



The Force for Health®
PREPARED PATIENT PROGRAM

PREPARED PATIENT

Osteoporosis

Your complete learning module — eight components from newly-diagnosed to a clinically Prepared Patient Ambassador. Everything to know and do, in one place.

8-Component Condition Module

WHAT'S INSIDE — THE 8 COMPONENTS

- | | |
|--------------------------|---------------------------|
| 1 Core Basics | 2 Self-Reflection |
| 3 Force Field Fact Sheet | 4 Prepared Patient Course |
| 5 Materials & Tools | 6 Skills Lab |
| 7 Exam · Ambassador | 8 Disease Advocate |



SCAN TO OPEN THE
LIVE JOURNEY

1 Core Basics

Welcome — why becoming a Prepared Patient matters

Welcome. You're in the right place. This module turns Osteoporosis from something that happens *to* you into something you help manage — step by step, at your own pace. You don't need to become a doctor. You need to become the most prepared person in the room about *your* health.

WHY THIS MATTERS — FOR YOU AND THE PEOPLE AROUND YOU

As a Patient

Know your numbers, spot your red flags, and act fast when it counts. Prepared patients have better days and fewer emergencies.

As an Ambassador

Speak up in your own care as an equal partner — ask the right questions and help shape your plan.

As a Caregiver

Support someone you love with confidence — know what to watch for and what to do.

OSTEOPOROSIS — A NATIONAL OVERVIEW

10 million Americans

Osteoporosis is a quiet bone disease. Your bones lose strength and mineral. This is called **bone mineral density** or **BMD**. The inside structure of the bone breaks down too.

So a small force can break a bone. This is called a **fragility fracture**. It means a break from a fall at standing height or less. It can even happen from a cough or normal daily moves.

Common break sites are the **wrist, spine (the bones in your back), hip, shoulder, pelvis, and ribs**. About **10 million Americans** have osteoporosis. About 44 million more have **osteopenia** (low bone mass that is not yet osteoporosis).

One in two women will break a bone from it in her life. Up to one in four men over age 50 will too. Here is the honest truth. Most people do not know they have it until a bone breaks.

That is why regular **DXA** bone scans matter so much. The good news is strong. You can build bone strength at any age. It takes strength training, weight-bearing exercise, enough calcium and vitamin D, fall prevention, and medicine when needed.

The single best change is **strength training plus weight-bearing impact**. The proof for this is strong (ACSM, BHO).

PRE-KNOWLEDGE CHECK — RATE WHAT YOU KNOW RIGHT NOW (1–5)

Be honest — there's no wrong answer. You'll rate these again at Step 7 and see how far you've come.



1 Core Basics

Welcome — why becoming a Prepared Patient matters

What Osteoporosis actually is

○ ○ ○ ○ ○

My key numbers & targets

○ ○ ○ ○ ○

My red flags — and what to do

○ ○ ○ ○ ○

My medicines & how to take them

○ ○ ○ ○ ○

How to speak up with my care team

○ ○ ○ ○ ○

1 = new to me · 5 = I could teach it

★ My Prepared Patient Pledge

I pledge to learn about my Osteoporosis, to know my numbers and my red flags, to speak up in my own care, and to take one small step at a time — for myself and for the people who count on me.

SIGNED

DATE

Additional Notes

☐ I've completed Step 1 · Welcome & Overview for Osteoporosis



2 Self-Reflection

Eight soft questions to find your honest starting point

No test, no wrong answers — an honest self-reflection to find your starting point with Osteoporosis. This is an engagement screener, not a clinical assessment. Mark your answers, then carry them into the Fact Sheet.

Q1 Have you ever had a fragility fracture, stent, bypass, or been told you have osteoporosis, blockages, or back pain (vertebral fracture)?

Osteoporosis is often silent. Some people learn they have it from a routine test; others find out from an event. Naming what you've actually been told is the first step.

CHOOSE ONE

- ☐ Yes — I've had a fragility fracture, stent, or bypass
- ☐ Yes — I have a Osteoporosis or back pain (vertebral fracture) diagnosis without a major event
- ☐ No, but I have known risk factors (high T-score, high BP, diabetes, family history, smoking)
- ☐ No — and I don't have major risk factors that I know of
- ☐ I'm not sure

Q2 Has anyone in your family had a fragility fracture, stent, bypass, or sudden cardiac death — especially before age 60?

Family history of early heart disease is one of the strongest Osteoporosis risk factors and a clue to inherited high T-score.

CHOOSE ONE

- ☐ Yes — and at least one relative was under 60
- ☐ Yes — but I'm not sure of ages
- ☐ No
- ☐ I don't know



2 Self-Reflection

Eight soft questions to find your honest starting point

Q3 Have you ever heard about, or thought about, any of these in connection with heart disease? (check all that feel familiar)

This is just a familiarity check, not a behavior audit. Pick whatever rings a bell.

CHECK ALL THAT APPLY

- ☐ T-score ("bad") T-score target numbers
- ☐ Bone-building medication (alendronate, denosumab, romosozumab) (atorvastatin, rosuvastatin, simvastatin)
- ☐ DXA bone density scan scan
- ☐ Cardiac rehab
- ☐ Vitamin D + calcium or other antiplatelet for heart
- ☐ Quit-smoking medication or counseling
- ☐ Mediterranean / DASH-style eating
- ☐ None of these — this is all new to me

Q4 Do you feel confident that you understand osteoporosis — what it is, what it does to the body, and what helps?

"Somewhat" is a totally fair answer. Most people start there.

CHOOSE ONE

- ☐ Very confident — I know the basics well
- ☐ Somewhat — I know some, want to know more
- ☐ Not really — I'd like to learn more
- ☐ This is new to me

Q5 Do you feel confident you know how to live the highest-quality life possible despite (or to prevent) Osteoporosis?

Quality of life is the goal — energy, the things you love, longevity — not just "watching the T-score."

CHOOSE ONE

- ☐ Yes
- ☐ I'm getting there
- ☐ Not yet — I want to learn how
- ☐ Not applicable to me right now



2 Self-Reflection

Eight soft questions to find your honest starting point

Q6 Are you ready to become an informed and respected part of your care team — where your observations, communications, and actions are the most important part of your care?

This is the heart of the Prepared Patient idea.

CHOOSE ONE

- ☐ Yes — I'm ready
- ☐ Almost — I want to learn more first
- ☐ I'd like to but I'm not sure how
- ☐ I hadn't thought of it that way before

Q7 Do you have at least one person — family, friend, or care team — you can turn to about your heart?

Habit change sticks when it's social.

CHOOSE ONE

- ☐ Yes — I have someone
- ☐ Maybe — I'm not sure who
- ☐ Not yet — but I'd like to find someone
- ☐ I prefer to figure it out myself first

Q8 What brought you to this Prepared Patient program today?

Your answer is private and helps us speak to you better.

CHOOSE ONE

- ☐ I've had a heart event (MI, stent, bypass)
- ☐ I have Osteoporosis without a major event
- ☐ Someone I love has Osteoporosis or had a heart event
- ☐ I want to prevent it (risk factors / family history)
- ☐ I'm a student, professional, or educator
- ☐ I'm just curious



2 Self-Reflection

Eight soft questions to find your honest starting point

What these answers tell me about where I'm starting

 Additional Notes

☐ I've completed Step 2 · Self-Reflection for Osteoporosis



3 Force Field Fact Sheet

Primer · Foundations

This is the heart of the resource: the complete Osteoporosis Force Field, organized in knowledge tiers. Each card gives the essentials, then **Concepts** (what to know), **Skills** (what you can do), **Actions** (this week), and your **Plan** (share & sustain).



What Is Osteoporosis?

PRIMER · TIER 0

Osteoporosis is a quiet bone disease. Your bones lose strength and mineral. This is called **bone mineral density** or **BMD**. The inside structure of the bone breaks down too.

So a small force can break a bone. This is called a **fragility fracture**. It means a break from a fall at standing height or less. It can even happen from a cough or normal daily moves.

Common break sites are the **wrist, spine (the bones in your back), hip, shoulder, pelvis, and ribs**. About **10 million Americans** have osteoporosis. About 44 million more have **osteopenia** (low bone mass that is not yet osteoporosis).

One in two women will break a bone from it in her life. Up to one in four men over age 50 will too. Here is the honest truth. Most people do not know they have it until a bone breaks.

That is why regular **DXA** bone scans matter so much. The good news is strong. You can build bone strength at any age. It takes strength training, weight-bearing exercise, enough calcium and vitamin D, fall prevention, and medicine when needed.

The single best change is **strength training plus weight-bearing impact**. The proof for this is strong (ACSM, BHOF).

