SMART STRATEGIES TO BOOST BONE STRENGTH

WHY COVID PUT BONE HEALTH AT RISK

6 OSTEOPOROSIS MYTHS THAT NEED TO END

FEEL IT IN YOUR

BONES

HOW TO TALK TO YOUR **PHARMACIST**

CANDID TRUTHS ABOUT **FRACTURES**

LET'S GET SERIOUS ABOUT

osteoporosis

THE *SILENT* DISEASE

YOUAREUNLTD

WINTER 2021
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A WORD FROM OUR EDITOR

I didn't realize that writing about osteoporosis would have an impact on my life. I was like many Canadians who knew bits and pieces about the bone-weakening disease, but it just seemed like something I didn't need to worry about as a 58-year-old woman. I was so very wrong.

One of the great joys of my profession as an editor and a journalist is having the privilege of interviewing some incredible health experts. I spoke to many for *Feel It in Your Bones* magazine. What they said resonated with me and got me thinking a lot about bone health in a way I hadn't before.

I had an "ah-ha" moment with talking to Dr. Marla Shapiro. She's passionate about increasing awareness of osteoporosis. She mentioned to me how devasting hip fractures were and how there is a significant risk of mortality with them. Twenty-eight per cent of women will die within a year of a hip fracture. Right away, I recalled the image of my 92-year-old grandmother, Helen. She had fallen and broken her hip, and her health deteriorated quickly. She passed away soon after she was moved to a long-term care facility, unable to walk and battling dementia.

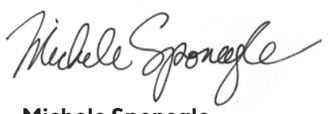
I didn't connect the dots back then, but I'm sure now that osteoporosis was the underlying cause of her hip fracture. She was quite underweight and had developed what the doctors call a dowager's hump. She also seemed shorter than I remembered. Though osteoporosis is largely a silent disease, there are a few indicators, like the ones I just mentioned.

I wished I'd had the level of knowledge and understanding of osteoporosis that I have now. I might have been able to suggest that she talk to her doctor about getting a bone density test. Perhaps she could have received one of the new medications available to treat osteoporosis. Perhaps she could have supplemented her diet with vitamin D and calcium and adopted lifestyle changes that help support healthy bones. And maybe the last part of her life would have been spent doing the things she loved: baking bread in her wood stove, shelling fresh peas at the dining-room table and spending more time with her family. That's not the ending she had.

There's a real opportunity for all of us to ensure that we age well by making bone health a priority, not something you think about only after a fracture has happened. Fragility fractures are the canary in the coal mine that there might be a problem. It's not an automatic reaction to order a bone density test after a patient breaks a bone. You have to advocate for yourself and ask your doctor whether you need one. In the pages that follow in this magazine, we highlight many of the risk factors of osteoporosis and who should have a bone density test. It's information that you need to make good choices for yourself.

I did tick the boxes for a number of risk factors, and I've asked my doctor to book a bone density test for me. It's a good first step to taking control of my bone health. It may be too late for my grandmother, but I'm grateful to her and to the doctors I've interviewed for *YouAreUNLTD* for sharing their wisdom with me. I hope the information in this publication will inspire you, too, to break the silence about osteoporosis and look after your bone health.

All the best,



Michele Sponagle

COMING IN 2021

NEW CLINICAL PRACTICE GUIDELINES

The way healthcare professionals treat and diagnose osteoporosis is *due for an update.* As new research becomes available, protocols around the bone-weakening disease evolve accordingly. The last time that Osteoporosis Canada's clinical practice guidelines were revised was in 2010, and before that in 2002. The development of the guidelines brings together many stakeholders across various disciplines, including primary care physicians, patients, osteoporosis specialists, health policymakers, Osteoporosis Canada and the Canadian Medical Association. The new recommendations will have a direct impact on patients, from recommended levels of vitamin D supplementation to who should get a bone density test. Stay tuned.

VITAMIN D:

TOO MUCH OF A GOOD THING

Vitamin D plays an integral role in bone strength. Many physicians and Osteoporosis Canada recommend vitamin D supplementation year-round for Canadians. Those over 50 and younger adults at high risk (with osteoporosis, multiple fractures, or conditions affecting vitamin D absorption) should receive 800–2,000 IU daily. Taking more might be a tempting prospect to some, but they should note the findings of an August 2020 study published in the *Journal of Bone and Mineral Research* that examined what happened with daily dosing as high as 10,000 IU. At that level, bone density tests revealed bone loss of 5.5 per cent among the women (ages 55 to 70) who participated in the study. Men also lost bone mass but just 1.9 per cent. The takeaway? You can have too much of a good thing, so listen to your doctor's recommendations about the best vitamin D supplementation for you and your current health.

RISK OF OSTEOPOROSIS ASSOCIATED WITH ASTHMA

A study published in October 2020 in *Allergy, Asthma and Clinical Immunology* linked osteoporosis to asthmatics. Researchers looked at osteoporosis through the lens of how asthma was being managed. Rates were highest among those whose asthma was uncontrolled and untreated. The lowest rates were found in the group with well-controlled asthma. The study looked at data from more than 162,000 patients.

"The good news about osteoporosis is that it's very treatable – but it's silent. You don't know it's there unless you're getting bone density tests and you have someone looking out for you, like a really good doctor."

SALLY FIELD
Actor

"When I found out that I had osteoporosis, I was pretty shocked. I basically thought it was for old ladies, but I got diagnosed when I was 37. Osteoporosis has affected my life in many ways. Mainly, I'm a lot more aware of my health now."

KIRK PENGILLY
Musician, INXS

"Regular exercise is important in maintaining bone strength. All men should be aware of their osteoporosis risks. Give osteoporosis the red card."

PAOLO ROSSI
Soccer player, World Cup 1982

CONTENTS

02 **Editor´s Letter**

06 **Breaking the Silence Around Osteoporosis**
The disease is an urgent issue around the world.

07 **New + Noteworthy**
What's going on in the world of osteoporosis.

08 **Healthy Aging**
Bone health is a cornerstone of good health.

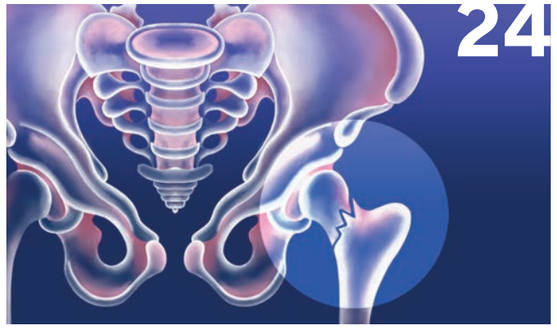
11 **Are You at Risk?**
Take the Know Your Risk quiz and act now.

12 **6 Most Enduring Myths**
Myths can be dangerous and life threatening. Learn about osteoporosis myths that need to end.

15 **Reality Check: We´re All at Risk**
Not just women are affected.

18 **How COVID Has Impacted Your Bone Health**
And what you can do about it right now.

20 **Partners in Care**
Tap in to a wealth of knowledge and services.



22 **Do Something for Your Bone Health**
Mind the care gap and don't wait for fractures to happen.

24 **Bone Fractures and Osteoporosis**
Why bone fractures often fail to be linked to their true cause: osteoporosis.

26 **Be Your Own Advocate**
How to get a timely osteoporosis assessment and diagnosis.

28 **6 Bone-Boosting Tips**
Tips, Tricks + Tools you need now.

31 **How Pharmacists Help Manage Your Health**
Canada's pharmacists are always available to serve clients and ensure that healthcare needs are met.

34 **Reduce Your Risk**
How building bone strength helps reduce your risk of fractures and falls this winter.

36 **Start a Conversation About Bone Health**
If you need professional advice about bone health, you may be missing out on an invaluable resource.

39 **Bone Up on Osteoporosis**
Two million Canadians are affected by osteoporosis.

Break the Silence Around Osteoporosis

The two million Canadians who have been affected by osteoporosis are not alone. The disease is an urgent worldwide issue, as research shows.

Globally, osteoporosis causes more than **8.9 million fractures annually,** resulting in a fracture caused by the disease every three seconds.

It is projected that **almost half** of all osteoporotic hip fractures **will occur in Asia** by 2050.

Scandinavia has the highest reported incidence of hip fractures in the world, along with Iceland, and the United States.

Nearly **75 per cent** of hip, spine and forearm fractures occur among patients age 65 and over.

The disease affects **200 million women** worldwide.

In 2010, an estimated **158 million** people had a high risk of fracture. This number is **expected to double** by 2040, due to demographic shifts.

A survey of **postmenopausal women in 11 countries** by the International Osteoporosis Foundation found a lack of awareness of personal risk, little discussion about osteoporosis with doctors, and restricted access to diagnosis and treatment before a first fracture, which has resulted in underdiagnosis and undertreatment of the disease.

By 2050, the worldwide incidence of hip fracture is projected to increase by **310 per cent in men** and **240 per cent in women** compared with rates in 1990.

The highest incidence of hip fracture was documented in countries farthest from the equator and those where extensive skin coverage (due to religious or cultural practices) is common, suggesting that **vitamin D status may be an important underlying factor.**

Sources: *International Osteoporosis Foundation* and "State of the art in osteoporosis risk assessment," April 2019, *Journal of Endocrinological Investigation.*

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"I feel really good about getting the word out, because it's a silent disease. A lot of women don't know they have it until they've broken a bone."

– Blythe Danner
Actor and Osteoporosis Advocate

Join the conversation today and let's get serious about osteoporosis... the Silent Disease!

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BREAK MYTHS, NOT BONES

Why Understanding Osteoporosis Is Critical for Healthy Aging

Bone health is a cornerstone of health. Yet it's not something we give much thought to until it's too late and we suffer a fracture. Myths endure around osteoporosis, preventing us from making smart nutrition and lifestyle choices to keep the disease at bay.

