

OSTEOPOROSIS

What is Osteopenia?

The term "osteopenia" refers to "poor bone mass." Many people, especially those who are thin and active, have reduced bone mass throughout their lifetimes. However, this does not imply that they will acquire osteoporosis. Even though many world-class athletes have little bone mass, their bones are healthy and strong. Although osteopenia is not "pre-osteoporosis," if a person has additional fracture risk factors, an osteoporosis treatment may be prescribed to avoid future fractures.

What is osteoporosis?

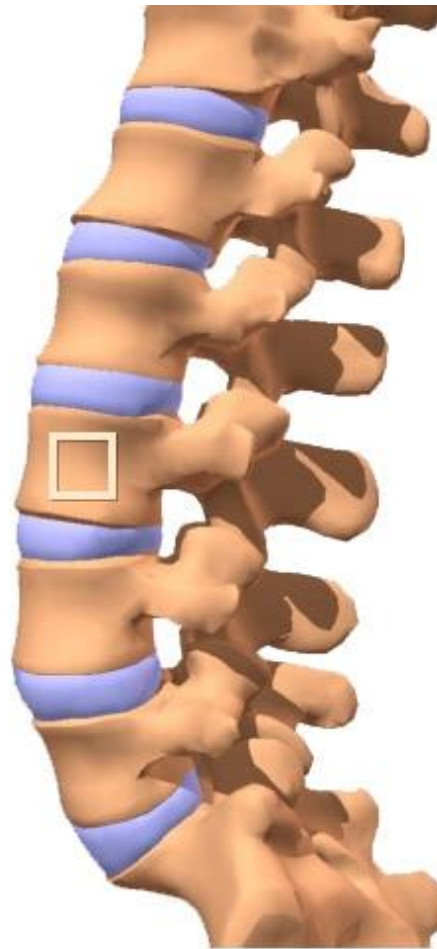
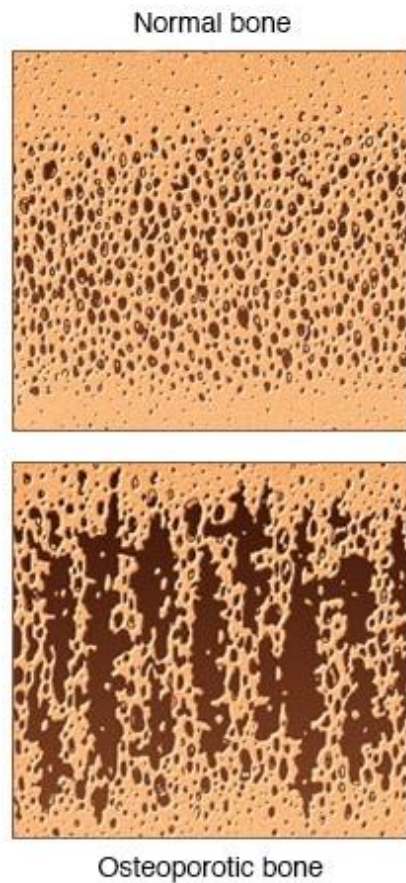
Osteoporosis means "porous bone" in Greek and is a term used to indicate brittle bones as well as the risk of breaking them. The thickness and strength of your bones can deteriorate as you become older. Osteoporosis occurs when your body loses bone tissue quicker than it can regenerate new bone tissue. Postmenopausal women are the most likely to experience this.

Medications, a good diet, and weight-bearing exercise can all help prevent or strengthen bone loss. There are usually no symptoms, and it is commonly referred to as a "silent" illness, however, after your bones have been damaged by osteoporosis, you may experience back pain from a fractured or collapsed vertebra; A stooped posture; A bone that breaks considerably more quickly than expected and loss of height over time.

How likely you are to develop osteoporosis is largely determined by how much bone mass you had as young. Peak bone mass varies by ethnic group and is also hereditary. Having more mass bone "in the bank" makes it less likely for you to develop osteoporosis when you get older.

If you went through early menopause or used corticosteroids for several months at a time, or if either of your parents had hip fractures, you should talk to your doctor about

osteoporosis.



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Fractures caused by compression

The most serious complications of osteoporosis are bone fractures, particularly in the spine or hip. A fall is the most common cause of hip fractures, which can result in disability and even an increased risk of death within the first year after the injury.

Even if you haven't fallen, you may have a spinal fracture. Back pain, height loss, and a leaned forward posture can all arise from the bones that make up your spine deteriorating to the point of collapse.

Hormone levels

People with too much or too little of specific hormones in their body are more likely to develop osteoporosis.