CONCEPTS · LEARN IT

- A quiet bone disease. BMD and bone structure both drop.
- Found by a DXA T-score of -2.5 or lower. Or by any fragility fracture.
- A fragility fracture is a break from a fall at standing height or less.
- About 10 million Americans have it. About 44 million have osteopenia.
- 1 in 2 women and up to 1 in 4 men over 50 will break a bone.
- You can build bone strength at any age.
- Strength and weight-bearing exercise is the top lifestyle change.

ACTIONS · THIS WEEK

- Get your last DXA report from the patient portal
- Save the BHOF Helpline 1-800-231-4222 in your phone
- Open your Force Field Emergency Card and fill it in
- Tell one family member you trust about your bone health

SKILLS · LIVE IT

- Say the T-score cutoff for osteoporosis (-2.5)
- Explain what a fragility fracture is in plain words
- Know that walking alone is not enough
- Name your own most likely break site

PLAN · SHARE IT

- Read all 16 squares
- Open the deep course
- Book a DXA if it is overdue or you never had one



3 Force Field Fact Sheet

Primer · Foundations



360 Human Anatomy: Bone Remodeling & Microarchitecture

PRIMER · ANATOMY

Bone is **living tissue**. It breaks down and rebuilds all the time. **Osteoclasts** are cells that dissolve old bone. **Osteoblasts** are cells that build new bone.

Osteocytes sit inside the bone. They sense load and run the cycle. You reach your peak bone mass by about **age 30**. After that, building slowly falls behind breakdown.

After **menopause**, this gap grows fast. The same happens in men with low testosterone. The fastest bone loss comes in the first **5-7 years after menopause**.

Trabecular (spongy) bone is in the spine and top of the thigh bone. It turns over faster and is lost first. **Cortical (dense) bone** is in the shaft of long bones.

It turns over more slowly. The **RANK / RANKL / osteoprotegerin (OPG)** pathway controls how osteoclasts form. The drug **denosumab** targets this pathway. It also explains a problem.

If you stop denosumab with no follow-up bone drug, bone breakdown can rebound. The **Wnt** pathway controls osteoblast activity. The drug **romosozumab** targets it.

It blocks a protein called sclerostin. **Vitamin D** helps your gut absorb calcium. **Parathyroid hormone (PTH)** raises blood calcium by pulling it from bone.

Always-high PTH means bone loss. But pulsed PTH-like drugs such as **teriparatide** build bone. **Estrogen** holds osteoclasts back. Losing it after menopause is the top cause of bone loss in women.

Mechanical load means strength training and weight-bearing impact. Osteocytes sense this load. They tell osteoblasts to build. That is why exercise works.

CONCEPTS · LEARN IT

- Osteoclasts dissolve bone. Osteoblasts build it. Osteocytes sense load.
- Peak bone mass comes by about age 30. Then it slowly drops.
- The fastest loss is the first 5-7 years after menopause.
- Trabecular bone (spine and hip) is lost earlier. Cortical bone is lost later.
- RANK/RANKL/OPG is the denosumab target. It also causes rebound.
- Wnt and sclerostin are the romosozumab target.
- Vitamin D helps your gut absorb calcium.
- Always-high PTH causes bone loss. A pulsed PTH-like drug builds bone.
- Load signals osteoblasts through osteocytes.

ACTIONS · THIS WEEK

- Click into 360 Human Anatomy: Skeletal & Bone
- Write your main risk path in your Health Passport (postmenopausal, steroid, AI/ADT, or another cause)

SKILLS · LIVE IT

- Open the 360 Human Anatomy: Skeletal System module
- Name the three bone cell types
- Match each drug to its target (denosumab → RANKL; romosozumab → sclerostin; teriparatide → PTH receptor)
- Explain in your own words why exercise builds bone

PLAN · SHARE IT

- Visit the bone module before each visit
- Update your notes after each treatment change
- Bring your marked-up map to the next visit



PREPARED PATIENT · OSTEOPOROSIS

3 Force Field Fact Sheet

Primer · Foundations

- Bring your marked-up map to your next visit



3 Force Field Fact Sheet

Primer · Foundations



Who Gets It? — Primary vs Secondary

PRIMER

Primary osteoporosis comes mainly from aging and sex-hormone change. **Postmenopausal osteoporosis** comes from losing estrogen. It is the most common cause in women.

Age-related (senile) osteoporosis is slow bone loss with age in both sexes. **Male osteoporosis** is often tied to low testosterone, alcohol, smoking, or glucocorticoids (steroids).

It can also come from a missed second cause. **Secondary osteoporosis** comes from another illness or a medicine. It causes up to 30% of cases in women and up to 60% in men.

Causes include: **glucocorticoid (steroid) use** — prednisone at 5 mg/day or more for 3 months or more is the most common drug cause; **aromatase inhibitors** (anastrozole, letrozole, exemestane) in breast cancer survivors;

androgen deprivation therapy (leuprolide, bicalutamide) in prostate cancer survivors; **CKD-mineral bone disease** (kidney disease); **cirrhosis and other chronic liver disease**;

an overactive thyroid or too much thyroid replacement; **primary hyperparathyroidism**; **rheumatoid arthritis and other autoimmune disease**; **poor gut absorption** (celiac, IBD, weight-loss surgery);

anorexia nervosa or RED-S (low energy in athletes); **SSRIs** (they raise fracture risk); **seizure drugs** (phenytoin, carbamazepine, valproate); **long-term proton-pump inhibitors** (acid-reducing drugs);

long-term heparin; **thiazolidinediones** (some diabetes drugs); and **multiple myeloma** (a blood cancer). One more key fact. If a parent broke a hip, your fracture risk roughly doubles.

This holds true even apart from your BMD.

CONCEPTS · LEARN IT

- Primary types: postmenopausal, age-related, and male.
- Secondary causes: up to 30% of women's cases and up to 60% of men's.
- Glucocorticoids (steroids) are the most common drug cause.
- AI drugs in breast cancer survivors. ADT drugs in prostate cancer survivors.
- Kidney disease, cirrhosis, RA, overactive thyroid, and hyperparathyroidism.
- Poor gut absorption (celiac, IBD, weight-loss surgery).
- Anorexia or RED-S.
- SSRIs, seizure drugs, long-term PPIs, and heparin.
- A parent's hip fracture about doubles your risk.

ACTIONS · THIS WEEK

- Check your med list for steroids, AI, ADT, SSRIs, seizure drugs, and PPIs
- Ask for a second-cause workup after any fragility fracture. Also ask if you were diagnosed young.
- Write down if a parent broke a hip

SKILLS · LIVE IT

- Say which type you may have (primary or secondary)
- Check your medicine list for bone-thinning drugs
- Take a careful family history
- Know when a second-cause workup is owed. It is owed after any fragility fracture. Also for men under 70 with osteoporosis, and premenopausal women.

PLAN · SHARE IT

- Review your diagnosis each year
- Talk with family about inherited risk
- Add osteoporosis to your family-history record



PREPARED PATIENT · OSTEOPOROSIS

3 Force Field Fact Sheet

Primer · Foundations

- Read your last DXA report



3 Force Field Fact Sheet

Primer · Foundations



The Numbers — T-score, Z-score, FRAX, TBS

PRIMER

The numbers tell you what you have and what to do. A **DXA** scan (dual-energy X-ray absorptiometry) of your **hip and lower spine** is the best test. Your **T-score** compares your bone density to a healthy young adult of the same sex.

-1.0 or higher is normal. -1.0 to -2.5 is osteopenia (low bone mass). **-2.5 or lower is osteoporosis**. Your **Z-score** compares you to others your own age. It is used for premenopausal women, men under 50, and children.

A Z-score of **-2.0 or lower** is below what is expected for your age. That calls for a second-cause workup. **FRAX** is a free online tool (WHO Fracture Risk Assessment Tool).

It gives your 10-year chance of a major fracture and of a hip fracture. It works with or without your BMD. Treatment cutoffs vary by country. In the US, doctors often treat if the 10-year major-fracture risk is **20% or higher**, or hip risk is **3% or higher**.

TBS (trabecular bone score) reads the texture of your spine DXA image. It sharpens your risk estimate on its own. **VFA** (vertebral fracture assessment) is a side-view DXA.

It can find quiet spine fractures. About **2 out of 3 spine fractures cause no symptoms**. Losing more than **1.5 inches (4 cm)** from your tallest height suggests a spine fracture.

So does losing more than **0.8 inch (2 cm)** in one year. **Bone turnover markers** (CTX, P1NP) can track how well treatment works. Here is the honest part. Osteoporosis is a slow scale, not an on-off switch.

Risk rises step by step as bone density drops. Your FRAX score plus your health facts drive care. The DXA number alone does not.