Not being cognizant of the role bone health plays in aging well is ironic, given a common concern physicians hear. "If you ask older women and women in general as they age what they value more than anything, they value independent living," says Dr. Marla Shapiro, professor, department of family and community medicine, at the University of Toronto and a member of the Order of Canada (CM).

"In terms of aging well, bone health is critical," says Dr. Shapiro. "Even something as simple as a wrist fracture that doesn't allow you to get dressed or bathe by yourself or do your hair or that type of thing is a big change. If you have a hip fracture and we look at what happens, 28 per cent of these women will die within the next calendar year." She adds that what most patients "can relate to is that they'll lose their independence. They may end up in a long-term care facility. It will have an impact on anyone else they're providing care for. It has huge implications. In terms of aging well, bone health is critical."

Though men can get osteoporosis, too, usually later in life, women are more likely to develop the disease. It affects one in three. It's much more common than many people think, and clearly much more serious considering the diminished quality of life and mortality rate due to hip fractures.

"Women are concerned about breast cancer and ovarian cancer and cardiovascular disease, as well they should be, but if you look at the number of fractures we see, it surpasses the other three diseases added together," Dr. Shapiro notes. "It's a very high incidence, and the fact is that women are often unaware of osteoporosis because it usually has no symptoms. Even if you have a spontaneous fracture in your back – a vertebral fracture – two-thirds of those are without symptoms."

She believes that many women don't fully appreciate the significance of a broken bone: "One of the things that is really alarming is that most fractures that we see after age 40 are fragility fractures. In other words, a woman falls from a standing height, twists out of an unusual plane of motion or trips up a couple of stairs and breaks a bone. They don't realize that this is the same as if you had a cardiac event and wanted to prevent another one. A fracture is like a sentinel, screaming, You are at risk!"

A FRACTURE IS A RED FLAG, A POSSIBLE INDICATOR OF OSTEOPOROSIS, AND MAY REQUIRE FURTHER INVESTIGATION.

A fracture should set off alarm bells because it could lead to subsequent fractures. But patients are often dismissive, believing that there's nothing unusual about falling and breaking a bone. Dr. Shapiro says that's a myth. "It's not normal. Patients don't realize that a fracture is telling you something about the quality of your bones," she says. "It's alarming how many fractures we see where women are not alerted that they need a more formal risk assessment, which may include a bone density test. They need to follow up, find out why the fracture occurred and understand how to prevent future ones."

She is concerned that fractures are often ignored or not taken seriously. There's a gap in awareness and in the care protocol. "It's those patients who have fractures after the age of 40 who really need to understand that this is a big warning sign. You would not ignore chest pain, you wouldn't ignore angina, and yet you will ignore a fracture. If we look at individuals across the country who have cardiac events, 85 per cent will leave the hospital with a blood thinner, something for their cholesterol or some sort of heart-related medication. But if you look at someone who's had a fracture, what do they leave the hospital with? Only 15 per cent of them receive information or medication, and the vast majority leave without any assessment or intervention for osteoporosis."

There are many reasons behind the lack of awareness when it comes to osteoporosis and bone health. Dr. Shapiro feels that it can be easily overlooked with people at this age, because many aren't getting routine physicals. Most will only see their physician when they perceive a problem. Osteoporosis is a silent disease without symptoms. Bones will weaken over time, and there's often no sign of disease until a fracture occurs. Even then, the cause may not be connected back to an underlying issue of bone loss.

"You wouldn't ignore angina, and yet you will ignore a fracture."

"We don't talk about bone health," she says. "We don't talk about vitamin D. We don't talk about calcium intake. We don't talk about bone hygiene. It's just getting overlooked. Patients – men and women – have to advocate for themselves. Women do worry about their heart and breast health, but bone health needs to be on the agenda, too. It's certainly on my agenda when I see both men and women."

A bone density test is something that all Canadians should get at age 65. You may need one earlier if you have particular risk factors. This can include a family history of fracture, as well as smoking, habitual consumption of more than three alcoholic drinks a day and being on certain medications.

The 2009 Canadian Community Health Survey from the Public Health Agency of Canada noted that adults under the age of 50 are at risk if they've had a fragility fracture, used glucocorticoid medications such as prednisone long term, experienced premature menopause or had a disorder associated with rapid bone loss and/or fracture, such as rheumatoid arthritis or malabsorption syndrome. Another prime consideration is low body weight (less than 60 kg or 132 pounds) or significant weight loss.

Dr. Shapiro suggests patients talk to their healthcare providers. "Asking, What do I need to know about my bones? and Do I need a bone density test? is critical. We all need to understand our osteoporosis risk."

FEATURED EXPERT
Dr. Marla Shapiro
Professor, department of family and community medicine at the University of Toronto
Toronto

6 Most Dangerous and Enduring Myths About Osteoporosis

THAT NEED TO END NOW

Myths can be dangerous and life threatening.
Some people believe that osteoporosis is not as serious as cancer or heart disease. That thinking puts us at greater risk of failing to do all we can to ensure bone health for living fully and independently as we age.

With that in mind, let's shine a bright light on enduring myths and tackle them with facts from leading experts: Dr. Marla Shapiro, professor, department of family and community medicine at the University of Toronto; Dr. Aliya Khan, director of McMaster University's Calcium Disorders Clinic in Oakville, Ont., and director of the fellowship program in metabolic bone disease; and Dr. David Kendler, professor of medicine at the University of British Columbia.

MYTH 1

Weakened bones are a normal part of aging, and there's little you can do about it.

This is a common myth that needs to be debunked head on. "Weakened bones are not normal at all," says Dr. Khan. Osteoporosis is commonly seen with aging, but it's not inevitable. "I see many people who do not develop osteoporosis and are able to maintain bone strength until late in life without fractures. We need to break down these stereotypes and advise Canadians that a healthy lifestyle with strenuous daily physical activity and adequate calcium and vitamin D intake can contribute to maintaining bone strength and preventing osteoporosis."

MYTH 2

Osteoporosis can be prevented just by consuming enough calcium.

Calcium is very important for bone health – there's no doubt about that. But while it's a major building block and star player for bones, adequate calcium intake is not enough on its own. The body also needs vitamin D to help with absorption.

"There's a lot of confusion about calcium," says Dr. Shapiro. "I've had patients wondering, Do I need a calcium supplement? Do I not need a calcium supplement? Will it increase my risk of cardiovascular disease? So that's part of it. But there's just a general lack of awareness that we need to do things that are bone friendly, inclusive of calcium, vitamin D and exercise, to name a few." Maintaining calcium intake is critical for overall bone health throughout our lives, with varying requirements by age. It's best to consume calcium from your diet, but if the target is not reached then a supplement may be taken to make up the difference.

She often tells her patients that osteoporosis is a geriatric disease that starts in the pediatric years – meaning if you lacked a good foundation of calcium and vitamin D as you were growing up and did not acquire your peak bone mass, you are likely to pay for it in your later years.

Dr. Shapiro also says people often don't take vitamin D properly. Vitamin D is fat soluble, so supplements need to be accompanied by a meal that has a little bit of fat. "Newborns get a vitamin D supplement. But why, as adults, do we forget that we need one, too?" she asks. If you prefer taking vitamin D orally, in the form of drops, the advice is the same as for supplements: Take it with a meal containing fat to increase absorption.

Getting enough calcium and vitamin D is just part of the battle in preventing osteoporosis, but it's not enough. You can lower your risk of a fall by maintaining good core strength from doing weight-bearing and strength-training exercises. Behaviours that can also contribute to the disease, such as smoking, regular alcohol consumption (two to three ounces a day) and high salt intake are also within our control.

MYTH 3

A bone fracture is treatable and can be repaired, so it´s nothing serious.

Falling from a standing height or tripping up a couple of stairs and breaking a bone is serious. Healthy bones should be strong enough to withstand the impact. Yet many people dismiss a fracture, blaming it on something they did, such as slipping on ice.

Unfortunately, only about 20 per cent of cases are investigated and treated for an underlying cause after a fragility fracture. The remaining 80 per cent are left to have subsequent fractures. This doesn't just happen in Canada but around the world. Most common fractures affect the wrist, spine, shoulder and hip.

"People often don't realize the impact of a fracture," says Dr. Kendler. "Say 'heart attack' or 'stroke' or 'cancer,' and they put those pretty high on the list of importance.…The perception for many is that if you have a fracture, you go to hospital, the orthopaedic surgeon fixes the break, then you think you're as good as gold and go back to live life as you did before. And that's far, far from the truth."

MYTH 4

There are no symptoms associated with this bone disease.

Early stages of bone loss typically have no symptoms. "It's a quiet disorder," says Dr. Kendler. "It's like hypertension or high cholesterol. You don't feel it. So, things that people don't feel, they often have little awareness of, and unless it's brought to their attention they have little consideration of it."

But there can be symptoms as the disease progresses. Once bones start to weaken, watch for loss of height, back pain caused by fractured or a collapsed vertebra, or a stooped appearance. The gradual development of a dowager's hump (a rounded or hunched upper back) is also cause for speaking to a physician and asking for spinal X-rays.

The most telltale sign of osteoporosis is a fracture, especially if it's experienced from a standing height. Experts agree that further investigation, including a bone density test, is needed to determine the reason for the break.

MYTH 5

Post-menopausal women are the only ones who should worry about osteoporosis.

Osteoporosis is more than a women's disease or exclusive to post-menopausal women. Men also develop osteoporosis, and for both sexes it can happen at any age. An estimated two million Canadians are affected by it. At least one in three women and one in five men will break a bone in their lifetime due to osteoporosis.

But it's true that post-menopausal women (on average around age 51 in Canada) are most affected by the bone disease. Fragility fractures represent 80 per cent of all fractures in this demographic. After the onset of menopause, in the presence of estrogen deficiency, more bone is removed than formed. This imbalance can lead to osteoporosis.

