone mineral density (BMD) testing — most commonly with a DXA scan
- Bloodwork to identify secondary causes (vitamin D, calcium, thyroid, kidney function)
- Imaging (spine X-ray or vertebral fracture assessment) if a silent vertebral fracture is suspected

DXA Scan: The Medical Industry's Gold Standard

Dual-energy X-ray absorptiometry — the standard test for measuring bone density.

- You lie on a padded table while two low-energy X-ray beams pass through your body
- Takes about 10 minutes total — no injections, no special preparation
- Radiation exposure is very low — far less than a standard chest X-ray
- Measures bone density at the lumbar spine and hip (key fracture sites)
- Results reported as a 'T-score' compared to a healthy 30-year-old at peak bone mass
- Painless, non-invasive, and widely available

WHO SHOULD BE SCREENED?

- All women age 65+
- All men age 70+ (BHOFF)
- Postmenopausal women under 65 with risk factors
- Anyone 50+ with a fracture
- Long-term steroid users

Understanding Your T-Score

T-Score Range	Category	What It Means
−1.0 or higher	Normal	Healthy bone density
Between −1.0 and −2.5	Osteopenia	Low bone mass — elevated risk, not yet osteoporosis
−2.5 or lower	Osteoporosis	Bone density is significantly below normal
−2.5 or lower + fracture	Severe Osteoporosis	Diagnosis confirmed and treatment is essential

Each full point on the T-score scale represents a meaningful jump in fracture risk.

FRAX: Putting Risk in Context

- FRAX is a calculator developed by the WHO to estimate your 10-year fracture risk
- Combines BMD with clinical factors: age, sex, weight, prior fractures, parental hip fracture, smoking, alcohol, steroid use
- Two outputs: probability of a major osteoporotic fracture, and probability of a hip fracture
- Two people with the same T-score can have very different FRAX scores — context matters
- FRAXplus (newer) refines the estimate further with diabetes, recency of fracture, and trabecular bone score
- Used by clinicians to decide whether to start medication, even when T-score is borderline

Three Most Common Fractures

Vertebral (Spine)

- Most common osteoporosis fracture — about 750,000 per year in the U.S.
- Often silent or mistaken for back strain
- Cause height loss and kyphosis (forward curvature)
- Can happen from coughing, bending, or lifting

Hip

- Most devastating complication of osteoporosis
- 20% mortality risk within one year
- 6 months of impaired mobility on average
- 1 in 5 patients require long-term nursing care

Wrist (Colles')

- Often the first fracture — typically from a fall on outstretched hand
- A wrist fracture after age 50 is a major warning sign
- May predict future hip and spine fractures
- Generally triggers a DXA referral

Why Hip Fractures Matter So Much

20%

Mortality within 1 year of
a hip fracture

6 mo

Average duration of
impaired mobility

1 in 5

Require long-term
nursing home care

86%

Risk of another fracture
within 2 years

A hip fracture is rarely 'just a broken bone' — it is a sentinel event that changes a person's trajectory.

Complications Beyond the Break

1

Chronic Pain

Vertebral and back fractures can cause persistent neck, mid-back, or lower-back pain that lasts long after healing.

2

Loss of Mobility

Limited movement can cascade — less activity weakens bone and muscle further, raising re-fracture risk.

3

Loss of Independence

Many older adults are unable to return home or live alone after a hip fracture, even with rehabilitation.

4

Emotional Impact

Fear of falling, social withdrawal, and depression are common — they need attention too.

A Sobering — But Empowering — Reality



Osteoporosis is preventable in most people, and treatable in nearly everyone. The disease's silence is its greatest danger — and awareness is its most powerful antidote.

