Recognizing the Symptoms of Osteoporosis

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Understanding Osteoporosis Symptoms and Risk Factors

Osteoporosis is often referred to as the “silent disease,” and for right reasons.

While the International Osteoporosis Foundation (IOF) estimates that osteoporosis affects more than 200 million women worldwide and causes a fracture every three seconds, most women who have the beginning stages of this disease have no idea what’s happening within their bones.

In fact, a Stanford University study estimates that less than half of the women in the world who have osteoporosis have been diagnosed with the disease.

“[The] bone loss usually occurs gradually over the years without symptoms,” warns the University of Maryland Medical Center. “Many people aren't aware that they have osteoporosis until they either have a bone densitometry test (DXA) or have a minor fall which causes a bone to break.”

And it’s not just women who should be concerned about this silent threat. While women are predominantly and disproportionately affected by it, men should take caution, too. That’s because the incidence rate of osteoporosis is rising in men.

Recently, the lifetime risk of having a fracture relating to osteoporosis for men over the age of 50 has increased to 27 percent – higher than the lifetime risk of developing prostate cancer (11.3 percent).

Why Are So Many Women and Men Undiagnosed?

According to a survey conducted by the IOF, which was carried out in 11 different countries, the underdiagnosis and undertreatment of osteoporosis are likely due to the “denial of personal risk by postmenopausal women, lack of dialogue about osteoporosis with their doctor, and restricted access to diagnosis and treatment before the first fracture.”

By educating yourself on the risk factors and symptoms of osteoporosis, you can rest assured in the knowledge of what to look for to protect both yourself and your loved ones.

Being familiar with the many symptoms and ways the disease can affect you can also give you specific talking points so you can be more confident in your consultations with your physician before it’s too late.

The General Early Osteoporosis Symptoms

It’s important to highlight once again just how “silent” this silent disease is. When you first get osteoporosis, symptoms do not develop.

Once your bones have lost enough mineral density and begin to weaken, you may start to notice new aches and pains, or changes in your posture.

Some of these early symptoms of osteoporosis include:

- Back pain, which may be caused by fractured vertebrae in your spine.
- Changes in your body shape and posture, such as a decrease in height or a curved, stooped posture.
- A fracture that happened quite easily; for example, a broken rib after catching a cold and developing a cough.

And sometimes osteoporosis symptoms can be even more subtle than this. For example, you may think you have muscle pain – when really the pain is associated with a bone injury. Or, you may notice changes in your agility that you might blame on old age. For instance, you may find it harder and harder to get out of a chair or get into bed. Even these subtle changes can highlight changes in bone strength and brittleness.

Let’s dig into some of these osteoporosis symptoms, so you know what to watch for, and when you may want to consult a doctor for a thorough examination.

Back Pain

If your back aches, you aren't alone. Approximately 31 million Americans suffer from lower back pain, and it's the single biggest cause of disability in the world.

It’s also a potential sign of osteoporosis, especially if the pain resonates in and around your lower back. It may begin suddenly as a sharp, severe pain, while in some people, it may be chronically present as an aching, nagging, irritating discomfort. Both types of pain may occur simultaneously, and the pain may radiate down to your hips and legs.

The important thing to watch for is how the back pain changes. If your back pain is linked with poor bone health and osteoporosis, you may notice that your pain gets worse when you are standing, especially if you stand up for prolonged periods of time.

Osteoporosis-related back pain also often goes down or even goes away when you lie down, as you’re no longer putting pressure and strain on weak or fractured vertebrae in your back.

Changes in Posture or Height

If you’ve lost bone mineral density or are currently losing bone mass, this loss often shows up in your spine first. And the difference can be quite dramatic. In a study published in the American Journal of Epidemiology, the rate of bone loss in the spine over the course of a year can be as high as 1.4-1.5 percent a year.