Men are less likely to develop osteoporosis, Dr. Khan notes. "When they do, there's a 40 to 50 per cent chance it was caused by something specific, such as steroid use, alcohol abuse, smoking or a number of other diseases and medications, and they should be evaluated to find out why they have osteoporosis."

MYTH 6

A fracture from a fall is normal.

Sometimes people view their first fracture as a single event, not likely to reoccur, Dr. Kendler points out. "That's not true. It's quite likely to happen again," he says. Research published by Osteoporosis Canada shows that 14 per cent of patients with a wrist fracture suffered another within three years. And more than one in two hip fracture patients will suffer another fracture within five years.

Dr. Shapiro has a clear message for women: "If, after age 40, you've fallen or tripped up the stairs and broken a bone, you need to follow up on that and and ask why did that happen? These are called fragility fractures, and they can say something about bone quality. It's something we need to look into. It's a red flag for bone health."

REALITY CHECK

Not Just Women Are Affected by Osteoporosis

We're All at Risk

Osteoporosis? Not me.
Some people believe they are not at risk for this disease that's behind a loss of bone density, both in quality and quantity – a precursor to potential fractures that can seriously impair our ability to live life to the fullest.

Myths around bone health persist, from thinking osteoporosis only affects the elderly to holding on to the idea that popping supplements provides enough protection. Or that men can dismiss it as something only women need to worry about.

Let's start with a hard truth: We need to be cognizant of bone health at every stage of life – especially post-menopausal women, who are the most vulnerable to developing osteoporosis. According to data from Osteoporosis Canada, two million Canadians are affected by the disease.

Its impact is far reaching and potentially devastating, says Dr. Aliya Khan, director of McMaster University's Calcium Disorders Clinic in Oakville, Ont., and director of the fellowship program in metabolic bone disease. Fractures from osteoporosis are alarmingly common: They outnumber annual incidences of heart attack, stroke and breast cancer combined.

An estimated one in three women and one in five men will break a bone in their lifetime due to osteoporosis. And approximately 30,000 Canadians will experience a hip fracture. "There's mortality associated with that," notes Dr. Khan. "People may die after a hip fracture. There's 28 per cent mortality in women [in the year after a hip fracture]….In men, the mortality rate is 40 per cent. Even though men are less likely to develop osteoporosis, if they have fractures they're more likely to die."

The higher mortality rates are among hip fracture patients is tied to a number of factors. They tend to be older and face a greater risk of pulmonary embolism, infection and heart failure, and they may have multiple co-morbidities. The health consequences of a hip fracture persist even 10 years later, according to a study published by the *Journal of Clinical Endocrinology and Metabolism* in July 2018. It states that fractures are a starting point for much wider health issues long after bones have healed. With a rising life expectancy in Canada, the number of hip fractures will continue to increase and pose a threat to health.

Looking at the bigger picture, the consequences of ignoring osteoporosis are high. "It costs our healthcare system a significant amount of money," Dr. Khan explains. "It's in the billions of dollars." She says the Canadian public needs to be more aware of the potentially deadly complications of fractures, because "we're not dealing with osteoporosis as effectively as we should be."

She cites a couple of alarming statistics: Only about 20 per cent of those who experience a fragility fracture, defined as a fracture from a fall from a standing height or less, are investigated for osteoporosis and treated for it post-fracture. "The remaining 80 per cent are being left to have another fracture and another fracture. That's totally unacceptable," Dr. Khan says. "It's a huge care gap."

Those facts elevate the urgency for awareness around understanding the risk factors of osteoporosis and putting aside the notion that it can't happen to you. Women are most likely to develop the disease for a number of reasons, and they should know why. Bone strength decreases rapidly after menopause (average age of onset for Canadian women is 51), in terms of quality and quantity, due to declining levels of estrogens. As Dr. Khan notes, "Estrogen is a critical hormone for the achievement and maintenance of normal bone density, structure and quality."

While that applies to men, too – since testosterone is converted into estrogen that helps protect the skeleton – they have the advantage of maintaining testosterone levels until later in life, into their 70s and 80s. Women are more vulnerable to osteoporosis because of the effect of menopause on estrogen. "A woman who is a rapid bone loser could lose five per cent bone density per year for the five to seven years after the onset of menopause. If you do the math, that's 35 per cent bone loss. That's a lot of bone to lose in a rapid manner."

Lifestyle choices are also key to determining the chances of developing osteoporosis, known as the "silent thief" because it causes the deterioration of bone over time, often with no signs or symptoms.

"Everyone should be aware of bone health," Dr. Khan emphasizes. "Everybody should be eating properly, following Canada's Food Guide, ensuring that they are consuming enough calcium-rich foods, being physically active, avoiding smoking and limiting alcohol, salt intake and coffee consumption. These are important steps that we all need to do."

Add one more thing to your to-do list: Let go of the myths that might make you think you won't develop osteoporosis. "The danger of hanging on to old beliefs is that you won't know you have a problem until you've had a fracture," she says. "There's an 80 per cent chance that you won't even know after you've had a fracture that you have a problem, then realize that you could have taken steps to prevent it from getting worse."

As she points out, prioritizing bone health means making good choices, empowering yourself with knowledge and taking steps to prevent osteoporosis. That's something to keep in mind during Osteoporosis Month in Canada this November.

Approximately 30,000 Canadians will experience a hip fracture annually. "There's mortality associated with that," notes Dr. Khan.

Follow Canada's Food Guide and eat a variety of healthy foods daily.

FEATURED EXPERT
Dr. Aliya Khan
Director of McMaster University's Calcium Disorders Clinic
Oakville, Ont.

COVID

How COVID Has Impacted Your Bone Health

and what you can do about it right now

Osteoporosis is often described as "a silent disease." During COVID, this has never been more true. Bone health took a back seat. Health assessments, bone density testing and sometimes treatment itself were upended by the pandemic. This disruption in care may have serious long-term consequences for Canadians.

"The impact is going to be seen both immediately and down the line, as we see people not getting diagnosed, not getting treated," says Dr. Vivien Brown, a family physician and an assistant professor with the department of family and community medicine, University of Toronto. "Ultimately, we may see an increase in fracture risk and fracture rate. Now, six months into COVID, when we're referring patients for bone density tests, there's a backlog."

Screening for osteoporosis is critical, according to Dr. Brown, especially for women over the age of 50. Fractures are more common than heart attack, stroke and breast cancer combined. Medical intervention to prevent or treat osteoporosis, as well as adopting healthy lifestyle behaviours, may be needed. Failing to diagnose the disease can lead to serious outcomes.

"Until they've had a fracture, until they've had an event, people don't really have osteoporosis on their radar as a concern," explains Dr. Brown, who just updated her book, *A Woman's Guide to Healthy Aging* (to be published in January 2021). "When COVID hit, the focus for healthcare was on providing essential services only. Bone density testing was not considered essential."

LONG-TERM CONSEQUENCES OF THE CARE GAP

These interruptions have caused the care gap to worsen, making incidents such as hip fractures an even greater concern. The research is alarming: 28 per cent of women and more than 37 per cent of men over the age of 80 die in the first year after a hip fracture. "It can be a life-altering event, if not a life-ending event," Dr. Brown says. "We still need to maintain our level of vigilance around osteoporosis. And I don't think that's happening day to day in the medical community."

Furthermore, she points out that hip fractures can become family tragedies, according to Dr. Brown. "Some patients can't return home to live independently. They may not be able to walk without assistance. They may never be able to drive again. It really alters their quality of life, which impacts the entire family.… The way I think about osteoporosis is that it isn't just a bone disease. Osteoporosis is your independence on the line."

As the impact of COVID has swept across Canada, continuity of care for osteoporosis patients has suffered. For those who were prescribed injectable medications, missed shots were an issue. "The consequences are significant, because the benefits of an injectable medication are completely reversible," says Dr. Brown. "That means when you get past that six-month window where you're supposed to get your next injection, if you go more than a month or so you start to reverse the benefits, because the drug is out of your system. That reversal actually increases your risk of fracture. It's really important to stay on schedule with this medication. It means being proactive – seeing your doctor for the injections, getting them from a pharmacist or learning how to self-inject. Just delaying an injection is not acceptable."

During COVID, the focus on osteoporosis has decreased. Good lifestyle habits also waned as Canadians stayed home. Sedentary behaviour and poor dietary habits increased, while the opportunity to exercise at a gym and access to healthy food were restricted. "A number of my older patients who live at home alone and don't want to go to the grocery store are not eating healthy diets," says Dr. Brown. "And if they're not checking in with their doctor and not being reminded of what they need to do, something gets forgotten or left by the wayside."

TAKE THE FRAX TEST

ISSUES WITH FRACTURE FOLLOW-UP

The pandemic has had a profound impact on our social support systems, too, especially when a patient goes into the hospital with a fracture. Due to safety protocols, they cannot have their partner or someone else with them to listen to a doctor's instructions post-discharge. It's concerning to Dr. Brown, who fears that something will be overlooked. "If you're in the hospital by yourself, it may be scary, and you may be in pain," she says. "You may not hear clearly what the doctor is saying. You get your cast or have the fracture treated, then you get sent home. I don't know that people are getting good follow up care."

That lack of follow-up has a direct impact on continuity of care – a key component of successful osteoporosis management. "In some ways, osteoporosis is like hypertension. Patients often don't feel it," Dr. Brown says. "Maybe they take their drugs for a couple of months but then stop taking them if the meds are not easily accessible, if they don't understand them, or they're not feeling the impact of the disease.…It's important to adhere to whatever has been prescribed."