- **Sex hormones:** Low sex hormone levels have been linked to bone thinning. The drop in estrogen levels that occurs during menopause is one of the most powerful risk factors for osteoporosis. Breast cancer treatments that lower estrogen levels in women and prostate cancer treatments that lower testosterone levels in men and are likely to worsen bone loss.
- **Thyroid issues:** an overactive thyroid or a treatment of an underactive thyroid with hormones prescriptions can lead to bone loss.
- **Additional glands:** Overactive parathyroid and adrenal glands have also been linked to osteoporosis.

Dietary factors

- Low calcium intake: Osteoporosis is linked to a lack of calcium throughout one's life. Low calcium ingestion leads to lower bone density, early bone loss, and a higher risk of fractures.

Between the ages of 18 and 50, men and women require 1,000 mg of calcium each day. When women reach the age of 50 and men reach the age of 70, the daily dose rises to 1,200 milligrams.

Good sources of calcium are low-fat dairy products, canned salmon or sardines with bones, dark green leafy veggies, soy products such as tofu and calcium-fortified cereals and orange juice.

Vitamin D helps bone health by increasing the body's ability to absorb calcium. Sunlight can provide some vitamin D, but it may not be a useful source if you live at a high latitude, are housebound, or habitually use sunscreen or avoid the sun because of the danger of skin cancer.

Cod liver oil, trout, and salmon are all good sources of vitamin D in the diet. Vitamin D has been added to a variety of milks and cereals.

- Eating disorders. Both men and women lose bone mass when they severely reduce their dietary intake and are underweight.
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- Gastrointestinal surgery: The amount of surface area accessible to absorb nutrients, including calcium, is reduced when your stomach is reduced in size or a portion of your intestine is removed. Surgical procedures to help you lose weight and treat other gastrointestinal problems are among these procedures.

Medications and steroids

The bone rebuilding process is affected by long-term usage of corticosteroid medicines like prednisone and cortisone, which are either orally or intravenously taken. Osteoporosis has also been linked to the use of drugs to treat or prevent seizures, gastric reflux, cancer and rejection of a transplant.

Medical conditions

Osteoporosis is more likely in people who have specific medical conditions, such as: Celiac disease, inflammatory bowel syndrome, kidney or liver disease, cancer, rheumatoid arthritis or multiple myeloma

Lifestyle choices

Some bad habits like tobacco use, the excessive alcohol consumption and a sedentary life can increase the risk of osteoporosis.

Exercise can help with the development of strong bones and the prevention of bone loss. Exercise will improve your bones regardless of when you begin, but you will get the greatest benefits if you begin routinely exercising while you are young and continue to exercise throughout your life. Combine weight-bearing and balancing exercises with strength training.

Treatment

Treatment plans are frequently based on a calculation of your risk of fracturing a bone in the next ten years. If your risk of bone loss and falls is low, treatment may not require medication and instead focus on reducing risk factors for bone loss and falls.

Bisphosphonates are the most recommended osteoporosis drugs for both men and women. Nausea, abdominal pain, and heartburn-like symptoms are some of the side effects. If the medicine is taken appropriately, these are less likely to occur. Bisphosphonates given intravenously do not cause gastric discomfort, but they can cause fever, headaches, and muscle aches. A break or crack in the center of the thighbone is a very rare side effect of bisphosphonates. The healing of the jawbone can happen after an invasive dental procedure and is another rare complication.

Denosumab produces equal or better bone density results than bisphosphonates and lowers the risk of all types of fractures. Every six months, denosumab is given as an injection beneath the skin. Denosumab, like bisphosphonates, has the unusual side effect of creating breaks or cracks in the center of the thighbone. If you're taking denosumab, you may need to keep taking it indefinitely. According to recent research, quitting the medicine may increase the chance of spinal column fractures.

Estrogen can help maintain bone density, especially if taken soon after menopause, but estrogen therapy can increase the risk of breast cancer and blood clots, both of which can lead to strokes. As a result, estrogen is generally prescribed for bone health in younger women or those who are experiencing menopausal symptoms.

Raloxifene is a drug that replicates estrogen's positive effects on bone density in postmenopausal women while avoiding some of the dangers. Some kinds of breast cancer can be reduced by using this medication. A possible side effect is hot flashes. Raloxifene has also been linked to an increased risk of blood clots.

Osteoporosis in men may be connected to a progressive drop in testosterone levels as they age. Testosterone replacement therapy can help with low testosterone symptoms, although osteoporosis medication can also be prescribed.

If you have severe osteoporosis or if the more typical osteoporosis therapies aren't working, your doctor may recommend that you try Teriparatide, a potent medication that encourage new bone development and is similar to parathyroid hormone. It's injected under the skin once a day for up to two years; Abaloparatide, a medication that is like parathyroid hormone and is only good for two years; or Romosozumab, the latest bone-building treatment for osteoporosis. It is administered as a monthly injection at your doctor's office and is only effective for one year.