As your spine loses bone mineral density, the vertebrae in your spine start to weaken. If the bone loss is left untreated, this may result in fractures, collapse of the vertebrae, and even displaced vertebrae. If you get a fracture, it most often occurs in the mid-back, where the fracture may occur spontaneously with little or no provocation and result in severe pain.

Even before you get to a fracture, you may notice changes in your posture or height as your spine health degrades. For example, if multiple vertebrae are weak, it can result in kyphosis (a medical term denoting a bent-over posture). This is why you often see elderly men and women with a hump-shaped spine. It’s estimated that nearly 10 percent of the general population has kyphosis.

Similarly, as your spine loses bone mineral density, you may notice a change in your height. This may be directly related to an increased curve or slump in your posture, or it may be linked to collapsing vertebrae.

Unfortunately, most men and women don’t keep track of their height, so these prolonged changes often go

unnoticed until it’s too late. One effective way to watch for spine problems and changes in your height is to track your height annually. In fact, Osteoporosis Canada recommends that all adults ages 50 and over track their height at least once a year to watch for changes.

The foundation recommends consulting a doctor if you've lost more than 2 1/1 inches since you were a young adult, or more than 3/4 inches in height since the last time you measured yourself.

Respiratory Problems

Are you having trouble or difficulty breathing? What you may not realize is that this can be a symptom of osteoporosis and bone loss.

That’s because the impact of the bone loss is not confined to only your skeleton. Osteoporosis may result in your ribcage becoming deformed, particularly if kyphosis (a slumped back) is present. As the deformity worsens, expansion of the ribs and lungs becomes more difficult, which could be painful or annoying.

If left untreated, respiratory problems linked with osteoporosis can affect far more than just your bone health. For example, when your lungs cannot expand fluids effectively, fluid may accumulate in your lungs. This creates a perfect breeding ground for respiratory infections to develop. Oxygenation of every tissue of the body may also be impaired, which could contribute to an array of debilitating illnesses, including heart and brain disorders.

Dental Problems

Smile, you’ve got symptoms!

Years ago a common expression among women was “for every child, a tooth.” And while this saying may not be as common today, the risk is still there.

During pregnancy, calcium is needed by the developing child for proper growth. Hence, pregnant women must ensure they consume enough calcium to meet their bodily requirements as well as the needs of the child who is growing within their bodies.

If calcium, magnesium, and other nutrient intake are insufficient, bone and tooth loss may occur in the mother.

But it’s not just women who are pregnant or who’ve been pregnant in the past who should be paying attention to their smile. Early loss of teeth in anyone, male or female, may indicate the inadequate mineral composition of teeth and bones. Hence early tooth loss can be a sign of osteoporosis.

"Research suggests a link between osteoporosis and bone loss in the jaw," reports the National Institutes of Health Osteoporosis and Related Bone Diseases National Resource Center. “The bone in the jaw supports and anchors the teeth. When the jawbone becomes less dense, tooth loss can occur, a common occurrence in older adults.”

This is why people with osteoporosis are three times more likely to experience dental problems!

Bone Fractures

For most people who receive an osteoporosis diagnosis, the disease didn’t land on their radar until they experienced a bone fracture. During the analysis of the fracture, their doctor may notice bone weakness related to the disease.

Hip fractures are one of the most common and the most dangerous. Many older adults and their loved ones live in fear of broken hips. In addition to the pain that a broken hip causes, it may require surgery to repair the damage.

And it’s unfortunately far too common of a symptom. Approximately 96 percent of hip fracture patients are ages

65 years or older, and is linked with a much higher mortality rate than the general population.

A total hip replacement is sometimes needed, and coping with the resulting disability and rehabilitation can be very challenging. Many individuals who suffer from other comorbidities do not recover from having a broken hip despite the incredible advances that have been made in the treatment and repair of these injuries.

What most people fail to realize is that people often don't fall and then break their hip. What happens in many cases is that a hip breaks merely on its own due to weakening caused by osteoporosis.

The fracture occurs, and then the individual falls, not the other way around. Like spinal fractures, hips may break with little or no trauma causing the event.