FEATURED EXPERT

Dr. Vivien Brown

Family physician, assistant professor, department of family and community medicine at the University of Toronto

Toronto

GET BACK ON TRACK

6 WAYS TO TAKE CARE OF YOUR BONE HEALTH DURING COVID, WITH DR. BROWN

1 **Contact your doctor for a health review,** which should include a discussion of osteoporosis prevention and ensuring that you're up to date with any medications to treat the disease.

2 **Let your doctor know if you've had a recent fracture.** A fracture may need to be investigated further to rule out osteoporosis as an underlying cause.

3 **Take an easy online test to determine your risk of a fracture.** The FRAX fracture assessment can be done in just a few minutes. It calculates the likelihood that you will experience a fracture in the next 10 years.

TRY IT NOW

4 **Have your risk for osteoporosis assessed by a healthcare provider.** Factors that heighten your risk include low body weight, family history of osteoporosis, broken bones from a minor injury, harmful lifestyle behaviours (smoking, having three or more alcoholic drinks a day and being sedentary) and certain medical conditions.

5 **Ask your doctor or pharmacist whether it's time to schedule a bone density test.** Osteoporosis Canada recommends that all women and men over age 65 have routine bone density tests. From the age of 50 to 64, those with risk factors for fractures should also be tested.

6 **Resume good habits,** such as taking vitamin D supplements and calcium, exercising regularly and sitting less.

FOLLOW THE FOOD GUIDE

PARTNERS IN CARE

Tap in to a Wealth of Knowledge and Services

to support osteoporosis treatment and prevention

Over the past couple of decades, the role of pharmacists has evolved significantly. Canada's pharmacists have become a front-line resource for comprehensive advice about medications and healthy lifestyle choices. They educate, flag potential interactions, give vaccinations, and help patients stay on track with their treatments for a range of diseases and conditions.

Pharmacy professionals work alongside doctors as a team to ensure that patients receive the most effective care. For those concerned with osteoporosis prevention and treatments, this is a critical dynamic.

"Before, pharmacists were viewed only as pill dispensers," says Rami Al-Akhrass, pharmacist-owner of Pharmacie Al-Akhrass and Romano in Montreal. "They would see a prescription from the doctor, fill it and give it to the patient. That was it. Now we're more involved in the process. We have more of a clinical approach. We don't just focus on the medication. We ask, What is the diagnosis? and Does the patient take the right medication for it?"

Pharmacists get to know their clients in a different way than physicians do. As Al-Akhrass explains, they see people regularly, perhaps weekly or monthly. That helps build personal knowledge useful for providing the most suitable guidance and services. "Pharmacists will take a few minutes to chat with customers, to ask them about their health habits, what they eat, what they drink," he says. "We're aware of their file. We know if they have a history of, or are prone to, bone fractures. We're very close to them. That's the key with a pharmacist. We can be the bridge between patients and doctors. That's the role of the pharmacist."

For some osteoporosis patients, those needs may include support with medications to strengthen and rebuild bone or to prompt more efficient healing after a fracture occurs. These drugs come in pill form, available through a pharmacy, or as an injectable medication given once every six months. Most patients go to their physicians for their shots, but some are turning to their pharmacists to learn how to self-inject, or to have them administer the shot with a directive from their doctor. This is a convenient option, especially during COVID, when access to medical appointments is limited. It's an option that osteoporosis patients should be aware of, as well as their caregivers.

"Many patients are not comfortable injecting themselves," explains Al-Akhrass. "They're scared that they're going to do the injection incorrectly. But we teach them the right way and help them feel confident about it." He sets aside 30 minutes for each appointment to give clients plenty of time for detailed instruction. In the future, they can return to self-inject with a pharmacist present for support.

Pharmacists are well educated about injections. In Ontario, they take specialized training courses through such organizations as the Ontario Pharmacists Association. If directed by a physician, those who have completed the training may inject patients with osteoporosis medication, a service available by appointment. Each province sets its own regulations and requirements about what type of injections a pharmacist is allowed to give. They differ across Canada. For example, a pharmacist in Quebec is not permitted to inject osteoporosis medication, but they may instruct patients on how to self-inject. Ask your pharmacist about what services are available to you locally.

Continuity of care is also top of mind for pharmacists. It's essential for clients who have been prescribed osteoporosis medication to adhere to the treatment plan outlined by their doctors. Skipping or delaying doses can have serious consequences. "With injectable osteoporosis medication, if you skip it, it's like you never took it at all," says Al-Akhrass. Injections need to be repeated every six months. Poor adherence to the schedule can reverse bone density gains, according to a study published in *The Journal of Clinical Endocrinology & Metabolism*.

Pharmacists like Al-Akhrass check their client files continuously so injections are not missed. They will reach out with a reminder call to ensure injections are not skipped or delayed. It's another part of what it means to be a trusted part of someone's healthcare team: providing support, knowledge and education.

As Al-Akhrass points out, "Customers often call us before contacting their doctors, because we are accessible and easy to reach.…If they can walk into the pharmacy, we'll be able to talk to them in a matter of minutes. They value our knowledge. We are experts who have studied medications for four years or more. At the end of the day, the goal for all of this is that every patient receives the best care possible."

Draw on the expertise offered by your pharmacist and your doctor, your partners in bone health. Talk to them about osteoporosis risk factors, fracture prevention, bone density tests, treatment options and ways to build and maintain bone strength.

Did you know?

If you're an osteoporosis patient being treated with an injectable medication, you have choices available about how to receive your shot.

Have your injection at your doctor's office.

Book an appointment with your pharmacist to learn how to self-inject at home.

Talk to your pharmacist about getting your shot at the pharmacy.
(Provincial guidelines vary.)

"We can be the bridge between patients and doctors. That's the role of the pharmacist."

FEATURED EXPERT
Rami Al-Akhrass
Pharmacist-owner, Pharmacie Al-Akhrass and Romano
Montreal

Mind the Care Gap and Don't Wait for Fractures to Happen

Let's get loud about osteoporosis.
For too long, it has flown under the radar as a "silent disease."

There are few telltale signs (such as loss of height), but diagnoses are often made when it's too late and a bone fracture has occurred. Even then, after it's treated, patients leave the hospital without the dots ever being connected between bone break and osteoporosis, the underlying cause of 80 per cent of fractures among patients over the age of 50. So, the cycle of silence continues.

Dr. Jeffrey Habert, a family physician and an assistant professor with the department of family and community medicine at the University of Toronto, is disturbed by the pattern. "Let's compare it to coronary disease," he says. "If you go into hospital and you have a myocardial infarction – a heart attack – you're instantly put on blood thinners and cholesterol drugs, then sent home for follow-up with a cardiologist and a family doctor. Let's say you're a 57-year-old woman and you have a Colles' fracture, a type of wrist fracture. You go to the hospital, and they put you in a cast. Typically, you'll see the orthopaedic surgeon. You'll follow this up, and that's it. Your family doctor may not even know that it happened, and you won't be assessed for osteoporosis."

The danger is that fractures beget fractures. Research from Osteoporosis Canada indicates that the first fracture won't likely be the last. Fourteen per cent of patients with a wrist fracture will have another within three years. More than one in two with hip fractures will suffer a reoccurrence within five years. As Dr. Habert points out, hip fractures are associated with significant morbidity and mortality.

Ideally, a woman with a wrist fracture will have a bone density test. At minimum, she'll be at moderate risk (more likely high risk) of having osteoporosis, and she should be treated. Some hospitals offer fracture liaison services (FLS) to ensure that follow-up happens and that family physicians are informed of patient fractures. Unfortunately, research shows that 80 per cent of Canadians who suffer a fragility fracture receive no treatment for osteoporosis. This represents a serious gap in care.

The gap continues with treatments for osteoporosis – either oral medication (typically given once a week) or injectables (every six months). According to 2019 survey, one in four Canadians admit to taking less medicine than prescribed or don't fill the prescription at all, while 20 per cent stop taking medications before advised. About one-quarter of respondents say their lack of adherence is due to forgetfulness. In the osteoporosis world, erratic dosing harms the rebuilding of bone.

"We know that if you miss your pills half the time, it's going to affect you," explains Dr. Habert. "It's important that when we start patients on antiresorptive therapy [medications to increase bone strength] – whether it be oral or injectable – that we see patients for follow-up to make sure everything's okay and that they're actually taking their medication."

One benefit of injectables is that he gets to see patients and find out how they're doing. His practice offers a reminder to help patients avoid missed appointments. Dr. Habert also works closely in partnership with pharmacies to ensure that medications are picked up and talk with patients about their injections. "It's very important to stay on track," he stresses. "There's a risk in stopping that kind of injection. Within two years, your risk of fracture goes back to where it was initially. But more important, the risk of vertebral fractures goes up acutely."

Patients may not follow through with taking their medications because they don't think it's important. They aren't in pain. "It's similar to diabetes or hypertension," he continues. "A 56-year-old woman might have osteoporosis, but she's never had a fracture. She doesn't feel anything. She feels fine." Osteoporosis is silent, but so are the medications. You aren't aware that they're working, which accentuates the need for education. Hypertension was once considered a silent condition, but a concerted effort to increase public awareness has helped change that. Osteoporosis is following suit. "We need to educate in the osteoporosis world that we're preventing vertebral and hip fractures, which have dire consequences," adds Dr. Habert.

His hope is that patients become partners in their health. When you turn 65, or if you are over age 50 and have risk factors for osteoporosis, you can ask your doctor for a bone density test. But if you don't know enough about bone health to ask, that can't happen. Again, education to close the knowledge gap is the key.

As Dr. Habert notes, "It's okay to say, You know what, Doctor? It's important to me to avoid a fracture. I'm active, I'm enjoying my life. I want to prevent hip and spinal fractures. What can I do? People should partner with their physician as they age. We look at cardiac disease, we look at cancer prevention and diabetes prevention. We should look at bone disease prevention, too. It should be one of the top five or 10 things on your list to prevent as you age."