CONCEPTS · LEARN IT

- A DXA of the hip and lower spine is the best test.
- T-score: -1.0 or higher is normal. -1.0 to -2.5 is osteopenia. -2.5 or lower is osteoporosis.
- Z-score is for premenopausal women, young people, and men under 50. -2.0 or lower is below expected.
- FRAX gives 10-year risk. US treats at 20% or higher for major, or 3% or higher for hip.
- TBS sharpens DXA-based risk.
- VFA on a side-view DXA finds quiet spine fractures.
- Losing more than 1.5 inches from peak height suggests a spine fracture.
- Bone turnover markers (CTX, P1NP) track treatment.

ACTIONS · THIS WEEK

- Get a DXA if it is due or never done
- Figure out your FRAX score this week
- Measure your standing height at home
- If you had a fragility fracture, confirm the second-cause workup is done

SKILLS · LIVE IT

- Say your T-score for hip and spine
- Figure out your FRAX online
- Estimate how much height you lost from your peak
- Know that osteopenia plus a high FRAX may still need treatment
- Track how well you take your medicine

PLAN · SHARE IT

- DXA timing: every 1–2 years on treatment, every 2–3 years off
- Check your height at home each year
- Update FRAX at each visit
- Review your trends with your team



3 Force Field Fact Sheet

Tier 1 · Learn It · Aware



Recognize Silent Signs (SILENT-DISEASE WATCH)

LEARN IT · TIER 1 AWARE

Osteoporosis usually has **no symptoms** until a bone breaks. That is why watching for it matters most. Getting a DXA at the right age and time is the whole game.

But your family can spot clues before a break. Watch for **height loss**, a rounded upper back (**kyphosis**), **new mid-back pain**, or **any fragility fracture**. **Measure standing height at home each year**. Mark a doorframe.

Use a level. Bring the log to clinic. Losing more than **1.5 inches (4 cm)** from your tallest height is a warning. So is losing more than **0.8 inch (2 cm)** in one year.

Both strongly suggest a spine (vertebral) fracture. These breaks are often painless and missed. **Kyphosis** is a forward curve of the upper back. Some call it a 'dowager's hump.' It builds as spine fractures stack up.

New mid- or low-back pain in an older adult is a red flag. This is true even with no clear injury. Treat it as a spine fracture until proven otherwise.

Any break from a fall at standing height or less is a fragility fracture. It calls for an osteoporosis workup. Also watch these risk drugs and conditions:

long-term steroids, AI for breast cancer, ADT for prostate cancer, CKD, cirrhosis, RA, an overactive thyroid, hyperparathyroidism, poor gut absorption, anorexia, SSRIs, seizure drugs, and PPIs.

Any of these means ask about a DXA. Be honest here. This is spotting patterns, not making a diagnosis.

CONCEPTS · LEARN IT

- Osteoporosis is silent until a bone breaks.
- Height loss over 1.5 inches from peak, or over 0.8 inch in a year, likely means a spine fracture.
- Kyphosis means spine fractures have stacked up.
- New back pain with no cause in an older adult is a spine fracture until proven otherwise.
- Any fragility fracture calls for an osteoporosis workup.
- Risk drugs and conditions: steroids, AI, ADT, CKD, cirrhosis, RA, anorexia, SSRIs, seizure drugs, PPIs.
- This is spotting patterns, not diagnosing.

ACTIONS · THIS WEEK

- This week, mark a doorframe and record your standing height
- Ask any older parent: 'Have you had a DXA? Has your height changed?'
- Check your med list for risk drugs
- If you had any fragility fracture, ask your team if a bone workup was done

SKILLS · LIVE IT

- Say the SILENT-DISEASE WATCH letters
- Measure your standing height at home each year
- Spot kyphosis by sight
- Find any past fragility fracture in your history
- Check your medicines and conditions for bone-loss risk

PLAN · SHARE IT

- This month, talk through SILENT-DISEASE WATCH with family
- This year, get a DXA if overdue
- Long-term, check height at home each year and review risk drugs



3 Force Field Fact Sheet

Tier 1 · Learn It · Aware



Diagnostic Workup + Wellness

LEARN IT · TIER 1 AWARE

You are diagnosed by a **DXA T-score of -2.5 or lower** at the hip or spine. You are also diagnosed by **any fragility fracture**, no matter what the DXA shows.

The **USPSTF** says to screen women age **65 and older**. It also says to screen younger women past menopause if their FRAX 10-year major-fracture risk is **9.3% or higher**.

That is about the risk of a 65-year-old white woman. The USPSTF says there is not enough proof to screen all men. Other groups (**BHOF, AACE, Endocrine Society**) suggest wider screening.

That includes men **70 and older**, younger men with risk factors, and women past menopause with risk factors. A second-cause workup is needed after any fragility fracture or a surprising low BMD.

It includes these labs: **CBC, CMP, TSH, 25-OH vitamin D, intact PTH, 24-hour urine calcium, 24-hour urine creatinine, and SPEP/UPEP**. SPEP/UPEP rules out a blood cancer (myeloma) in older adults.

Add a **celiac panel** if celiac is suspected. Add **testosterone** in men. Add **cortisol screening** if Cushing's is suspected. A **VFA** on your DXA at diagnosis can find quiet spine fractures.

That finding can change your care. If you take a **bisphosphonate or denosumab**, a dental exam before major dental work is smart. A jaw problem called ONJ is rare but real.

Keep your **vaccines** up to date. Older adults should get a fall-risk check too. Common tests are the **Timed Up and Go**, the **30-second chair stand**, and gait (walking) speed.

This links into the RRPS Fall-Prevention Certification.

CONCEPTS · LEARN IT

- Diagnosis: T-score -2.5 or lower, or any fragility fracture.
- USPSTF: screen women 65+. Screen younger women if FRAX is 9.3% or higher.
- BHOF and AACE: also screen men 70+ or younger men with risk factors.
- A second-cause workup is a must after any fragility fracture.
- Workup labs: CBC, CMP, TSH, 25-OH-D, iPTH, 24-hr urine calcium, SPEP/UPEP, and maybe a celiac panel or testosterone.
- VFA at diagnosis finds quiet spine fractures.
- A dental check is smart before major dental work on a bisphosphonate or denosumab.
- A fall-risk check is part of bone-health visits.

ACTIONS · THIS WEEK

- Book an overdue DXA
- Get a second-cause workup after any fragility fracture
- Check that 25-OH vitamin D and PTH are on your chart
- Make sure your vaccines are current

SKILLS · LIVE IT

- Say the USPSTF and BHOF screening rules
- Know when a second-cause workup is a must
- Read your DXA report
- Know when a VFA is needed
- Keep your vaccines up to date

PLAN · SHARE IT

- DXA timing: every 1–2 years on treatment, every 2–3 years off
- Coordinate with your PCP and endocrinologist each year
- Get a yearly fall-risk check if you are an older adult



3 Force Field Fact Sheet

Tier 1 · Learn It · Aware

- Add the Timed Up and Go or 30-second chair stand to your next visit



Know My Numbers

LEARN IT · TIER 1 AWARE

Here are the numbers worth knowing. Your **T-score** for hip and lower spine, tracked separately. Sometimes only one is in the osteoporosis range. You treat by that one.

Your **Z-score** if you are a premenopausal woman, a man under 50, or a child. Your **FRAX** 10-year risk for a major fracture and a hip fracture. Redo it at each visit.

Adding your BMD changes the number. Your **TBS** if your DXA center reports it. A **VFA** at diagnosis to catch quiet spine fractures. Your **25-OH vitamin D** level.

Most experts aim for **30 ng/mL or higher**. A level of **20-29 is low**. A level **below 20 is deficient**. Your **serum calcium and albumin**. Your **intact PTH**. Your **creatinine and eGFR** (kidney function).

A **24-hour urine calcium** if a workup is needed. Your **standing height** each year, at home and in clinic. Your **weight and BMI**. A low BMI raises bone-loss risk.

Your **calcium from food**. The best way to check is a 3-day log of dairy, greens, and fortified foods. Your **falls per year**, including near-falls. Your **medicine schedule** (bisphosphonate or denosumab).

And **bone turnover markers** (CTX, P1NP) if your team uses them. Bring a one-page numbers card to every visit. Sticking with treatment is hard in real life.

About **50% of people stop bisphosphonates within a year**. A good numbers card helps stop that.

CONCEPTS · LEARN IT

- T-score for hip and spine, tracked separately.
- Z-score for premenopausal women, young people, and men under 50.
- FRAX with and without your BMD.
- TBS and VFA add detail.
- Aim for vitamin D of 30 ng/mL or higher.
- Get calcium from food first.
- Check height and weight each year.
- Count falls and near-falls each year.
- Sticking with treatment makes or breaks it.