Next page: Understanding the basics of what osteoporosis is, who is at risk for developing osteoporosis, and lifestyle changes for living with osteoporosis.

Understanding the Basics of Osteoporosis

Now that you can see some of the dramatic, as well as subtle, symptoms of osteoporosis, it's time to learn a little bit more about the disease itself, including the stages of the disease and the different forms the condition can take.

Before you get osteoporosis, you experience osteopenia. The sad thing is, many people don't know what osteopenia is, although we all know what osteoporosis is!

Much like prediabetes is the precursor to type 2 diabetes, osteopenia is the precursor to osteoporosis. In fact, WebMD defines osteopenia as "a midpoint between having healthy bones and having osteoporosis. Osteopenia is when your bones are weaker than normal but not so far gone that they break easily."

Essentially, it is the weakening of your bones before you get osteoporosis. However, you can prevent it from occurring. You can also develop osteopenia, and through self-care and nutrition you may never go on to get osteoporosis!

Most people who get osteopenia get it around the age of 50, but it can happen earlier if your bones aren't naturally dense. It can also occur later (or again, not at all).

Primary vs. Secondary Osteoporosis

If your osteopenia progresses to osteoporosis, you may experience one of two types of osteoporosis – primary osteoporosis or secondary osteoporosis.

Primary is a systemic condition and is usually age-related, but can also have a genetic component. When it occurs in young people, it is often due to a poor bone formation or an alteration in the natural bone development and resorption cycle.

While primary osteoporosis develops independently of other conditions, secondary osteoporosis occurs as a direct result of poor nutrition, illness or other factors. Medication can sometimes cause secondary osteoporosis to develop.

Secondary osteoporosis may occur independently from primary osteoporosis, or it may be present in addition to primary osteoporosis.

Who Is at Risk for Developing Osteoporosis?

The risk of developing osteoporosis varies greatly and depends upon many controllable and uncontrollable

factors.

There are a variety of risk factors that can increase your chances of developing both osteopenia and osteoporosis. Some of these are unchangeable, such as your gender. Others are modifiable, such as your diet. Let's take a look.

Unchangeable Risk Factors

- **Gender** – Women are more likely than men to develop osteoporosis. In fact, according to the IOF, "Worldwide, 1 in 3 women over age 50 will experience osteoporotic fractures, as will 1 in 5 men aged over 50."
- **Age** – as you age, your chances of developing osteoporosis increases. According to the IOF, "Osteoporosis is estimated to affect 200 million women worldwide [with] approximately one-tenth of women aged 60, one-fifth of women aged 70, two-fifths of women aged 80 and two-thirds of women aged 90."
- **Race** – if you're white or Asian descent, you have the highest chance of developing osteoporosis.
- **Family history** – having a family history of osteoporosis increases your risk, especially if your mother or father sustained a hip fracture.

Medical Conditions That May Cause Osteoporosis

People with certain medical conditions and who have too much or too little of certain hormones are at increased risk for developing osteoporosis.

- **Sex hormones** – having decreased sex hormones can be detrimental to bone strength. In women, the reduction of estrogen during menopause is a risk factor. In men, a decrease in testosterone during aging can increase the risk. Also, treatments for prostate cancer and breast cancer can accelerate bone loss.
- **Hyperthyroidism** – having a thyroid gland which produces too much thyroid hormone can speed up bone loss. Also, having an underactive hormone and taking too much thyroid medication can have the same effect.
- **Having certain illnesses seems to be associated with an increase in bone loss**, perhaps because of the medications that are prescribed to treat the illnesses. They are often treated with corticosteroids (such as prednisone) which can increase the risk of a hip fracture in women twofold in women and 2.6-fold in men if used long-term. These illnesses include:
    - Rheumatoid arthritis
    - Celiac disease
    - Inflammatory bowel disease
    - Multiple myelomas
    - Lupus
    - Cancer
    - Kidney or liver disease
    - Diet and Lifestyle