Patients tend to focus more on common conditions with high mortality rates – namely, heart disease and cancer. With osteoporosis, what's at stake is loss of independence and quality of life, and yes, death, too. "The lifetime risk of a hip fracture for a woman is 12 per cent. That's not rare; one in eight women will have a hip fracture. Forty per cent will need assistance walking, and one in five or one in six will enter long-term care. And nearly one-quarter will die within a year. These are very serious consequences."

This underscores the necessity for Canadians to mind the care gap around osteoporosis and make bone health a priority.

FEATURED EXPERT
Dr. Jeffrey Habert
Family physician, assistant professor, department of family and community medicine at the University of Toronto
Toronto

Did you know?

Hip fractures are considered the most devasting type of fragility fracture. The consequences on quality of life and risk of dying are profound.

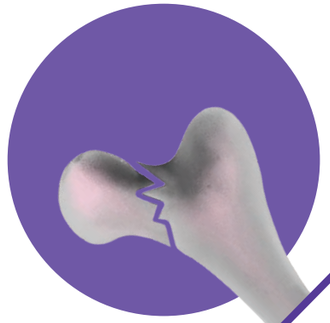
70–90%
of hip fractures annually are due to osteoporosis

15–25%
of hip fracture patients require admission to a nursing home

40%
of women with hip fractures will need help walking

Approximately 50%
of patients had previously broken a bone (also called a "signal" fracture) before breaking their hip

Osteoporotic hip fractures
take up more hospital days than stroke, diabetes or heart attack



Why Bone Fractures Often Fail to Be Linked to Their True Cause

Osteoporosis

What typically happens when a post-menopausal woman goes to the hospital with a bone fracture in her wrist? She's assessed by emergency room physicians, the break is treated, and she's sent home. It may seem like a logical course of action until you consider that fractures, especially in older women, are a red flag for osteoporosis.

Over 80 per cent of all fractures in people aged 50 and up are a result of this silent, potentially deadly disease. Data from Osteoporosis Canada indicates that 28 per cent of women and 35 per cent of men will die within a year of a hip fracture. Osteoporosis causes 70-90 per cent of an estimated 30,000 hip fractures annually. About 30,000 Canadians annually will fracture their hip. Any fracture should serve as a warning that another is more likely in the future: 14 per cent recurrence for patients with wrist fractures, while one in two with hip fractures will have a repeat occurrence within five years.

STATISTICS PAINT A GRIM PICTURE

Despite the prevalence of osteoporosis, more than half of cases go undiagnosed, according to a 2017 Global Data study. At least one in three women and one in five men will break a bone due to osteoporosis in their lifetime. And only about 20 per cent of patients after a fragility fracture will have any diagnostic or intervention follow-up within 12 months. Those troubling statistics underscore the seriousness and prevalence of the current care gap.

Why isn't osteoporosis diagnosed more readily and more often? The reasons are complex and multi-faceted. "It's a quiet disorder," says Dr. David Kendler, professor of medicine at the University of British Columbia. "It's like hypertension or high cholesterol. You don't feel it. With things that people don't feel, they have little awareness of. Unless it's brought to their attention, they have little consideration of it."

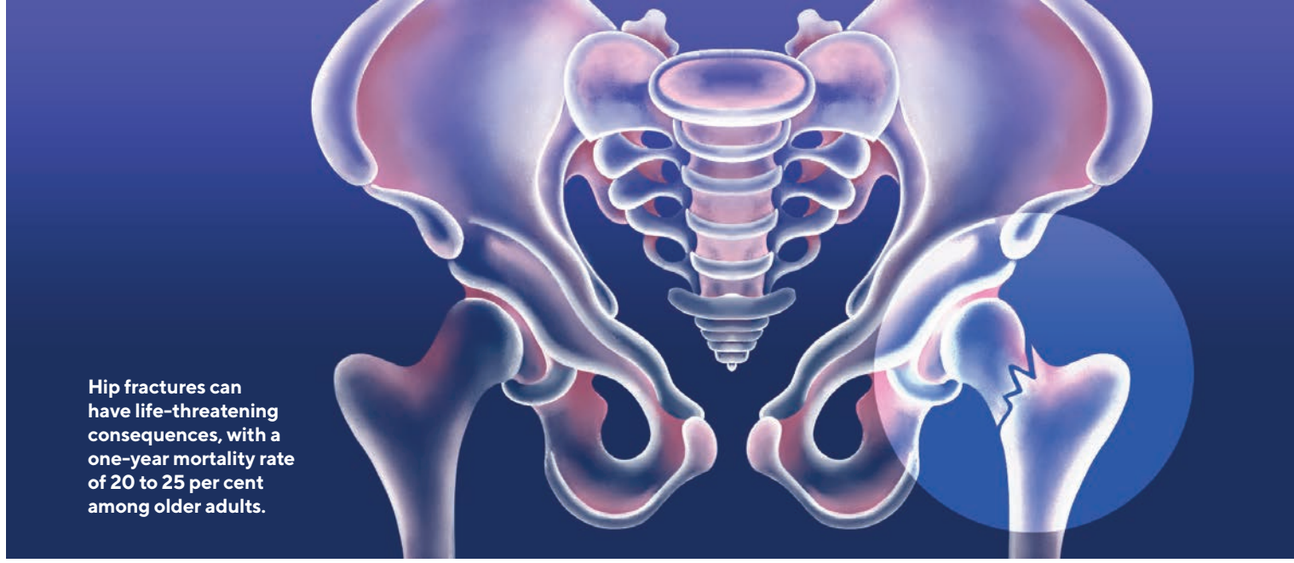
When a fracture occurs, it's an opportunity to further investigate the reasons for the break. That's not what happens typically. Fractures are often dismissed as minor and non-life-threatening – a one-time event chalked up to bad luck. But healthy bones should be able to withstand a fall from a standing height. They shouldn't fracture from a low-level trauma.

UNDERSTANDING THE SERIOUSNESS OF FRACTURES

"People often don't realize the impact of a fracture," explains Dr. Kendler. "Heart attack, stroke and cancer are all things that people put higher on the list of importance. The perception for many is that if you have a fracture, you go to the hospital, the orthopaedic surgeon puts it back together, you get a cast, then you're good as gold. You go back to where you were before. And that's far, far from the truth."

There's a lack of awareness that fractures, especially of the hip, can significantly impact quality of life by causing a loss of independence and functionality. "If one expresses fracture in that sense to patients, then it has much more meaning than just saying the word 'fracture' or 'broken bones,'" he notes.

Patients will also blame a fall or an injury for a fracture, not their bones. That doesn't make sense, Dr. Kendler emphasizes. It's like believing a heart attack occurred because you shovelled snow or mowed the lawn, with no regard for underlying disease. Coronary artery disease, not the exertion, actually caused the heart attack. "It's the same with osteoporosis," he says. "It isn't necessarily the fall that causes the fracture. It does make apparent the underlying disorder: osteoporosis."



Hip fractures can have life-threatening consequences, with a one-year mortality rate of 20 to 25 per cent among older adults.

OPPORTUNITIES FOR BETTER TREATMENT

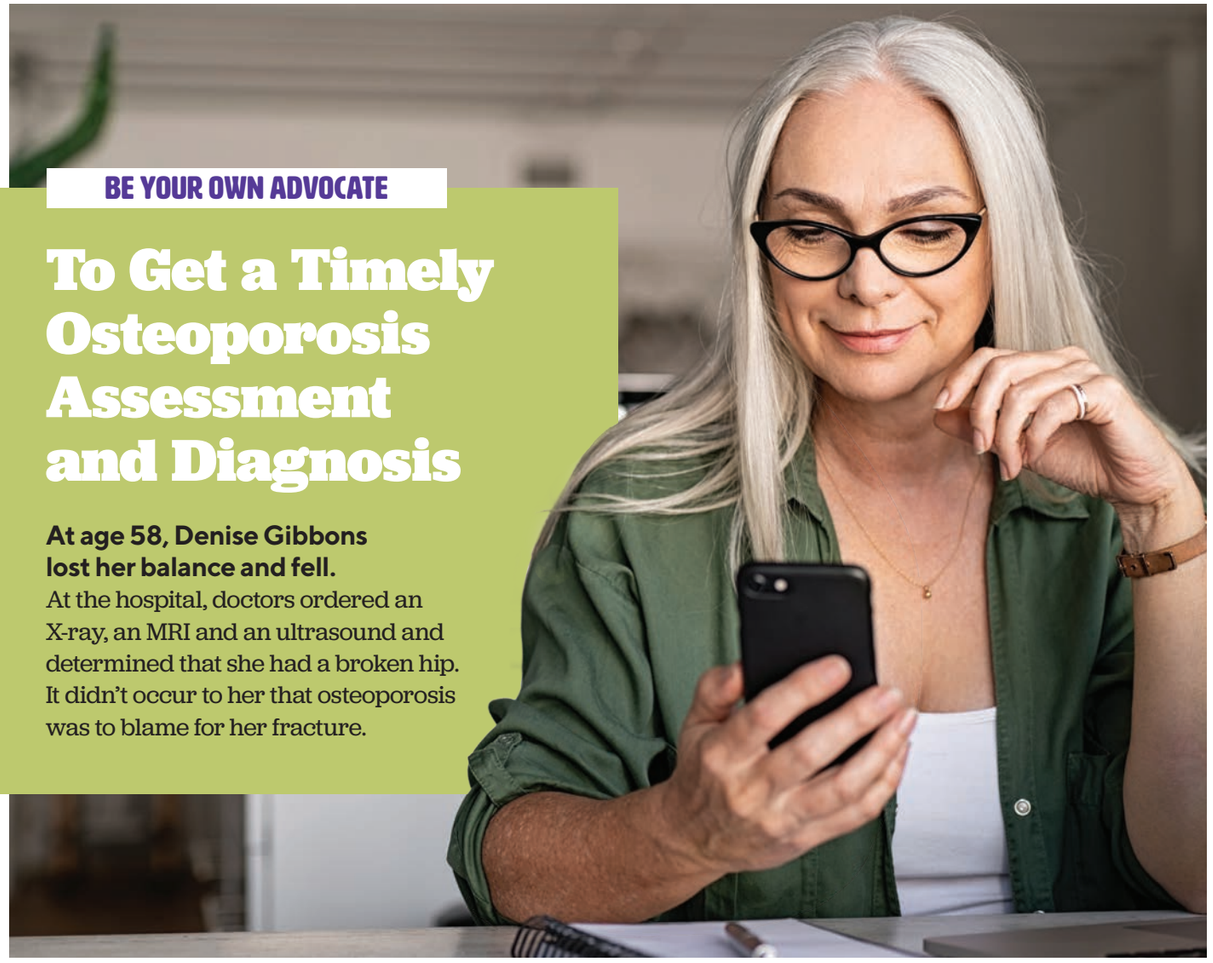
To help close the treatment gap, some clinical settings are using fracture liaison services (FLS). An FLS program uses a nurse to identify patients with fragility fractures and target them for appropriate investigation and intervention, if necessary. These specialized services result in cost savings, according to a report published by Osteoporosis Canada. A nurse would only need to screen about 300 to 400 patients per year to justify her salary by identifying patients who might otherwise go on to have more fractures and, ultimately, cost more to the healthcare system.