ACTIONS · THIS WEEK

- Build your numbers card
- Do a 3-day calcium-from-food log
- Check that 25-OH vitamin D is on your chart
- Confirm your DXA timing
- Set a reminder to take your medicine

SKILLS · LIVE IT

- Say your T-scores
- Figure out your FRAX yourself
- Estimate calcium from a 3-day food log
- Measure your standing height at home
- Track how well you take your medicine

PLAN · SHARE IT

- Keep your numbers card current
- Track DXA and FRAX trends each visit
- Review your medicine habit every 3 months



3 Force Field Fact Sheet

Tier 1 · Learn It · Aware



Lifestyle Force Field — Resistance Is Medicine

LEARN IT · TIER 1 AWARE

This is one of the strongest non-drug tools in any chronic disease. Say that plainly. **Strength and weight-bearing exercise build bone and lower fracture risk.** The proof is strong (ACSM, BHOF).

Here is how it works.

(1) Strength training 2-3 days a week. Use big multi-joint moves: squat, hinge, push, pull, and carry. Add weight over time. This modestly raises hip and spine BMD.

It also builds muscle and balance, so you fall less. The LIFTMOR and LIFTMOR-M trials proved this. They studied postmenopausal women and older men. Supervised heavy strength training raised BMD.

It was safe even with severe bone loss, with good coaching.

(2) Weight-bearing impact on most days. Try walking, jogging, safe jumping, dancing, and stair-climbing. Walking alone is **not enough**. Bone responds to load and impact, not slow easy activity.

(3) Balance training a few days a week. Tai chi is proven to cut falls. So are the Otago program and balance PT. Get **calcium 1,000-1,200 mg a day from food first** (postmenopausal women, men 70+).

Use supplements only to fill the gap. There is a real but small concern. Some studies link calcium pills to a slight rise in heart events. This link is weaker for calcium from food.

So favor food to be safe. Take **vitamin D 800-1,000 IU** for most adults. Check your level and adjust. Older adults need **protein 1.0-1.2 g/kg a day** for bone and muscle.

Quit smoking; it speeds bone loss. Limit alcohol (**2 or fewer a day for men, 1 or fewer for women**). Get good **sleep**. Prevent falls: clear your home, check footwear, vision, hearing, and review your medicines.

This links into **RRPS Certification** (5 of 16 cards cover falls). The honest bottom line: exercise is medicine here, and walking is not enough.

CONCEPTS · LEARN IT

- Strength training 2-3 times a week. Use big moves and add weight over time.
- Weight-bearing impact most days: walking, safe jumping, and stairs.
- Balance training 2-3 times a week. Tai chi is proven.
- Walking alone is NOT enough.
- Calcium 1,000-1,200 mg a day, from food first.
- Vitamin D 800-1,000 IU. Check your level.
- Protein 1.0-1.2 g/kg a day for older adults.
- Quit smoking. Limit alcohol to 2 a day for men, 1 for women.
- Fall prevention links to RRPS.

ACTIONS · THIS WEEK

- This week, book 2 strength sessions
- Find a tai chi class or Otago program

SKILLS · LIVE IT

- Say the strength, impact, and balance rule
- Find a PT or trainer who knows safe loading for osteoporosis
- Estimate your calcium from food
- Do a home fall-prevention sweep
- Sign up for tai chi or balance PT

PLAN · SHARE IT

- Weekly: 2-3 strength and 2-3 balance sessions, plus impact most days



PREPARED PATIENT · OSTEOPOROSIS

3 Force Field Fact Sheet

Tier 1 · Learn It · Aware

- Log your calcium from food for 3 days
- Do a home fall-prevention sweep
- Quit smoking if it applies to you
- Daily: calcium-rich meals and vitamin D
- Every 3 months: review with your PT and team



3 Force Field Fact Sheet

Tier 2 · Live It · Active



Medications + Therapies — All Levers

LIVE IT · TIER 2 ACTIVE

Osteoporosis treatment uses a ladder of drugs. Some slow bone breakdown. Others build bone. **Bisphosphonates** are first-line for most people. The options are:

alendronate (Fosamax), a weekly pill; **risedronate (Actonel)**, a weekly or monthly pill; **ibandronate (Boniva)**, a monthly pill or an IV every 3 months; and **zoledronic acid (Reclast)**, an IV once a year.

Take oral bisphosphonates the right way. Take on an **empty stomach with 8 oz of plain water. Stay upright for 30-60 minutes.** Have no food, coffee, calcium, or other pills during that time.

These drugs cut fractures a lot. Ask about a **drug holiday** after 3-5 years of pills, or after 3 yearly zoledronic acid doses. This is an option if your T-score improved and your risk is no longer high.

Denosumab (Prolia) is a shot under the skin every 6 months. In some studies it cuts fractures more than oral bisphosphonates. **Honest warning: do not stop denosumab without a follow-up bone drug** (usually a bisphosphonate).

If you stop with nothing to follow, spine fractures can rebound within about **7-18 months**. That risk is real and well proven. **Anabolic (bone-building) drugs** are for severe or very-high-risk cases, after a fracture, or when other drugs did not work.

They are: **teriparatide (Forteo)** and **abaloparatide (Tymlos)**, daily shots for up to 2 years; and **romosozumab (Evenity)**, a monthly shot for 12 months. Do not use romosozumab within 1 year of a heart attack or stroke.

Every anabolic must be **followed by a bone-slowing drug** to lock in the gains. For very-high-risk patients, starting with an anabolic builds more bone than starting with a bone-slowing drug.

Hormone therapy (estrogen, with or without progestin) can lower fractures in early-menopause women who have hot flashes. It is not first-line for bone alone.

Raloxifene (Evista) is a SERM. It cuts spine fractures but not hip fractures. It can help younger post-menopause women who also want lower breast cancer risk.

Two rare risks are real: a jaw problem (**ONJ**) and an unusual thigh-bone break. ONJ happens in about **1 in 10,000 to 100,000 patient-years** on oral bisphosphonates.

It is higher with high-dose IV use in cancer care. The unusual thigh break happens in about **1 in 1,000 patient-years** after long-term bisphosphonate use.

It often warns you first with thigh pain. Still, the math strongly favors treatment when you are high-risk. These rare risks are not a reason to skip treatment.

Sticking with the drug is the hardest part. About **50% of people stop oral bisphosphonates within a year.**

CONCEPTS · LEARN IT

- Bisphosphonates are first-line: alendronate, risedronate (pills), and zoledronic acid (IV once a year).
- Take oral bisphosphonate on an empty stomach, with 8 oz water, and stay upright 30-60 min.

SKILLS · LIVE IT

- Name your drug, dose, route, and schedule
- Do the oral bisphosphonate routine correctly
- If on denosumab, never miss a 6-month dose
- Notice new thigh pain on a bisphosphonate
- Notice early signs of ONJ (a jaw problem)



3 Force Field Fact Sheet

Tier 2 · Live It · Active

- A drug holiday is an option after 3–5 years of pills, or 3 zoledronic acid doses, if risk drops.
- Denosumab is a shot every 6 months. Do not stop it without a follow-up bone drug. Spine fractures can rebound.
- Anabolics (teriparatide, abaloparatide, romosozumab) are for severe cases. Always follow them with a bone-slowing drug.
- Do not use romosozumab within 1 year of a heart attack or stroke.
- Hormone therapy can help early-menopause women with hot flashes.
- Raloxifene (a SERM) cuts spine fractures, but not hip fractures.
- ONJ is about 1 in 10,000–100,000 on oral drugs. The unusual thigh break is about 1 in 1,000 long-term. Both are rare but real.
- Not sticking with the drug is the biggest failure.
- Check yourself on how well you take your medicine

ACTIONS · THIS WEEK

- Confirm your dosing routine with your pharmacist
- Set a medicine reminder
- Tell your dentist before dental work if you take a bisphosphonate or denosumab
- If on denosumab, book your next dose now
- Apply for a copay program if your drug is brand-name

PLAN · SHARE IT

- This week, set your dosing routine and a reminder
- This month, get a dental exam if you plan major dental work
- This quarter, review side effects and your medicine habit with your team



3 Force Field Fact Sheet

Tier 2 · Live It · Active



Care Team Members

LIVE IT · TIER 2 ACTIVE

Bone-health care spans many specialties over a long time. Your team depends on how severe it is and what you can reach. **Your PCP** handles most simple cases.

They order the DXA and FRAX, start treatment, screen, and follow up. **Endocrinology** is for complex or stubborn cases. See them for anabolic drugs, parathyroid disease, or many second causes.

Rheumatology is for RA or other autoimmune disease, especially on long-term steroids. **Physical Therapy** is high-value. A PT trained in osteoporosis knows safe loading, posture, balance, and fall prevention.