- **Low calcium intake** – if you have had a low calcium intake for a long time, this can this can play a part in the development of osteoporosis.
- **Eating disorders** – having an eating disorder with severely restricted food intake is known to weaken bones in both men and women. According to the IOF, women with eating disorders and women who are elite athletes may "experience amenorrhea which makes them at risk for low bone mass and fractures."
- **Gastrointestinal surgery** – having had a GI surgery to reduce the size of the stomach or to remove a portion of the intestine reduces the surface area that is available to absorb nutrients – namely calcium, which is important for bones.
- **Sedentary lifestyle** – being sedentary (meaning that you spend more time sitting than being active) have an increased risk for osteoporosis. Why? Because people who are active are typically doing weight-bearing activities that are known to build bone, as well as promoting posture and balance.
- **Smoking** – smoking is known to increase the risk of osteoporosis, although the exact mechanism isn't

exactly understood. It is known that the risk is even more pronounced with increasing age.
- **Alcoholism** – excessive alcohol intake increases the risk for osteoporosis. In fact, drinking four alcoholic beverages per day doubles the risk of hip fractures.

How Your Doctor May Diagnose Osteoporosis

The National Osteoporosis Foundation recommends that anyone who meets the following criteria is screened for osteoporosis, using bone mineral density testing:

- All women over 65
- Postmenopausal women under 65 with specific risk factors
- At menopause, if undecided about hormone replacement therapy
- Abnormal spinal X-rays
- Long-term use of steroids
- Hyperparathyroidism

Dual-energy X-ray absorption scan (DEXA scan) is often considered the “gold standard” when it comes to screening for osteoporosis; it is simple, noninvasive, and has limited radiation exposure. The test entails a low-energy X-ray be passed through a bone (often the spine, hip, or wrist).

Values are then generated and are compared to:

1. **Young adult population:** This is called the “T score” and measures the variance between the patient and the young adult baseline. A score above -1 is considered normal, while a score between -1 and -2.5 is osteopenia and below -2.5 is osteoporosis.
2. **Age and gender-matched population:** This is called the “Z score” and measures the variance between the patient and control groups of similar age and gender. Very high or very low scores indicate further testing.

Early stage osteoporosis does not cause noticeable osteoporosis symptoms, so diagnostic testing is relied on to identify the condition. At least 25 percent of bone mass must be lost before osteoporosis is detectable by regular X-rays.

The painless tests only take a few minutes, yet they can detect early changes so effective interventions may be promptly initiated to preserve bone mass. A wide array of osteoporosis treatments are able to prevent and sometimes reverse osteoporosis effectively, so this testing is critical to salvaging bone mass.

Keep Your Bones Healthy

Screening for osteoporosis is quick and easy. Follow your healthcare practitioner’s recommendations for screening and other measures you can take so osteoporosis will not affect your quality of life now or in the years to come.

If you want to keep your bones strong and healthy for years to come, consider the following tips:

Take Your Calcium Through Your Food

Calcium supplements are not as effective as researchers once thought regarding preventing bone fractures and improving bone strength. However, eating whole foods that are rich in bone-building nutrients like calcium has been shown to be effective at strengthening and protecting your bones.

Some of the best calcium-rich foods if you have osteoporosis include:

- Fatty fish
- Beans

- Dark green leafy vegetables

Exercise

Weight-bearing exercise increases bone strength. It also can help you develop a healthier posture and better balance, thereby reducing your risk of falls (and the injury risks related to falls).

Stop Smoking

If you smoke, this is a good reminder to talk to your doctor about ways to quit the habit. Smokers lose bone mineral much faster than non-smokers. The World Health Organization warns that hip fractures among smokers are 71 percent higher at age 80 compared to non-smokers.

Medications

You can talk to your doctor about medication-based options for defeating osteoporosis. Examples include hormone-based drugs, bisphosphonates, denosumab, and teriparatide. There are many effective medications on the market, so it’s important to work closely with your doctor to get your bone health tested and treated through a wide range of options.