Fracture liaison nurses take a patient's medical history and ensure that there are no secondary causes for compromised bone strength. They order blood tests to make sure there are no issues with hyperparathyroidism, low vitamin D levels or hyperthyroidism involving blood proteins – all predictors of secondary causes of bone loss or fracture. If those tests are negative, nurses can make recommendations around calcium intake, vitamin D and exercise such as walking and other weight-bearing activities. A bone density test may also be recommended. Based on results, a physician or nurse practitioner can prescribe medications for patients at high risk of future fractures.

Fractures aren't all bad news. Dr. Kendler sees a silver lining: "If a patient were to look at a fragility fracture as a signal event – as something highly predictive of getting into trouble in the future with major fractures that will take away quality of life and functionality, then they have a wonderful opportunity to be empowered. I use that word with patients. And I say, Don't be threatened by the word 'osteoporosis.' Having a fracture is actually a good thing, because now you're empowered to take action to prevent more serious fractures. You now have a heads-up that you can do something about it."

> ***"Don't be threatened by the word "osteoporosis." Having a fracture is actually a good thing, because now you're empowered to take action to prevent more serious fractures. You now have a heads-up that you can do something about it.***

FEATURED EXPERT
Dr. David Kendler
Professor of medicine,
University of British Columbia
Vancouver



BE YOUR OWN ADVOCATE

To Get a Timely Osteoporosis Assessment and Diagnosis

At age 58, Denise Gibbons lost her balance and fell. At the hospital, doctors ordered an X-ray, an MRI and an ultrasound and determined that she had a broken hip. It didn't occur to her that osteoporosis was to blame for her fracture.

"Because I was under 60 and had broken a bone, it was suggested that I have a bone density test to see if I had osteoporosis," she recalls. Until her hospital visit, the subject of osteoporosis had never come up with her doctor, nor anyone else for that matter. When she received the diagnosis, she was concerned but admits, "I didn't really know what osteoporosis was."

WHY THE CARE GAP AROUND FRACTURES TRULY MATTERS

Gibbons' experience underscores the need for increased awareness of osteoporosis, a bone disease that develops and progresses quietly without symptoms until a fracture or break happens. In Canada, one in three women and one in five men are affected by the disease.

Despite its prevalence, it remains under the radar, which contributes to a serious care gap in identifying osteoporosis as the underlying cause of fragility fractures, defined as any fall from a standing height or less that results in a fracture. In about 80 per cent of such cases, patients are treated for their injury and go home with no follow-up to investigate whether osteoporosis was to blame.

"We need a massive public awareness campaign," says Dr. Aliya Khan, director of McMaster University's Calcium Disorders Clinic in Oakville, Ont., and director of the fellowship in metabolic bone disease. "We need to increase awareness that these fragility fractures are a sign that you have a skeletal disease, making your bones thinner and less capable of bearing weight, and that there's intervention available to strengthen the skeleton.

"It's an education that hasn't taken place. We really need to focus on it, much like with heart and stroke," she adds. "We have a lot to learn from our colleagues in cardiology and neurology. They've done a really good job of informing patients that we haven't done."

THE CRITICAL NEED FOR PUBLIC AWARENESS AROUND OSTEOPOROSIS

Many Canadians know the signs of a heart attack and how to do CPR, and public spaces have invested in defibrillators – all positive outcomes in part because of the awareness and education efforts around heart attacks, contends Dr. Khan. She'd like to see our collective understanding of osteoporosis increase so that patients and healthcare providers realize that fragility fractures, especially in post-menopausal women, are not normal. And that further steps are necessary once a fracture occurs.

The stakes are high. Within two years, someone with a fracture will likely experience another. Next time, it could be a hip fracture, which has a poor prognosis for many Canadians, with life-threatening consequences. Data from Osteoporosis Canada indicates that 28 per cent of women and 37 per cent of men who suffer a hip fracture will die within a year.

Dr. Khan is also concerned about the impact of undiagnosed and untreated osteoporosis on our healthcare system. Oversight is a costly prospect. For example, a bone density test is $120, while a hip fracture costs the system anywhere from $20,000 to $40,000 to treat. "Billions of dollars are being spent around osteoporosis because we don't have adequate ways of addressing the care gap," she says. "We can prevent many of these fractures. Instead of treating them, and focusing on people who have a high risk of fracture, we should be preventing them."

Patients and healthcare providers have a shared responsibility to look into fragility fractures and their causes. Patients who have suffered fractures should talk to their doctor about osteoporosis and request blood and bone density tests.

But even patients who are aware of their risk of having the bone disease often fail to take action. Patients are in denial, Dr. Khan believes, "and that doesn't help anybody." A public education program around breaking a bone from a standing height would help people understand that "fractures are warning signs. People are health conscious now. They want to know how to improve their health. And if they are given the facts, then they'll take action."

PATIENTS AND PHYSICIANS CAN WORK TOGETHER TO ASSESS OSTEOPOROSIS RISK

At the physician level, there's also a push for furthering awareness of osteoporosis, especially among primary care doctors – often the most frequent point of contact for patients. Dr. Khan hopes that family physicians take a leadership role and suggest testing patients who have had recent fractures. Some physicians already advise patients on how to evaluate a fracture, including which tests to do, the therapies they should receive and precautions they should take.

"We need to increase awareness that these fragility fractures are a sign that you have a skeletal disease, making your bones thinner and less capable of bearing weight, and that there's intervention available to strengthen the skeleton."

It was Gary John Carter's family doctor who suspected that had osteoporosis after he slipped off a ladder at age 55 and X-rays revealed multiple vertebral fractures. She suggested that he get a bone density test, because those kinds of injuries were not normal, especially at his age. At that point, Carter knew nothing about osteoporosis.

"I didn't even think about it," he says. "I was surprised when I was told that I had it." He now goes for regular checkups with an osteoporosis specialist and often finds himself the only man in a waiting room full of older women. He doesn't mind. He's taking steps to ensure that his bones are strong, and that osteoporosis doesn't stop him from enjoying his life in the lakeside town of Grand Bend, Ont.

It's clear that awareness pays off with patients and healthcare providers. "Osteoporosis has been neglected, and the education is not there to the same degree [as for heart, stroke and cancer], but we need to get it there," states Dr. Khan. "Because if you look at healthcare costs alone – never mind the impact on mortality and morbidity – the impact is greater from osteoporosis in terms of billions of dollars being spent in healthcare resources than it is from heart disease, stroke and breast cancer combined. There's an opportunity here to really turn things around."

FEATURED EXPERT
Dr. Aliya Khan
Director of McMaster University's Calcium Disorders Clinic
Oakville, Ont.

TAKE CONTROL

6 Bone-Boosting Tips, Tricks + Tools You Need Now

to prevent osteoporosis

Sowing the seeds for good bone health happens early in life. Babies who are breastfed are given vitamin D drops, because a mother's milk does not contain enough. Children are given milk fortified with vitamin D. But as adults, getting adequate vitamin D falls off the radar, along with adopting healthy behaviours to build bone strength and prevent osteoporosis.

It's a concern among healthcare providers, such as Dr. Marla Shapiro, professor, department of family and community medicine at the University of Toronto. "There isn't much of an awareness of osteoporosis as a disease we talk about," she says. "Most people don't recognize that what you do in your young adult years will lay the foundation for what happens to you as an older individual.... If you don't achieve your peak bone mass, which typically happens in the first couple of decades of life, it can make a big difference in your bone foundation as you go forward. Osteoporosis is a disease that begins to present in the pediatric and adolescent years, but manifests itself in the adult and geriatric years."

The good news? "It's never too late to take steps to prevent osteoporosis," she notes. "Seeing what you can do proactively to protect your bones is critical. You'll always benefit from a healthy lifestyle."

Know your risk

Discuss your risk for osteoporosis and ways to prevent it with your healthcare provider. A good starting point is to talk about the results of this Know Your Risk Quiz from Osteoporosis Canada. Keep in mind that osteoporosis can happen to anyone at any age. It's not a women's disease, and it's not a normal part of the aging process. In many cases, it can be prevented. It's never too late to take charge of your health and embrace healthy habits that keep bones strong.

Mind your D

Most Canadian adults are vitamin D deficient or insufficient, so make a commitment to flip the script and take D3 supplements as needed. They would do well with 1,000 IU per day year-round, suggests Dr. Shapiro. Foods with significant vitamin D include swordfish 761 IU per 75 g serving, canned pink salmon (with skin and bones) 435 IU per 75 g serving and cod liver oil 426 IU per 5 mL.