Occupational Therapy helps with home safety and helpful equipment. A **DXA technologist and radiology** run and read your scan. Your **pharmacist** checks drug interactions, teaches the dosing routine, supports your habit, and reviews bone-thinning drugs.

Geriatrics helps older adults with many conditions or many medicines. **Behavioral health** supports mood and daily medicine. Depression alone doubles fracture risk.

A **dietitian** coaches calcium from food, vitamin D, and enough protein. Your **dentist** gives clearance before major dental work if you take a bisphosphonate or denosumab.

A **BHOF peer mentor** offers support. A **family Ambassador** checks your height each year, watches for kyphosis, and helps with medicine. An **RRPS-certified community member** adds the fall-prevention layer.

CONCEPTS · LEARN IT

- Your PCP handles most simple cases.
- Endocrinology handles complex cases, anabolic drugs, and many second causes.
- Rheumatology helps with autoimmune disease and long-term steroids.
- An osteoporosis-trained PT is high-value.
- Your pharmacist helps you stay on track.
- Geriatrics helps older adults with many conditions.
- Behavioral health matters. Depression doubles fracture risk.
- Your dentist clears you before major work on a bisphosphonate or denosumab.
- Add a BHOF peer, a family Ambassador, and the RRPS layer.

ACTIONS · THIS WEEK

- Find your endocrinology contact if your case is complex or needs anabolics
- Confirm a PT referral if you are on treatment or had a fracture
- Connect with a BHOF peer mentor
- Pick a family Ambassador

SKILLS · LIVE IT

- List each team member with a phone or email
- Know who handles what
- Handle a hand-off talk between providers
- Ask for an early PT referral
- Connect with BHOF peer support
- Pick a family Ambassador

PLAN · SHARE IT

- Every 3 months, review your team list
- Each year, review all numbers and your medicine habit
- At each provider change, write a hand-off note



3 Force Field Fact Sheet

Tier 2 · Live It · Active

- Tell your dentist if you take a bisphosphonate or denosumab



Telemedicine & Tech

LIVE IT · TIER 2 ACTIVE · TECH

Telehealth and tech fit bone care well. **Telehealth visits** work for medicine changes, habit support, and post-fracture care. They work nearly as well as in-person, especially after the first visit and DXA review.

The **FRAX calculator** is free at sheffield.ac.uk/FRAX. Every adult 40 and older should know their score. Use a **BMI calculator** and fall-risk screens. Try the **Timed Up and Go** by phone video, or the **STEADI app**.

A **home BP cuff** checks for a drop in blood pressure when you stand. That drop is a big fall trigger. It links into the Orthostatic Hypotension Journey. **Activity trackers** can log strength workouts (Fitbit, Apple Watch, Whoop, Garmin).

Food apps track vitamin D and calcium (Cronometer, MyFitnessPal). Use them as a 3-day log. **Fall-detection wearables** help older adults who live alone (Apple Watch fall detection, Life Alert, Kanega, MedicAlert).

If you fall and cannot get up, they call for help. **Medicine reminder apps** (Medisafe, Pill Reminder) rescue your habit. Sticking with treatment is hard in real life.

The right reminder helps. Keep a **personal health record** for your DXA history, FRAX, fall log, and medicine habit. Join the **BHOF online community** for peer support.

CONCEPTS · LEARN IT

- Telehealth follow-up works for bone health.
- FRAX is free online. Everyone 40 and up should know it.
- Activity trackers can log strength workouts.
- Fall-detection wearables help older adults.
- Medicine reminder apps rescue your habit.
- The STEADI app screens your fall risk.
- Vitamin D and calcium apps work as 3-day logs.

ACTIONS · THIS WEEK

- Figure out your FRAX this week
- Set up Medisafe / Pill Reminder
- Turn on Apple Watch fall detection if you have one
- Do a 3-day calcium-from-food log in Cronometer
- Get a home BP cuff to check standing blood pressure

SKILLS · LIVE IT

- Figure out your FRAX online
- Set up a medicine reminder
- Turn on fall detection if it applies
- Use a tracker that logs strength workouts
- Do a STEADI-style fall self-check

PLAN · SHARE IT

- Do FRAX before each visit
- Use a daily medicine reminder
- Do a fall-risk self-check every 3 months



3 Force Field Fact Sheet

Tier 2 · Live It · Active



Insurance, Treatment Cost & Help

LIVE IT · TIER 2 ACTIVE

Generic **oral bisphosphonates** are cheap. Alendronate and risedronate usually cost **\$4-15 a month**. **Zoledronic acid IV** once a year runs about **\$100-300** generic.

Medicare Part B usually covers it as an office-given drug. **Denosumab (Prolia)** is brand-name. Without insurance it can cost **\$1,500-2,500 per 6-month dose**.

Medicare Part B and most plans cover it for osteoporosis. Copay programs can help. **Anabolics** are pricey. **Teriparatide (Forteo)** and **abaloparatide (Tymlos)** can cost **\$2,000-4,000 a month** without insurance.

Romosozumab (Evenity) is similar. They need prior approval from your plan. Maker copay programs (Amgen FIRST STEP, Radius Health Patient Assistance) cover much of the cost for many people.

Medicare covers a **DXA every 2 years** for women 65+ with risk factors. It covers one more often if medically needed. It also covers a DXA for men with risk factors.

Medicaid varies by state. It usually covers a DXA and generic bisphosphonates. The **BHOF Helpline** is 1-800-231-4222. It helps with insurance. The **NIH NIA** line is 1-800-222-2225.

Every anabolic maker has a patient-assistance program for low-income or uninsured people. **NeedyMeds** and **RxAssist** list many programs. Also check your med list for bone-thinning drugs you may be able to cut back (steroids, PPIs, SSRIs).

CONCEPTS · LEARN IT

- Generic alendronate and risedronate cost \$4-15 a month.
- Zoledronic acid IV costs about \$100-300 a year generic. Medicare Part B covers it.
- Denosumab costs about \$1,500-2,500 a dose. Insurance and copay programs help.
- Anabolics cost \$2,000-4,000 a month. Maker assistance is available.
- Medicare covers a DXA every 2 years for women 65+ with risk factors.
- The BHOF Helpline, 1-800-231-4222, helps with insurance.
- NeedyMeds and RxAssist list patient-assistance programs.

ACTIONS · THIS WEEK

- This week, confirm your medicine cost and coverage
- Apply for copay help if your drug is brand-name
- Book a DXA if it is covered and overdue
- Review your med list with your PCP

SKILLS · LIVE IT

- Say what your medicine costs
- Apply to a maker copay program if it applies
- Confirm your DXA is covered
- Check your med list for bone-thinners you might cut back
- Use the BHOF Helpline for help

PLAN · SHARE IT

- Review coverage each year
- For each new drug, check coverage and copay
- Keep a one-page med and cost card



3 Force Field Fact Sheet

Tier 3 · Share It · Certified



Equity, Access & Cultural Competence

SHARE IT · TIER 3 CERTIFIED

The fairness story in osteoporosis is real and specific. **Black, Latina, and Asian women** have lower fracture rates than white women. But they get screened and treated far less often.

That is a big under-diagnosis gap. **Black women** have higher death rates after a hip fracture than white women. One reason is that fewer get into bone-health care after a fragility fracture.

Asian women (East and South Asian) may be misjudged by databases built for white people. Their real fracture risk gets underrated. **Latina women** have higher osteoporosis rates than once thought.

They are screened less, too. **Men are greatly undertreated.** Most men with osteoporosis are never diagnosed. After a hip fracture, fewer than **20% of men** start a bone medicine.

That post-fracture gap is worse in men. **Rural patients** may struggle to reach a DXA or an endocrinologist. **Low-income patients** get fewer DXAs and stick with treatment less, due to cost.

LGBTQ+ adults on long-term gender-affirming hormone therapy need bone-specific advice. It is often left out of routine care. **Veterans** face high bone-loss risk from amputation, spinal cord injury, or long-term steroids.

The VA has its own care path. Do not be preachy. Be specific. Speak up for sisters, aunts, and friends turning 65 who never got a DXA. That is real public-health work.

CONCEPTS · LEARN IT

- Black, Latina, and Asian women are screened and treated far less, despite real risk.
- Black women have higher death rates after a hip fracture than white women.
- Asian BMD data may be misjudged by databases built for white people.
- Men are greatly undertreated. Fewer than 20% start a bone med after a hip fracture.
- Rural and low-income patients face gaps in reaching a DXA and endo.
- LGBTQ+ people on long-term hormone therapy have bone-specific needs.
- Veterans face bone loss from amputation, spinal cord injury, and chronic steroids.