— Bone Health & Osteoporosis Foundation

Part 1 - 28

What We've Covered

- Osteoporosis is a silent disease that weakens bones until they break — and over 10 million Americans 50+ have it
- About 69% of cases go undiagnosed; nearly 1 in 2 women and 1 in 4 men over 50 will have a fragility fracture
- Some risk factors (age, sex, genetics) can't be changed — many others (nutrition, exercise, smoking, alcohol) can
- Diagnosis combines a clinical risk assessment, FRAX score, and DXA scan with T-score interpretation
- Hip, spine, and wrist fractures carry serious consequences — but they are largely preventable
- Part 2 will focus on what to do: prevention, treatment, and living well with osteoporosis

Q & A



Thoughts or personal experiences/successes you care to share? Questions or requests as we continue forward?

Contact Information: sharonbyrnesyoga@gmail.com 513-658-1952

Preparing for remaining sessions: Please set up at a clear wall space next week 😊

END OF PART 1

Questions & Discussion

Take a few minutes to share questions, observations, or experiences before we continue with Part 2 — Prevention, Treatment, and Living With Osteoporosis.

THANK YOU for your attention and participation😊



PART 2 OF 2



BONE HEALTH
EDUCATION SERIES

How Does the Body Build Bone?

How Can a Personal *Movement Plan* Make a Difference?

Practical strategies for nutrition, impactful exercise, safety, and daily life

A Comprehensive Guide for Adults Over 50

What We'll Cover Today

Use the chat for questions, but most will be addressed during our ending Q & A.

01 Welcome back: **Bone builders and destroyers**

02 **Movement is powerful**

03 **Exercise: weight-bearing and resistance**

04 **Novelty and variety is the spice of BONE life**

05 **Foods that build — and break down — bone**

06 **Nutrition: calcium, vitamin D, and protein**

07 **Medications: Friend or Foe?**

08 **Living well with a diagnosis/Fall prevention +**

09 **Working with a movement specialist**

10 **Action plan: your next steps**

What We'll Cover Today

Use the chat for questions, but most will be addressed during our ending Q & A.

1. Welcome Back
2. Movement is Powerful!
3. Four Types of Exercise Your Bones Need
4. Novelty & Variety is the “Spice” of Bone Life
5. Safe, Bone Friendly Exercises to Start
6. Living Well with Osteoporosis
7. Teaming with a Movement Specialist
8. Action Plan: Your Next Steps

Osteoporosis is preventable in most people, and treatable in nearly everyone. The disease's silence is its greatest danger — and awareness is its most powerful antidote.

Prevention Is Power

- You cannot reverse aging — but you can dramatically slow and even partly reverse bone loss
- Studies show structured exercise can increase bone density 2–8% in postmenopausal women
- Adequate calcium intake reduces fracture risk by 10–15% in postmenopausal women
- Vitamin D plus calcium reduces fracture risk by 12–18% in older adults
- **Balance and strength programs cut fall-related fractures by more than 60%**

How Much Calcium Do You Need?

Age & Sex	Recommended Daily Calcium	Notes
Women, age 50 and younger	1,000 mg/day	Includes food + supplements
Women, age 51 and older	1,200 mg/day	Higher needs after menopause
Men, age 70 and younger	1,000 mg/day	Often achievable through diet alone
Men, age 71 and older	1,200 mg/day	Increased needs with aging
Upper safe limit, all adults 50+	2,000 mg/day	Don't exceed — can raise other health risks

Source: Institute of Medicine / National Academy of Medicine reference intakes.

Vitamin D: Calcium's Essential Partner

WHY IT MATTERS

- Vitamin D enables your body to absorb calcium from food
- Without enough D, even high calcium intake fails to reach bone
- Older adults produce vitamin D less efficiently from sunlight
- Deficiency is extremely common, especially in northern climates
- Low D is linked to muscle weakness and falls — a double hit

HOW TO GET ENOUGH

- Adults 51–70: at least 600 IU/day (15 mcg)
- Adults 71+: at least 800 IU/day (20 mcg)
- Foods: salmon, trout, fortified milk and cereal, egg yolks, mushrooms
- Ask your doctor for a 25-OH vitamin D blood test
- Supplement if your level is below 30 ng/mL