Bone up on calcium-rich foods

Adults over the age of 50 should have at least 1,200 mg of calcium daily. Studies show that bone loss can be slowed and the risk of fracture reduced by an adequate intake of this important mineral. Ninety-nine per cent of the body's calcium is stored in the bones. Not sure about your intake? Try this handy calcium calculator from Osteoporosis Canada. Top calcium sources from food include: milk (whole, 1%, 2%, skim) 300 mg per 250 mL serving, plain yogurt (1-2% milk fat) 330 mg per 175 mL serving, and fortified orange juice 300 mg per 250 mL serving.

Maximize absorption of vitamin D

"Most people don't realize that vitamin D is a fat-soluble vitamin," notes Dr. Shapiro. "If you're taking a supplement in the morning on an empty stomach, chances are you're not absorbing it." A better option is to take it with a serving of cottage cheese, toast topped with nut butter, or a yogurt smoothie. Another choice is vitamin D in spray form. A spritz under the tongue goes directly into the bloodstream without the need for fat.

Exercise control over falls and fractures

"Exercise is important, because if you have a strong core and strong muscles that decreases your risk for a fall," explains Dr. Shapiro. Falls can result in fractures. These in turn can lead to additional fractures, including hip fractures, which have a mortality risk. It's a tragic chain of events that can be prevented in part by doing weight-bearing exercise, strength training, and balance- and flexibility-enhancing activities, such as include hiking, jogging, climbing stairs and yoga.

During COVID restrictions, taking a walk is a good option, as long as conditions aren't icy or snowy; or buy some inexpensive weight-resistance bands. Another bonus of exercise? Bone does respond to it and become stronger. The suggested duration is 30 minutes on most days of the week. That total time can be split up into smaller chunks, too, if needed.

"You don't want to put yourself at risk by doing exercise," she points out. "So you have to understand first, Am I a candidate for weight-bearing exercise? And what does that mean for me if I'm at average risk?" Consult a doctor before you embark on a new exercise program, to ensure that it's safe for you.

Stay engaged and be empowered

Since you've read this far, you've already taken an important step by arming yourself with facts – one of the most powerful weapons you have to fight osteoporosis. If you have the disease, speak to your doctor about what medications may be available to help rebuild bone and repair it after a fracture due to a fall.

"Looking at your lifestyle and nutrition, as well as increasing your awareness of osteoporosis, these are some of the most important things you can do – not only for bone health but for heart health, too," explains Dr. Shapiro. "Being able to say to yourself, It's never too late and the first thing I want to do is empower myself with information." That should include bone-building exercise, good nutrition, healthy behaviours, risk factors and when to get a bone density test. "You can always drive this conversation with your healthcare provider."

PHARMACISTS

How Canada's Pharmacists Help Osteoporosis Patients Manage Their Health Effectively

When COVID-19 hit, Canada's pharmacists were always available to serve their clients and ensure that their healthcare needs were met.

For those with osteoporosis, continuity of care is crucial.

Did you know?

Canada has more than
42,000
pharmacists
working in
10,000+ pharmacies

70%
work in community pharmacies

15%
in hospitals

15%
in other settings

Pharmacists have a minimum of
5 years
of post-secondary education

Canada's pharmacy legacy
can be traced back to 1617, when apothecary Louis Hébert emigrated from France to Quebec

Source: Canadian Pharmacists Association

More than two million Canadians are affected by osteoporosis. It can have a major impact on our wellness, with fractures due to the disease more common than heart attacks, strokes and cancer combined. Current data from Osteoporosis Canada shows that one in three women and one in five men will break a bone due to osteoporosis in their lifetime. Just one fracture incident can have life-altering consequences: reduced quality of life, loss or reduction of mobility, disfigurement, loss of independence and even death. Research shows that 28 per cent of women and 37 per cent of men who suffer a hip fracture will die within the following year.

With the stakes so high, osteoporosis patients need support from many professionals to help navigate their care journey. "Although your physician may be the quarterback for your disease, your pharmacist is an integral team member, one who is the most accessible of any health professional," says Carolyn Whiskin, pharmacist/pharmacy manager with Charlton Health, a clinic specializing in the complete management of biologic and other specialty medications, based in Hamilton, Ont. "You can't just pick up the phone and talk to your family doctor, but you can phone and speak directly with a pharmacist."

BUILDING A RELATIONSHIP WITH YOUR PHARMACY

Pharmacists can see the big picture in a way that's unique. They know what medications you may be taking and are aware of potential drug interactions. They are on the front lines and accessible to provide guidance on the day-to-day management of osteoporosis. "You can connect with a pharmacist who has access to your medical file on a weekend or an evening for advice," explains Whiskin. "They can further guide you, if needed, to seek additional treatment at an after-hours clinic, or suggest going to the emergency room. Pharmacists play a valuable role for their patients, which is why we recommend that people generally stay with one pharmacy and develop that relationship over time."

The pharmacist-client relationship benefits from that type of commitment, since a pharmacy can get to know you, your health issues and your full medication profile. Establishing an ongoing connection with a pharmacist who understands how to help you manage your health is as important as doing that with your doctor. It starts with a conversation between patient and pharmacist. It can begin with saying you are looking at using that pharmacy in the future and go from there.

Whiskin suggests patients ask a pharmacist what services they provide and the scope of their practice. "Pharmacists, like GPs, have to have a good amount of knowledge about just about every condition and every drug dispensed," she notes. "But there's a difference between having that general knowledge and actually being an expert in a certain disease. Just as there are physician specialists, some pharmacists in the community have additional certifications, such as being a diabetes educator, that can provide great value to those who have a specific condition."

SUPPORT AND SERVICES WHEN YOU REALLY NEED THEM

Especially during COVID-19, the role of a pharmacist has become even more pivotal for osteoporosis patients, as a trusted source of reliable, up-to-date information. For example, the importance of vitamin D and bone health is well documented. Pharmacists can help guide patients to get the right amount in the right form, and they understand how current medications can interfere with absorption, then make recommendations.

Whiskin also points out that researchers are studying vitamin D and how a deficiency may be linked to poorer outcomes for respiratory illnesses, such as COVID. Pharmacists have access to your medical file and can make recommendations about how to lower your risks, from adequate vitamin D supplementation to vaccinations. "For anyone who's had an osteoporotic fracture, your risk of pneumonia is heightened for a year or two following that fracture," she says. "I want to make sure that this vulnerable person is vaccinated."

While the pandemic evolves, continuity of care becomes more challenging for osteoporosis patients. If you've been prescribed an injectable medication, learning to self-inject may save you from having to go into a doctor's office, depending on your level of comfort around risk exposure and personal choices during COVID-19. Pharmacists are well educated about injections. In fact, more than one-third of Canadians go to a pharmacy for their annual flu shot, according to government data. When it comes to injectable medications for osteoporosis, a pharmacist can help, too. "I can train someone on how to give a subcutaneous injection," says Whiskin. "I can guide them through the process and provide ongoing support."

When you're looking for support, as someone with osteoporosis, include your pharmacist as a member of your healthcare team. They are an invaluable resource for reliable advice, support and a wide range of services – a partner in your well-being, including bone health.

FEATURED EXPERT
Carolyn Whiskin
Pharmacist/pharmacy manager with Charlton Health
Hamilton, Ont.

Reduce Your Risk of Fractures + Falls This Winter by building bone strength

With the arrival of winter, Canadians have more reasons to think about bone health. The Canadian Institute for Health Information estimates that there were more than 9,000 hospitalizations due to falls on ice in 2016–2017.

Approximately 70 per cent of those falls happened to people over 50 years old. Fractures, accompanied by swelling, bruising and tenderness, are common outcomes. But don't blame the ice, says Dr. Famida Jiwa, president and CEO, Osteoporosis Canada. "Broken bones as a result of the disease can happen in everyday places. During the winter, people are quick to blame broken bones from a fall on slipping on ice or 'falling hard.' Healthy bones should not break from a fall from a standing height, no matter the surface."

If they do break, it's important to look to osteoporosis as the underlying cause. Fragility fractures represent 80 per cent of all fractures in menopausal women over age 50, according to data from Osteoporosis Canada. Another alarming fact: Fractures from osteoporosis, which causes bones to become thin and porous without signs or symptoms, are more common than heart attack, breast cancer and stroke combined. Wrist, spine, shoulder and hip are the most common sites for osteoporotic fractures.

One of the best ways to prevent fractures in winter is to prioritize building strong bones and adopt positive lifestyle behaviours. Weight-bearing exercise and adequate vitamin D and calcium intake are just a few essential components. Controlling alcohol and salt consumption counts, as does not smoking.

When it comes to external factors during cold weather, you should slow your walking pace, wear boots and slip-resistant footwear (add traction devices for better grip), avoiding carrying items in your hands (use a backpack instead), and make sure sidewalks and stairs are clear of snow and ice. Keep active to improve your strength, flexibility and balance. A strong core and legs will help keep you upright on slippery surfaces.

Before and after menopause, estrogen levels drop, which impacts the ability of a woman's body to build bone mass.

MISCONCEPTIONS PUT YOUR HEALTH AT RISK

Despite the prevalence of fractures due to osteoporosis, dangerous myths persist. They are dangerous because they affect behaviour. Steps are not taken to support bone health. According to a 2018 study published by the Public Health Agency of Canada, just 27.8 per cent of Canadians aged 40 years and over reported having a bone density test.

Among those respondents who said they did experience fracture, it's clear that there's a disconnect between their injuries and behaviours that could help them support bone health. Only one-third of them reported having a bone density test. Fewer than half said they took calcium or vitamin D supplements, and just 45 per cent stated that they exercised regularly.