ACTIONS · THIS WEEK

- Ask 3 women age 65+ in your life about their last DXA
- Talk to 1 man age 70+ about his bone health
- If you are LGBTQ+ on hormone therapy, ask your team about bone-specific care
- Veterans, connect with VA bone-health resources

SKILLS · LIVE IT

- Say the Black, Latina, and Asian screening gap
- Spot a friend or family member who should get screened
- Talk with a man over 70 about FRAX
- Use a language match if needed
- Bring up bone health with siblings turning 65

PLAN · SHARE IT

- This month, have one bone-health-fairness talk in your family
- This quarter, write your story
- Long-term, become an Ambassador (Tier 3)



3 Force Field Fact Sheet

Tier 3 · Share It · Certified



Talk to Kids, Partner, Family

SHARE IT · TIER 3 CERTIFIED

Osteoporosis is a family story. It spans decades, and the helper roles are special. Give **adult children** plain words: "Mom has osteoporosis. Her bones thinned enough that an everyday fall could break one."

Help me check her standing height each year with a doorframe mark. Walk her home for trip hazards. Remind her about her bone medicine. If she breaks a bone from a normal fall, we make sure she leaves the hospital with a bone-health plan."

Your **partner or spouse** is the always-on helper. They can check height each year, watch for kyphosis, sweep the home for fall risks, help with medicine, and spot new mid-back pain.

Remember: a parent's hip fracture **doubles your fracture risk**. Tell adult children when they turn 50 so their FRAX is accurate. The helper role for **Black, Latina, and Asian women** is real public-health work.

Bring it up with sisters, aunts, and friends who turn 65. **Talk to your dad, brothers, and male friends** about male osteoporosis. They will not bring it up.

You have to. For work: wellness plans can offer a DXA at age 65, PT referrals, and fall-prevention training. The **ADA** covers osteoporosis when it limits a major life activity.

Fair accommodations include ergonomic chairs, sit-stand desks, flexible dosing times, and time for visits. **FMLA** covers fracture surgery, recovery, and intensive PT.

CONCEPTS · LEARN IT

- Adult children: check height each year, walk the house, and help with medicine.
- Partner: the always-on helper (height, kyphosis, fall sweep, medicine).
- A parent's hip fracture about doubles your FRAX risk. Tell adult children at age 50.
- Talk to your dad and brothers. Male osteoporosis is hidden.
- Sisters, aunts, and friends turning 65 need the Black, Latina, and Asian helper role.
- ADA and FMLA cover ergonomic chairs, sit-stand, visit time, and fracture recovery.

ACTIONS · THIS WEEK

- This week, talk with family about height and a DXA
- This month, walk an older parent's home for fall risks
- This quarter, tell adult children about family fracture history
- If kids live with you, model the strength-training habit

SKILLS · LIVE IT

- Have a 5-minute family talk
- Write down a parent's hip fracture
- Do a home fall-prevention sweep
- Help a sibling do their FRAX
- Use the AHRQ SHARE Approach with your team

PLAN · SHARE IT

- This month, name any accommodation needs
- This quarter, file one ADA request if needed
- This year, make a long-term family plan and advance care plan



3 Force Field Fact Sheet

Tier 3 · Share It · Certified



Mentor & Share Insights

SHARE IT · TIER 3 CERTIFIED

You grow strongest when you teach others. Join the **BHOF** peer-mentor program, online community, and support groups. Look at **NOF Generations of Strength** and the **International Osteoporosis Foundation**.

Mark **Bone Health Day (May 24)**, a global awareness day. The **RRPS Certification** is a natural next step for fall-prevention work. In fact, 5 of 16 RRPS cards cover falls, and graduates of this course fit it well.

A real story lands better than statistics. Imagine hearing: "My T-score was -3.0. I started alendronate four years ago. I lift weights three days a week.

My last DXA was -2.5. I have not broken anything." That gives new hope. **Honest talk beats a pep talk.** Helping close the post-fracture treatment gap is high-value work.

Most patients leave the hospital after a fragility fracture with no bone medicine. The friend who insists on a bone-health plan is doing real work. Helping **Black, Latina, and Asian women** whose risk gets underrated is real public-health work too.

Mentor with limits. Caregiver burnout and over-sharing are real. Co-teach at BHOF chapters, community centers, and senior centers. Write a short note to your team after a great or rough visit.

Stigma fades one story at a time. But only share when you are ready.

CONCEPTS · LEARN IT

- BHOF peer-mentor program and support groups
- NOF Generations of Strength
- International Osteoporosis Foundation
- Bone Health Day (May 24)
- RRPS Certification is a next step (5 of 16 cards cover falls)
- Honest talk beats a pep talk
- Help close the post-fracture treatment gap
- Help with Black, Latina, and Asian under-screening
- Mentor with limits

ACTIONS · THIS WEEK

- Sign up to mentor one newly diagnosed person through BHOF
- Connect with a local BHOF chapter
- Consider RRPS Certification
- Write one feedback note this month
- Submit your story to BHOF

SKILLS · LIVE IT

- Tell your story in 3 minutes
- Lead a 30-minute peer-mentor session
- Write a 'what worked, what did not' note under 200 words
- Co-teach with your team
- Set healthy mentoring limits

PLAN · SHARE IT

- This month, find one chance to mentor
- This quarter, give one talk
- This year, finish Tier 3 Ambassador steps and consider RRPS



3 Force Field Fact Sheet

Tier 3 · Share It · Certified



Join the ROI Study (PHIT)

SHARE IT · TIER 3 CERTIFIED · STUDY

PHIT stands for Population Health Impact Tracking. It is the FFH research engine. For osteoporosis, we ask a big question. Does the Prepared Patient program improve outcomes? We look for more timely DXAs and better FRAX-based treatment choices.

We watch the rate of starting treatment after a fragility fracture. That is a key quality gap, measured by HEDIS and many ACO programs. We also track better medicine habits, fewer falls, fewer fractures, and fewer ED visits.

And we track fairer screening of Black, Latina, and Asian women, plus better treatment of men. You can opt in to share grouped, de-identified results. These include your T-score trend, FRAX group, treatment type, medicine habit, fall counts, fracture counts, ED visits, hospital stays, badge progress, and quality-of-life ratings.

No personal health information is shared. You can stop at any time. We also suggest joining registries where they fit, like the **NHANES** bone-health subsamples and **WHI** long-term follow-up.

CONCEPTS · LEARN IT

- PHIT shares grouped, de-identified results only
- Proven programs can get paid for and grow
- You can opt out any time
- FFH PHIT links osteoporosis outcomes with cost data
- The post-fracture treatment-start rate is the top quality metric
- We encourage also joining NHANES and WHI subsamples

ACTIONS · THIS WEEK

- Opt in via the green box on this page
- Read your first quarterly summary
- Tell one peer about PHIT
- Consider joining RRPS as a parallel track

SKILLS · LIVE IT

- Read a one-page consent
- Know what is and is not personal health information
- Set a regular review of your own dashboard
- Stop or pause any time

PLAN · SHARE IT

- Today: opt in if it feels right
- Each quarter, review your summary
- Each year, decide whether to keep going

Additional Notes

☐ I've read the full Osteoporosis Fact Sheet · Step 3


4 Prepared Patient Course

The complete course — three levels, applied to your life

The course takes you through the Fact Sheet in three levels — from newly-diagnosed to prepared — then shows how every part applies to you and the people around you.

Level 1 · Aware

Know the basics — what Osteoporosis is, your numbers, your meds.

Level 2 · Active

Manage & do — self-monitor, act on red flags, work your plan.

Level 3 · Certified

Advocate & share — teach it, bring your team in, help others.

The Numbers — T-score, Z-score, FRAX, TBS

The numbers tell you what you have and what to do. A **DXA** scan (dual-energy X-ray absorptiometry) of your **hip and lower spine** is the best test. Your **T-score** compares your bone density to a healthy young adult of the same sex.

-1.0 or higher is normal. -1.0 to -2.5 is osteopenia (low bone mass). **-2.5 or lower is osteoporosis**. Your **Z-score** compares you to others your own age. It is used for premenopausal women, men under 50, and children.

A Z-score of **-2.0 or lower** is below what is expected for your age. That calls for a second-cause workup. **FRAX** is a free online tool (WHO Fracture Risk Assessment Tool).

It gives your 10-year chance of a major fracture and of a hip fracture. It works with or without your BMD. Treatment cutoffs vary by country. In the US, doctors often treat if the 10-year major-fracture risk is **20% or higher**, or hip risk is **3% or higher**.

TBS (trabecular bone score) reads the texture of your spine DXA image. It sharpens your risk estimate on its own. **VFA** (vertebral fracture assessment) is a side-view DXA.

It can find quiet spine fractures. About **2 out of 3 spine fractures cause no symptoms**. Losing more than **1.5 inches (4 cm)** from your tallest height suggests a spine fracture.