If you stop taking any of these bone-building medications, you'll need to take another osteoporosis prescription to keep the new bone from deteriorating.

DEXA (DXA) Scan: Bone Density Test

A DEXA scan is a type of imaging test used to determine bone density (strength). The findings of a DEXA scan can reveal important information regarding your risk of osteoporosis (bone loss) and fractures (bone breaks). Body composition, such as body fat and muscular mass, can also be measured using this test. The exam is painless and quick. A DEXA scan is suggested once every two years. Exceptions can happen if you have certain diseases.

Please do the following tasks before your scan:

- 24 hours before your test, stop taking calcium supplements: Multivitamins and antacids like TUMS®.
- Make sure you're dressed comfortably. Wear loose-fitting, metal-free clothing if possible.

- If you think you're pregnant, tell your doctor: Low quantities of radiation are used in DEXA scans. To protect an unborn baby, medical authorities advise avoiding all radiation exposure throughout pregnancy.



How does a DEXA scan work?

DEXA scans are used to determine the mineral composition of certain bones, such as the hip, spine, and wrist. This is similar to getting a regular x-ray. You will be required to lie down on a DEXA x-ray table and the machine's arm uses two distinct x-ray beams that pass over the body. The beams emit relatively little radiation, making the test safer and assisting in the differentiation of bone from other tissues. The scanner converts the data from the bone density assessment into images and graphs. Bone is easiest to discern in white, while fat and muscle tissue appear as shadows in the background on the computer. A copy of the written report is provided to your healthcare physician, who will discuss it with you and choose the best course of action.



Who gets a DEXA scan?

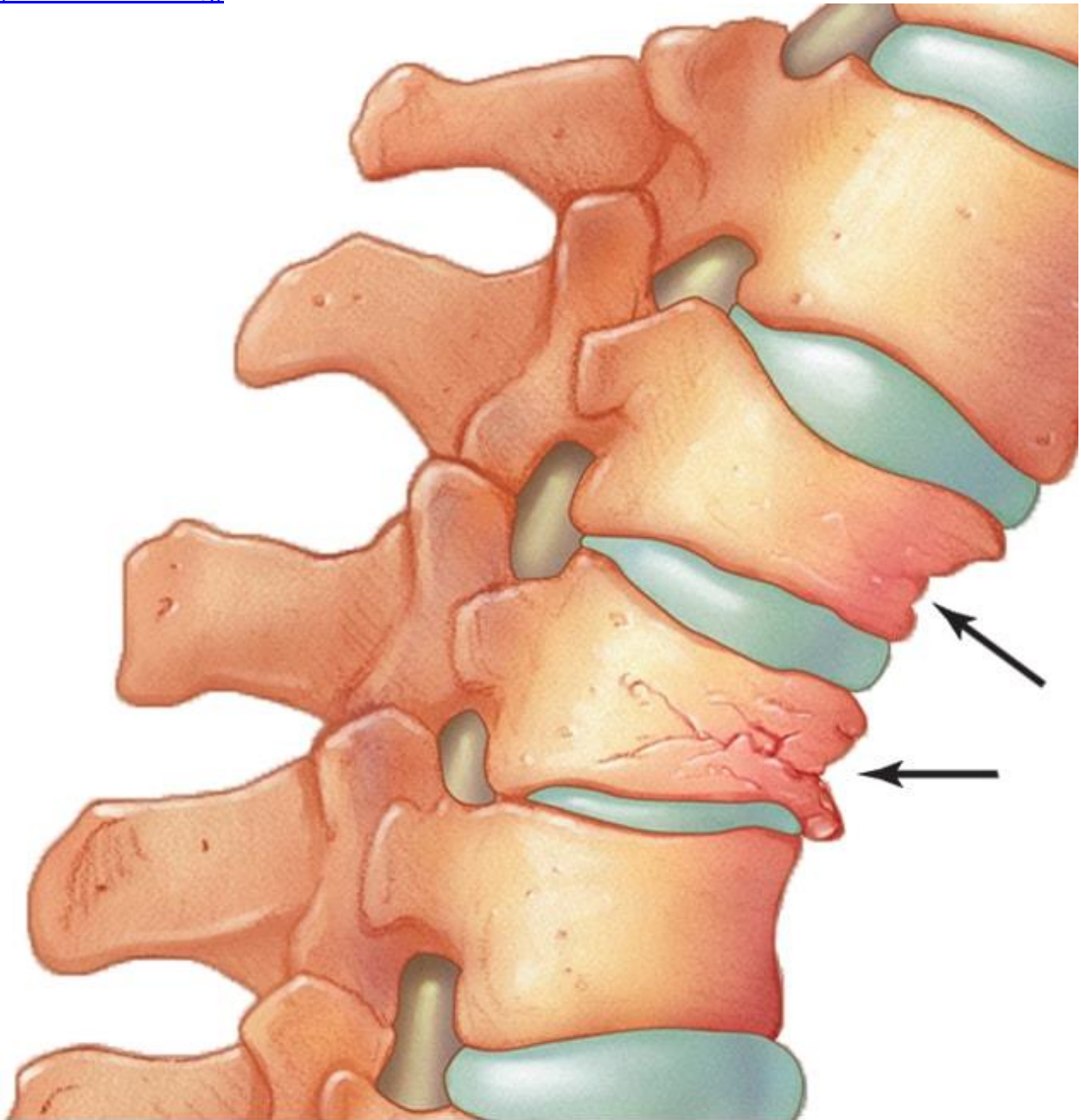
When deciding who might benefit from a DEXA scan, doctors assess a variety of factors. If you are over 50, have had a broken bone, or have other illnesses that put your bone health at risk, your healthcare provider may offer a DEXA scan to examine your bone health for osteoporosis and fracture risk.