The study concluded: "Osteoporosis is common among Canadians 40 years of age and older, but more concerning is the large proportion at risk for osteoporosis – those with a major fracture history – who have not received a bone density test, nor engaged in lifestyle approaches recommended to help maintain healthy bones."

It's critical for Canadians to understand their risk and take the necessary steps to mitigate it. Again, misconceptions often prevent us from taking action. "There are many myths associated with osteoporosis, namely that the disease is a natural part of aging – which it is not," says Dr. Jiwa.

Start a conversation. "One of the best ways to protect yourself from breaks associated with osteoporosis is to be aware of your risks, speak to your healthcare provider to minimize or manage those risks and make choices to support bone health," she continues. "If you have broken a bone, you should be screened by your doctor for your risk of osteoporosis. This simple step can avoid debilitating future fractures, which can significantly impact your ability to live independently."

WHO'S MOST AT RISK?

Anyone at any age, including children and men, can be diagnosed with osteoporosis. While there is no single cause, a number of risk factors may increase your chances of developing the disease, such as:

SEX

Women are the most vulnerable. At least one in three will break a bone because of osteoporosis over the course of their lives. According to Osteoporosis Canada, women are especially susceptible because of the role estrogen plays in keeping their bones healthy. During menopause, there is a gradual decline in ovarian function and a consequent loss of estrogen production. As estrogen levels decline, loss of bone tissue begins. Rapid bone loss at a rate of two to three per cent a year can occur for the first five to 10 years after menopause.

FAMILY HISTORY

Your risk is higher if either of your parents has had a hip fracture.

LIFESTYLE BEHAVIOURS

High alcohol consumption can harm bone strength. A high alcohol intake (three or more drinks per day), a high-salt diet and being a current smoker elevate risk.

HISTORY OF FRACTURES AND FALLS

You're at increased risk if you've had a prior fracture with minimal trauma and have a history of falling in the past 12 months.

PRESCRIPTION DRUG USE

The long-term use of glucocorticoid therapy, such as prednisone, may impair the body's ability to build bone.

As Dr. Jiwa emphasizes, talk to your healthcare provider about your individual risk and learn about measures you can take to improve your bone health. Take steps to prevent fractures in winter and all year long. And always break myths, not bones.

FEATURED EXPERT
Dr. Famida Jiwa
President and CEO,
Osteoporosis Canada
Toronto

LET'S TALK

How to break the ice with your pharmacist and

Start a Conversation About Bone Health

Have you talked to your pharmacist lately?
Why not? If you need professional advice about bone health, you may be missing out on an invaluable resource that can support anyone concerned about, or living with, osteoporosis. Pharmacists are readily available to assist you with a range of services and expertise, from guidance about vitamin D supplements to on-site injections of medication to treat the disease.

5 Key Questions

to ask your pharmacist about osteoporosis

QUESTION 1

Am I at risk of osteoporosis?

Based on your medications, a pharmacist can flag any that may compromise bone health and suggest proactive measures. They can also let you know when it may be time to contact your doctor about scheduling a bone density test.

QUESTION 2

Am I taking advantage of everything available to control my osteoporosis?

Along with an in-depth knowledge of medications, pharmacists understand the role of healthy behaviours on bone health and can make suggestions, from smoking cessation to suitable types of exercise.

QUESTION 3

What services do you have that will help me manage osteoporosis?

Your pharmacist can talk about options if you're on injectable medication, including teaching you how to self-inject or administering the injection for you.

QUESTION 4

Can we review the medications I'm on?

Pharmacists are happy to book a MedsCheck and identify any areas of concern.

QUESTION 5

What kind of supplements should I take?

An informal consultation at the pharmacy counter can provide the right guidance to ensure that you're getting the right amount of vitamin D and calcium for strong bones. A pharmacist can also make suggestions about how to improve their absorption.

Physicians recognize that pharmacies are partners in osteoporosis care. Dr. Vivien Brown, a family physician and assistant professor, department of family and community medicine, University of Toronto, treats pharmacists as part of the healthcare team. "They know when a prescription was renewed, and if it wasn't and should have been. Pharmacists have an understanding of the multiple medications people are on and which ones may be bad for bones."

Two common drugs that can weaken bones are selective serotonin reuptake inhibitors (SSRIs) and proton pump inhibitors (PPIs). As Dr. Brown points out, a psychiatrist may have prescribed an SSRI to treat depression; or a gastroenterologist may have written a prescription for a PPI to address heartburn and other gastric acid disorders.

DOCTORS AND PHARMACISTS: PARTNERS IN HEALTH

"Sometimes a pharmacist has a better overview of all the medications a given patient is using," she says. "As the pharmacist looks at their drugs, they may be able to say, You're also on medication for osteoporosis. You should review this with your doctor. When were you last evaluated? The pharmacist's role, in terms of knowing which drugs have an impact on bones and understanding the full picture of what a patient is on, can be very helpful."

When it's not possible to see your doctor right away, your local pharmacy is there to help. "You could walk up to the pharmacist and talk about something without an appointment," she says. "That's done on the spot. Pharmacists have an accessibility advantage, and there's also trust. They are an integral part of the health care team."

During COVID, physicians have been less readily available than before. Pharmacists stepped up in a big way to assist osteoporosis patients. "We made sure those being treated for osteoporosis continued to receive care," says Scott McDonell, pharmacist-owner of Remedy's Rx Pharmacy – Williamsburg (and three other locations in the Kitchener-Waterloo region).

"We did a lot more injections for patients, because doctors weren't in their offices to do them. We were able to provide a continuity of care, so that was a huge benefit. Sometimes it was overwhelming, but we did everything possible to ensure that everyone stayed safe."

> ***Pharmacists have an accessibility advantage, and there's also trust.***
>
> ***They are part of the healthcare team in a serious way.***

These days, safety is on everyone's minds – pharmacists, too. They've been able to put protocols in place where you can get in and out quickly to get your shots. If you're on injectables to treat osteoporosis, talk to your pharmacist about how they can save you a trip to your doctor's office. A pharmacist has the expertise to teach you how to self-inject and can administer the shot for patients when directed to do so by a doctor via a notation on the prescription.

UNDERSTANDING PATIENTS' NEEDS

As Dr. Brown mentions, pharmacists can see a patient's big picture. That's why a MedsCheck, a complete review of your medications, is so helpful. McDonell suggests booking an appointment once a year, especially if you are on three or more meds. If you've been diagnosed with a new disease condition, you may want to discuss your medications sooner with your pharmacist.

It's a good way to get to know them and vice versa: "When you sit down for a full MedsCheck, we look at things like smoking, alcohol intake, past fractures and family history, and your current situation. It gives us an opportunity to say, 'You know what? You might be at risk of osteoporosis. Have you talked to your doctor about that?' That can prompt a conversation about bone health."

McDonell also points out that you can do less formal med checks at any time. "I'm happy just to converse at the counter about what is needed and not needed," he says. "We chat frequently with patients in the aisles about their concerns. That's what we're here for." He also recommends sticking to one pharmacy: "You want to develop a rapport with your pharmacist. You'll be better covered. They will know right away what things may be better or or not better for you."

If you're looking to build the best healthcare team possible, make sure you include your pharmacist, a partner who is there to support your quest for bone health and beyond.

FEATURED EXPERT
Scott McDonell
Pharmacist-owner of
Remedy's Rx Pharmacy
Williamsburg, Ont.

YOUAREUNLTD

BONE UP ON OSTEOPOROSIS NOW

Osteoporosis is a chronic disease that causes bones to become thin and porous, and prone to fractures that may lead to death. It requires sustained medical intervention, like diabetes or heart disease, and continuity of care to avoid weakening of bones.

2 million Canadians are affected by osteoporosis
Are you at risk?

You could be at risk.
Take the self-assessment.

Check more than one?
Contact your healthcare professional.

- A parent who has had a hip fracture
- Prior fracture with minimal trauma
- +2 cm height loss in the last 2 years
- Rheumatoid arthritis
- Smoking
- History of falls (past 12 months)
- Alcohol intake (3+ drinks per day)
- +10% weight loss since age 25
- Lack of exercise
- Low calcium + vitamin D intake
- Certain medications:

  glucocorticoids, antidepressants (SSRIs), diuretics, anti-seizure/heartburn/ blood pressure/chemotherapy/ breast cancer/prostate cancer/ heartburn drugs

Your Bone Health Care Partners

Pharmacists

- Offer a MedsCheck review of your file to identify medications that may increase osteoporosis risk
- Teach patients to self-inject medication, or administer injections, if directed by a physician on the prescription*
- Advice on behaviours and supplements to improve bone strength
- Highly accessible, including weekends and nights. No appointment needed.
- Canada has 42,000+ pharmacists working in 10,000+ pharmacies

**subject to provincial regulations*

Family Doctors + Specialists

- Prescribe osteoporosis medication
- Referrals to other specialists
- Order bone density tests and X-rays, as needed
- Assess risk of osteoporosis, based on medical history and lifestyle
- Advice on healthy behaviours and supplements
- Tele-medicine appointments

Getting a Diagnosis

Bone Density Test (BMD)
Anyone with risk factors over age 50, and all men and women over age 65.

Know Your Risk Quiz For those concerned about bone health and risk factors for osteoporosis.

TRY IT NOW

Treatment Options

Supplement your diet with vitamin D + calcium

Take prescribed injectable or oral medications

Consume calcium-rich foods such as nuts, milk products, and legumes.

Be Your Own Advocate

Talk to your pharmacist or doctor about your risk and whether you need a BMD.

Take steps to maintain and build bone strength.

Learn more about treatment options and risks at healthandbone.ca or osteoporosis.ca

How COVID-19 has Impacted Bone Health

Missed doses of osteoporosis medications. Stopping them abruptly may increase risk of harm and result in bone loss.

Missed medical appointments. New access channels are available. Talk to a pharmacist or book a virtual appointment.

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