Don't Forget Protein and Other Nutrients

- Protein — provides the collagen matrix on which calcium is deposited; aim for 0.8–1.0 g per kg body weight daily
- Magnesium — supports vitamin D activation; found in nuts, seeds, whole grains, leafy greens
- Vitamin K — directs calcium to bone (not arteries); leafy greens, broccoli, fermented foods
- Potassium — neutralizes acid load that pulls calcium from bone; fruits, vegetables, beans
- Vitamin C — needed to form collagen; citrus, peppers, berries
- Limit excess sodium and caffeine, which can increase urinary calcium loss

Bone-Building Foods: A Practical Guide

Best Calcium Sources

- Plain Greek yogurt — about 250 mg per cup
- Milk and fortified plant milks — about 300 mg per cup
- Sardines and canned salmon with bones
- Tofu set with calcium sulfate
- Collard greens, kale, bok choy, broccoli

Foods Rich in Vitamin D

- Wild-caught salmon and trout
- Egg yolks (from pasture-raised hens)
- Fortified milk and cereal
- Sun-exposed mushrooms
- Cod liver oil (traditional source)

Foods to Limit

- Excess sodium (highly processed foods)
- More than 3 cups of coffee per day
- Excessive alcohol (more than 2 drinks/day)
- Sugary sodas — phosphoric acid impact debated, but no nutritional benefit
- Crash diets that under-deliver protein

Calcium Supplements: A Practical Note

- Food first — calcium absorbed from food comes with other beneficial nutrients
- If you supplement, aim to fill the gap to 1,000–1,200 mg total — not to exceed it
- Calcium carbonate is well absorbed when taken WITH food
- Calcium citrate is absorbed without food and may be better with low stomach acid
- Take no more than 500–600 mg of supplemental calcium at one time
- Excess calcium from supplements may raise cardiovascular and kidney stone risk — talk to your doctor

Four Types of Exercise Your Bones Need

1

Weight-Bearing

Walking, hiking, dancing, stair climbing, low-impact aerobics. Strengthens hips, legs, spine.

2

Resistance

Free weights, bands, weight machines, body-weight exercises. Builds muscle and bone.

3

Balance

Tai chi, yoga, single-leg standing. Prevents falls — the cause of most fractures.

4

Flexibility

Stretching and gentle yoga keep joints mobile and posture upright. Avoid forward bending.

Safe, Bone-Friendly Exercises to Start

- Brisk walking — 30 minutes most days, outdoors when possible
- Stair climbing or step-ups — adds impact without high risk
- Resistance bands — gentle, joint-friendly strength training at home
- Body-weight moves — sit-to-stand, wall push-ups, heel raises, mini squats
- Tai chi — proven to reduce falls in older adults by 25–45%
- Light dumbbells (2–8 lb) twice a week — focus on shoulders, hips, back
- Always warm up gently and check with your doctor before starting a new program

Movements to Approach With Caution

GENERALLY UNSAFE WITH OSTEOPOROSIS

- Forward bending at the waist (toe-touches)
- Twisting spine while bearing load (golf swings with poor form)
- Sit-ups, crunches, deep forward bends
- High-impact activities if you've had a fracture
- Heavy abdominal flexion in yoga or pilates
- Trampolines, contact sports, ice skating

SAFE SUBSTITUTES

- Hip hinge (bend at hips, keep spine straight)
- Back extensions and planks for core strength
- Standing or wall-supported balance work
- Aquatic exercise for joint relief
- Modified yoga emphasizing extension, not flexion
- Recumbent bike or elliptical for cardio

Falls Cause Most Fractures — Here's How to Prevent Them

- Remove tripping hazards — rugs, cords, clutter on stairs and walkways
- Install grab bars in bathrooms and along stairs; non-slip mats in tubs
- Improve lighting in hallways, stairwells, and nightstands; use nightlights
- Wear supportive shoes with non-slip soles — avoid backless slippers and high heels
- Have vision and hearing checked annually — both affect balance
- Review medications with a pharmacist or doctor — many cause dizziness
- Practice balance daily: stand on one foot while brushing teeth or doing dishes

Lifestyle Habits That Protect Bone

1

Don't Smoke

Smoking lowers bone density by up to 10% and slows healing. Quitting at any age helps bones recover.