So does losing more than **0.8 inch (2 cm)** in one year. **Bone turnover markers** (CTX, P1NP) can track how well treatment works. Here is the honest part. Osteoporosis is a slow scale, not an on-off switch.

Risk rises step by step as bone density drops. Your FRAX score plus your health facts drive care. The DXA number alone does not.

- A DXA of the hip and lower spine is the best test.
- T-score: -1.0 or higher is normal. -1.0 to -2.5 is osteopenia. -2.5 or lower is osteoporosis.
- Z-score is for premenopausal women, young people, and men under 50. -2.0 or lower is below expected.
- FRAX gives 10-year risk. US treats at 20% or higher for major, or 3% or higher for hip.
- TBS sharpens DXA-based risk.
- VFA on a side-view DXA finds quiet spine fractures.
- Losing more than 1.5 inches from peak height suggests a spine fracture.
- Bone turnover markers (CTX, P1NP) track treatment.



4 Prepared Patient Course

The complete course — three levels, applied to your life

THE FULL COURSE — HOW EACH PART APPLIES TO YOUR LIFE

Every part of the Osteoporosis Force Field lands differently depending on who you are. Here is the complete course — what each concept means for **you**, your **family**, the **workplace**, and **students** learning it.

What Is Osteoporosis?

FOR YOU · THE PATIENT

This is your map. Your T-score, FRAX score, exercise, food, and sometimes medicine guide it all. Bone is alive. It can change at any age.

EMPLOYERS & WORKPLACE

Falls and fragility fractures at work cost real money. Bone-health and fall-prevention programs pay off.

FAMILY & CAREGIVERS

Your loved one may not know they have osteoporosis. Your job starts small. Check their height at home each year. Ask when their last DXA was.

STUDENTS & LEARNERS

Memorize this. A T-score of -2.5 or lower, or any fragility fracture, means osteoporosis. About 10 million US adults have it. 1 in 2 women and up to 1 in 4 men over 50 will break a bone. Bone is living tissue that changes.

360 Human Anatomy: Bone Remodeling & Microarchitecture

FOR YOU · THE PATIENT

Bone is alive. It responds to load and to medicine. So this is not just 'getting old.' It is a real story you can change.

EMPLOYERS & WORKPLACE

Bone biology is easy to grasp once you see it. A 5-minute talk in a wellness session helps a lot.

FAMILY & CAREGIVERS

Use the 360 Human Anatomy together. Learning how bone rebuilds helps you support taking medicine on time.

STUDENTS & LEARNERS

Bookmark this for boards. Learn RANK/RANKL/OPG, Wnt/sclerostin, PTH biology, and how estrogen holds back osteoclasts. Each one maps to an approved osteoporosis drug class.

Who Gets It? — Primary vs Secondary

FOR YOU · THE PATIENT

Do not just assume it is menopause. Up to 30% of women and 60% of men have a second cause. That cause may be reversible. Or it may need its own treatment.

EMPLOYERS & WORKPLACE

Workers on long-term steroids, AI, or ADT face high bone-loss risk. The wellness program should know.

FAMILY & CAREGIVERS

Family history matters. Tell adult children if a parent broke a hip. It doubles their fracture risk. It also means they should ask about a DXA sooner.

STUDENTS & LEARNERS

Memorize this. Any fragility fracture needs a second-cause workup. Steroid osteoporosis is the most common drug cause. AI and ADT overlap with cancer survivorship. A parent's hip fracture about doubles risk. It is part of FRAX.



4 Prepared Patient Course

The complete course — three levels, applied to your life

The Numbers — T-score, Z-score, FRAX, TBS

FOR YOU · THE PATIENT

Your numbers are your dashboard. Your T-score and FRAX together guide care, not the score alone. Do not accept 'just osteopenia, do nothing' without a FRAX score.

EMPLOYERS & WORKPLACE

You do not need to know the numbers. You do need to give time for DXA, follow-up, and treatment.

FAMILY & CAREGIVERS

Help keep track. The yearly home-height check is one of the easiest ways to help.

STUDENTS & LEARNERS

Memorize T-score, when to use Z-score, FRAX cutoffs, TBS, and VFA. Bone turnover markers are mostly for clinic and research. Know them, but do not overuse them.

Recognize Silent Signs (SILENT-DISEASE WATCH)

FOR YOU · THE PATIENT

Watching for it is the whole game. Do not wait for a break. A yearly home-height check takes 60 seconds. It can catch quiet spine fractures.

EMPLOYERS & WORKPLACE

Wellness plans can offer height and FRAX checks each year for adults 50 and up. The payoff is high.

FAMILY & CAREGIVERS

You are the first line. Notice if a parent is shrinking. Ask about a DXA. That simple step prevents a lot of harm.

STUDENTS & LEARNERS

Memorize the height-loss cutoffs. Kyphosis means stacked spine fractures. A fragility fracture is osteoporosis until proven otherwise. About 2 out of 3 spine fractures cause no symptoms.

Diagnostic Workup + Wellness

FOR YOU · THE PATIENT

Do not skip the second-cause workup after a fracture. The right diagnosis leads to the right medicine.

EMPLOYERS & WORKPLACE

Giving time for a DXA and follow-up is fair support. Most visits are quick.

FAMILY & CAREGIVERS

Help keep the workup checklist. Ask the team if a VFA was done at diagnosis. Most people skip it, but it can change care.

STUDENTS & LEARNERS

Memorize this. USPSTF screens women 65+. BHOF is broader. The FRAX cutoff is 9.3%. Learn the workup labs. Do a VFA with the DXA at diagnosis. Do not miss second causes. They change care.



4 Prepared Patient Course

The complete course — three levels, applied to your life

Know My Numbers

FOR YOU · THE PATIENT

Sticking with treatment is the biggest lever. A good numbers card and a reminder app prevent the most common failure in osteoporosis care.

EMPLOYERS & WORKPLACE

You do not need to know the numbers. You do need to give time for visits and support for daily medicine.

FAMILY & CAREGIVERS

Help with the numbers card and the reminder app. A reminder partner can prevent fractures.

STUDENTS & LEARNERS

Memorize this. About 50% of patients stop bisphosphonates within a year. A numbers card, a reminder, and teach-back at every visit help them keep going.

Lifestyle Force Field — Resistance Is Medicine

FOR YOU · THE PATIENT

You can build real bone and lower fracture risk with exercise. Walking is not enough. Lift something heavy on a regular basis. PT-guided training is great, especially after a fracture.

EMPLOYERS & WORKPLACE

Offer sit-stand desks, stairs, on-site exercise, and meal flexibility. These help workers with bone loss stay strong.

FAMILY & CAREGIVERS

Help build the habits. Walk together. Drive to tai chi. Cook calcium-rich meals together.

STUDENTS & LEARNERS

Memorize LIFTMOR and LIFTMOR-M, the ACSM exercise rules, calcium from food first, a vitamin D target of 30 ng/mL or higher, and protein 1.0–1.2 g/kg a day in older adults. The calcium-pill heart concern is real but small. Favor food.

Medications + Therapies — All Levers

FOR YOU · THE PATIENT

Take it the right way. Do not stop on your own. ONJ and the unusual thigh break are real but rare. The math favors treatment if you are high-risk. Tell your team if something feels off. Never just stop.

EMPLOYERS & WORKPLACE

FMLA covers fracture surgery and recovery. Allowing time for a morning dosing routine is easy and works.

FAMILY & CAREGIVERS

You are the early-warning system. Watch for missed doses and for thigh or jaw symptoms. Bring it up with the team.

STUDENTS & LEARNERS

Memorize the bisphosphonate dosing rule. Know the denosumab rule: you must switch to another drug. Know romosozumab's heart warning. Learn the ONJ and thigh-break rates. Start with an anabolic for very-high-risk. Always follow an anabolic with a bone-slowing drug.



4 Prepared Patient Course

The complete course — three levels, applied to your life

Care Team Members

FOR YOU · THE PATIENT

You do not have to run it all yourself. Build a team. Your PCP can handle most cases. Endo is for complex ones. PT helps at any stage.

EMPLOYERS & WORKPLACE

Partner with a wellness program. Offer a DXA at age 65, PT referrals, and fall-prevention training. It pays off.

FAMILY & CAREGIVERS

You are always part of the team. Check height each year. Help with reminders. Come along to visits.

STUDENTS & LEARNERS

Memorize this. The PCP handles most simple cases. Endo takes complex, anabolic, hyperparathyroidism, and many second causes. Rheum helps with autoimmune plus chronic steroids. PT is high-value. Dentist clearance is smart, not required.

Telemedicine & Tech

FOR YOU · THE PATIENT

A good reminder app plus a fall-detection watch is a strong combo. Do not underrate the tech.