According to studies, women lose bone mass earlier and faster than males. As a result, healthcare practitioners typically advise women to obtain a DEXA scan to check for osteoporosis at a younger age than men.

If you have one or more of the following risk factors for osteoporosis or fractures, your doctor may recommend a DEXA scan:

- Growing older: As people become older, they lose bone mass. People at average risk for osteoporosis should obtain a DEXA scan starting at 65 (women) and 70 (men), according to the National Osteoporosis Foundation.
- Family history: If one or more family members have had osteoporosis or several fractures, you may be at a higher risk of bone loss.
- Previous fracture injuries: Breaking a bone, particularly after the age of 50, may indicate that you're more vulnerable. Porous (less dense) bones are more prone to breaking.
- Medications: Prednisone, cancer treatments, and drugs used after an organ transplant can all damage your bones.
- Your overall health: Many chronic medical conditions can increase your risk of breaking your bones. Rheumatoid arthritis and lupus are two of the most dangerous diseases.

SOURCE: [DEXA Scan \(DXA\): Bone Density Test, What Is It & How It's Done \(clevelandclinic.org\)](https://www.clevelandclinic.org/health/condition/dexa-scan-dxa-bone-density-test-what-is-it-how-it-s-done)



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Preparing for your appointment

Bone density testing may be recommended by your doctor. It may be necessary if you have a broken bone as a result of a mild force injury, such as a simple fall, to determine your risk of further fractures. Should be screened all women over the age of 65 and men by the age of 70, especially if they have health problems that could lead to osteoporosis.

You may be sent to a doctor who specializes in metabolic disorders (endocrinologist) or a specialist who specializes in diseases of the joints, muscles, or bones if the test results show very low bone density or if you have additional significant health issues (rheumatologist).

Here's some information to help you prepare for your consultation.

- Make a list of any symptoms you've noticed, even if you don't think you have any.
- Make a list of important personal details, such as causes of stress or recent life changes.
- Make a note of all vitamins, supplements, and medications you're taking or have taken, as well as their dosages. Because there are so many different calcium and vitamin D supplements, keeping track of the type and dose is extremely useful. Take the bottles with you or take a picture of the label with your smartphone and share it with your doctor if you're not sure what information your doctor will need.
- Make a list of questions to ask your doctor.

Basic questions to ask your doctor about osteoporosis include:

- Do I need to have an osteoporosis screening?
- What are the many types of therapies available, and which ones do you recommend?
- What are the possible side effects of treatment?
- Do you have any alternatives to the treatment you're recommending?
- I have other medical issues. What is the best way for me to manage them all at the same time?
- Is it necessary for me to limit my activities?
- Do I need to alter my eating habits?
- Is it necessary for me to take supplements?

- Do you know of any physical therapy programs that would be beneficial to me?
- What can I do to avoid falling?

Please don't be afraid to ask more questions.

Your doctor will most likely ask you things like:

- Have you had any fractured bones?
- Have you gotten shorter?
- How is your nutrition, particularly your dairy consumption? Do you believe you consume enough calcium? Is it possible to get enough vitamin D?
- How often do you work out? What kind of exercise do you engage in?
- How's your equilibrium? Have you tripped and fallen?
- Do you have a history of osteoporosis in your family?
- Has a parent had a hip fracture?
- Have you ever had surgery on your stomach or intestines?
- Have you ever taken corticosteroid tablets, injections, or creams (prednisone, cortisone)?

SOURCE: [Osteoporosis - Symptoms and causes - Mayo Clinic](#)