2

Moderate Alcohol

Stay under 1 drink/day (women) or 2/day (men). Heavy alcohol impairs both bone formation and balance.

3

Healthy Weight

Underweight raises fracture risk; rapid weight loss accelerates bone loss. Aim for stable, healthy BMI.

4

Get Sunlight

15–20 minutes of midday sun on arms and face several times a week supports vitamin D production.

SECTION 9

Treatment Options

When prevention isn't enough — modern medications offer powerful protection.



When Are Medications Recommended?

- T-score of -2.5 or lower at the spine, hip, or femoral neck
- A prior fragility fracture (hip or spine) at any T-score
- Osteopenia with elevated FRAX score ($\geq 3\%$ hip or $\geq 20\%$ major fracture risk)
- Long-term glucocorticoid therapy that significantly elevates fracture risk
- Two main classes: antiresorptive (slow bone loss) and anabolics (build new bone)
- Choice depends on fracture risk level, kidney function, age, and patient preference

First-Line: Bisphosphonates

Now the clear first-choice therapy under updated 2023 ACP guidelines.

- Slow down the cells (osteoclasts) that break down bone
- Reduce vertebral fracture risk by 40–70% and hip fracture by 30–50%
- Common options: alendronate, risedronate, zoledronic acid
- Oral forms taken weekly or monthly; intravenous given yearly
- Strong safety profile, low cost, broad generic availability
- Typical course: 3–5 years, then re-evaluate with a 'drug holiday'
- Rare side effects: jaw osteonecrosis, atypical femur fracture

TAKING ORAL BISPSPHONATES

- Take first thing in the morning
- With a full glass of water
- On an empty stomach
- Stay upright for 30–60 min
- No food or other meds until then

Denosumab (Prolia): Second-Line Antiresorptive

- A monoclonal antibody given by subcutaneous injection every 6 months
- Reduces vertebral fracture risk by about 68%, hip fracture by about 40%
- An option for patients who cannot tolerate bisphosphonates or have advanced kidney disease
- CRITICAL: Never skip or delay doses — stopping causes rapid 'rebound' bone loss and increased spine fracture risk
- If discontinued, you MUST transition to a bisphosphonate to lock in the gains
- Long-term use (>10 years) is increasingly common but lacks placebo-controlled safety data

Anabolic Therapies: When Risk Is Very High

WHAT THEY ARE

- Teriparatide (Forteo) — daily injection, 2-year limit
- Abaloparatide (Tymlos) — similar PTH analog
- Romosozumab (Evenity) — monthly injection, 12-month limit
- These BUILD bone (not just preserve it)
- Reserved for very high fracture risk: severe osteoporosis, prior vertebral fracture, very low T-score

KEY CONSIDERATIONS

- Major bone density gains — up to 15% in spine over 1–2 years
- Must always be followed by a bisphosphonate to preserve gains
- Romosozumab carries small cardiovascular risk warning
- Higher cost and insurance pre-authorization usually required
- Endocrinology referral is often warranted

Hormone Therapy and Other Options

- Estrogen therapy (HRT) prevents bone loss and reduces fractures in postmenopausal women
- May be appropriate for women within 10 years of menopause who also have menopausal symptoms
- Carries small risks of blood clots and (with progestin) breast cancer — discuss carefully with your doctor
- Raloxifene (Evista) — a SERM that reduces vertebral fractures and lowers breast cancer risk
- Calcitonin — older nasal spray option, less commonly used today
- Testosterone in men with documented low testosterone may help bone density

Build Your Bone Health Team

Primary Care

- Routine screening and follow-up
- FRAX assessment and DXA orders
- Medication management
- Annual height check and reviews

Specialists

- Endocrinologist or rheumatologist for complex cases
- Geriatrician for fall and frailty risk
- Orthopedist after a fracture
- Fracture Liaison Service if available

Support Team

- Registered dietitian for nutrition
- Physical therapist for safe exercise
- Pharmacist for medication review
- Family and caregivers for fall prevention

Questions to Ask Your Doctor

- What is my FRAX 10-year fracture risk and my T-score?
- When should I have my next DXA scan?
- Am I getting enough calcium and vitamin D from food, or should I supplement?
- Is there a medication that might be right for my risk level?
- Are any of my current medications affecting my bones?
- What exercises are safe — and which should I avoid?
- What should I do to prevent falls at home?