EMPLOYERS & WORKPLACE

Telehealth visits are short and work well. They are ADA-friendly. Helping pay for fall-detection wearables for older workers pays off.

FAMILY & CAREGIVERS

Help set up the apps. Most older adults welcome the help. It is not about ability. It is about hard-to-use screens.

STUDENTS & LEARNERS

Memorize STEADI (CDC fall-risk) and FRAX. A Timed Up and Go over 12 seconds means fall risk. A 30-second chair stand below the age norm means fall risk. Reminder apps are proven for chronic disease care.

Insurance, Treatment Cost & Help

FOR YOU · THE PATIENT

You should rarely pay full price for an anabolic. Maker programs cover most patients. Ask for help.

EMPLOYERS & WORKPLACE

Benefit design matters. Cover a DXA, generic bisphosphonates, and a clear path to anabolics for high-risk workers.

FAMILY & CAREGIVERS

Help with the paperwork. Maker programs have lots of forms. An hour of work can save thousands.

STUDENTS & LEARNERS

Memorize this. Alendronate is very cheap. Zoledronic acid is under Part B. Anabolics need prior approval and copay programs. Medicare covers a DXA every 2 years for women 65+ with risk factors.



4 Prepared Patient Course

The complete course — three levels, applied to your life

Equity, Access & Cultural Competence

FOR YOU · THE PATIENT

You are not imagining it. These gaps are real. Telehealth and BHOE chapters can help.

EMPLOYERS & WORKPLACE

Fairness programs for older workers pay off and cost little. This is key for Black, Latina, and Asian women.

FAMILY & CAREGIVERS

Be the calm voice. Sisters, aunts, and friends turning 65 deserve this talk.

STUDENTS & LEARNERS

Read NHANES bone-health data and ASBMR disparity materials. Do not fall into the 'lower fracture rates, so screen less' trap. That is the disparity loop.

Talk to Kids, Partner, Family

FOR YOU · THE PATIENT

The bonds you protect now carry you through. Asking your partner to be your bone-health helper is strength, not a burden.

EMPLOYERS & WORKPLACE

A worker with fragile bones who feels supported stays longer, does better, and costs less. ADA and FMLA are the tools.

FAMILY & CAREGIVERS

You are the Notice and Name team. Check height each year. Watch for kyphosis. Sweep for fall risks. Help with medicine. Step in if a hip breaks.

STUDENTS & LEARNERS

Coach patients to have these talks. A parent's hip fracture is part of FRAX. Make sure it is written down. Many men come in only if a family member pushes.

Mentor & Share Insights

FOR YOU · THE PATIENT

Teaching locks in what you know. It gives meaning to what you went through. You choose when to share.

EMPLOYERS & WORKPLACE

A worker with fragile bones who teaches becomes a leader. Sponsor them, especially for fall-prevention training.

FAMILY & CAREGIVERS

Family-to-family mentoring is just as strong as patient-to-patient. The helper-teaching-helper path is rich.

STUDENTS & LEARNERS

Learning with patients and care partners makes you fluent in bone health. Show up at BHOE events. Listen first.



4 Prepared Patient Course

The complete course — three levels, applied to your life



Join the ROI Study (PHIT)



FOR YOU · THE PATIENT

Taking part is a quiet but real act of support. It helps the program get funded, grow, and reach people who cannot afford it. That is key for Black, Latina, and Asian women, and for men.



EMPLOYERS & WORKPLACE

Sponsoring a group of workers in PHIT shows your investment works. It gives you data to back the spending.



FAMILY & CAREGIVERS

Care partners can opt in too. Caregiver work and outcomes are tracked as well.



STUDENTS & LEARNERS

This is participatory research done right. Study how PHIT, NHANES, and WHI were built. Then copy them.

QUIZ YOURSELF — CAN YOU ANSWER THESE WITHOUT NOTES?

- ☐ What is Osteoporosis, in one plain sentence?
- ☐ What are my target numbers, and my personal baseline?
- ☐ What are my red flags — the signs that mean “call now”?
- ☐ What do I do first if those red flags happen?
- ☐ What is each of my medicines for?

The one thing about Osteoporosis I most want to remember

Additional Notes

☐ I've completed Step 4 · Prepared Patient Course for Osteoporosis



5 Materials & Tools

Your home kit — the tools that keep you prepared

Being prepared between visits takes a few simple tools. Set these up for Osteoporosis, and check them off as you go.

YOUR KIT

- ☐ **Health Passport** — meds, numbers, allergies & contacts on one page.
- ☐ **Your meters / devices** — whatever you use to track Osteoporosis at home.
- ☐ **Your action plan** — green / yellow / red: what to do at each level.
- ☐ **Reminders** — a pillbox or phone alarm for medicines and refills.
- ☐ **A tracker** — one number or habit to watch over time.

THIS WEEK'S ACTIONS FOR OSTEOPOROSIS

- ☐ Get your last DXA report from the patient portal
- ☐ Save the BHOF Helpline 1-800-231-4222 in your phone
- ☐ Open your Force Field Emergency Card and fill it in
- ☐ Tell one family member you trust about your bone health
- ☐ Click into 360 Human Anatomy: Skeletal & Bone
- ☐ Write your main risk path in your Health Passport (postmenopausal, steroid, AI/ADT, or another cause)
- ☐ Bring your marked-up map to your next visit
- ☐ Check your med list for steroids, AI, ADT, SSRIs, seizure drugs, and PPIs
- ☐ Ask for a second-cause workup after any fragility fracture. Also ask if you were diagnosed young.
- ☐ Write down if a parent broke a hip
- ☐ Read your last DXA report
- ☐ Get a DXA if it is due or never done

The one number or habit I'll keep an eye on



5 Materials & Tools

Your home kit — the tools that keep you prepared

Additional Notes

☐ I've completed Step 5 · Materials & Tools for Osteoporosis



Skills Lab is where you **show** an educator (or a trusted person) the hands-on parts of managing Osteoporosis, in your own words. Practise and demonstrate these:

SKILLS TO DEMONSTRATE

- ☐ Say the T-score cutoff for osteoporosis (-2.5)
- ☐ Explain what a fragility fracture is in plain words
- ☐ Know that walking alone is not enough
- ☐ Name your own most likely break site
- ☐ Open the 360 Human Anatomy: Skeletal System module
- ☐ Name the three bone cell types
- ☐ Match each drug to its target (denosumab → RANKL; romosozumab → sclerostin; teriparatide → PTH receptor)
- ☐ Explain in your own words why exercise builds bone
- ☐ Say which type you may have (primary or secondary)
- ☐ Check your medicine list for bone-thinning drugs
- ☐ Take a careful family history
- ☐ Know when a second-cause workup is owed. It is owed after any fragility fracture. Also for men under 70 with osteoporosis, and premenopausal women.
- ☐ Say your T-score for hip and spine
- ☐ Figure out your FRAX online

TEACH IT BACK

The fastest way to know you've got it: explain Osteoporosis in your own words — what it is, your main signs, what helps, and your red flags — with no notes.

My red flags for Osteoporosis — the signs that mean “call now”



6

Skills Lab

Show you can do it — hands-on teach-back

Additional Notes

☐ I've completed Step 6 · Skills Lab for Osteoporosis





THE FORCE FOR HEALTH® · PREPARED PATIENT

Prepared Patient Ambassador

This certifies that

has completed the Prepared Patient module for **Osteoporosis** — knowing their condition, their numbers, their red flags, and how to speak up in their own care.

SKILLS-LAB EDUCATOR SIGN-OFF

DATE

Workbook completion certificate. The clinical Prepared Patient Ambassador credential is confirmed by your Skills-Lab educator or the certification exam.



SCAN TO VERIFY &
COMPLETE
CERTIFICATION

8 Disease Advocate

Optional — beyond yourself: help those who come after you

This optional step is a gift you give the next person. Turn what you learned about Osteoporosis outward.

WAYS TO ADVOCATE & SHARE

- ☐ Read all 16 squares
- ☐ Open the deep course
- ☐ Book a DXA if it is overdue or you never had one
- ☐ Visit the bone module before each visit
- ☐ Update your notes after each treatment change
- ☐ Bring your marked-up map to the next visit
- ☐ Review your diagnosis each year
- ☐ Talk with family about inherited risk
- ☐ Add osteoporosis to your family-history record
- ☐ DXA timing: every 1-2 years on treatment, every 2-3 years off
- ☐ Share your story and what helped you most.
- ☐ Complete a row of Advocate Bingo.
- ☐ Support someone newly diagnosed with Osteoporosis.

My feedback on this program (Coach Lucy & Dr. Rob read these)



8 Disease Advocate

Optional — beyond yourself: help those who come after you

Additional Notes

☐ I've completed Step 8 · Disease Advocate for Osteoporosis