Living Well With Osteoporosis

1

Stay Active

Activity preserves bone and reduces fall risk. The right exercise is safer than no exercise and movement leads to improvement.

2

Mind Your Posture

Practice 'tall standing' and avoid forward bending. Good posture protects the spine.

3

Lift Smart



Hinge at the hips, keep the back straight, and avoid lifting more than 10–15 pounds with the spine bent.

4

Stay Connected

Social engagement reduces depression and supports the motivation to keep moving.

What's New in Osteoporosis Research (2025–2026)

- FRAXplus — refines risk assessment by incorporating diabetes, recent fractures, and trabecular bone score
- Trabecular Bone Score (TBS) — measures bone texture from existing DXA images, adds depth to T-scores
- Fracture Liaison Services — coordinated post-fracture care that cuts second-fracture risk in half
- Sequential therapy — starting with anabolics in highest-risk patients, followed by bisphosphonates
- Senolytic research — early studies explore drugs that clear aging cells to slow bone loss
- New ACP 2023 guideline: bisphosphonates first-line; denosumab moves to second-line

Five Steps to Take in the Next 30 Days

1

Calculate your daily calcium intake

Use the IOF Calcium Calculator or a food tracker. Identify the gap to your 1,000–1,200 mg target.

2

Get vitamin D tested

Ask your doctor for a 25-OH vitamin D blood test. Aim for a level above 30 ng/mL.

3

Schedule a DXA scan if you're due

Women 65+, men 70+, or younger adults with risk factors — make the appointment this month.

4

Add three exercise sessions weekly

30 minutes of walking, plus 15 minutes of strength or balance work twice a week.

5

Walk through your home for fall hazards

Rugs, cords, lighting, bathroom grab bars — fix the top three risks this weekend.

Trusted Places to Learn More

ORGANIZATIONS

- Bone Health & Osteoporosis Foundation — bonehealthandosteoporosis.org
- International Osteoporosis Foundation — osteoporosis.foundation
- National Institute on Aging — nia.nih.gov/health/osteoporosis
- NIAMS — niams.nih.gov/health-topics/osteoporosis

TOOLS YOU CAN USE

- FRAX calculator — sheffield.ac.uk/FRAX
- IOF Calcium Calculator
- USDA FoodData Central for nutrient lookup
- Tai chi and Otago exercise programs (CDC fall-prevention library)

A Final Thought



You cannot choose your genes, but you can choose what you eat, how you move, and how often you stand tall. Your bones respond to those choices at every age.

— Bone Health Education Series

THANK YOU

Questions & Discussion

Thank you for investing this time in your bone health. Your questions, experiences, and stories help everyone in the room learn — please share them now.



Sources & Resources:

The [Bone Health and Osteoporosis Foundation](#) (BHOFF)

The World Health Organization

Yoga U webinars & courses

The Rogue Pharmacist podcasts

“Great Bones, Taking Control of Your Osteoporosis” R. Keith McCormick, DC

- To view videos and enjoy a guided meditation video, “TLC for the Nervous System <https://www.vibrantaging.life> where you can also access the “5 weeks for \$5 Fitness for Mature Adults.
- Thanks to Cynthia Allen (Future Life Now), The Federation for Movement Intelligence, and Ruthy Alon (creator of Bones for Life®) for their guidance and training in Bones for Life® and to Dr. Ganesh Mohan & family for the in-depth yoga therapy training.
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