

Staying healthy and safe by building stronger bones

As you get older your bones may become thinner and weaker. Building stronger bones is one way to keep yourself healthy and safe, so that you can continue to do the things that you enjoy.

This book can help you learn about osteoporosis and broken bones, and what you can do to build stronger bones.

Contents

Topic	Page
Osteoporosis and Broken Bones	1
Healthy Eating	5
Keeping Active	9
Reduce the Risk of Another Fall	12
Where You Can Get More Information	16

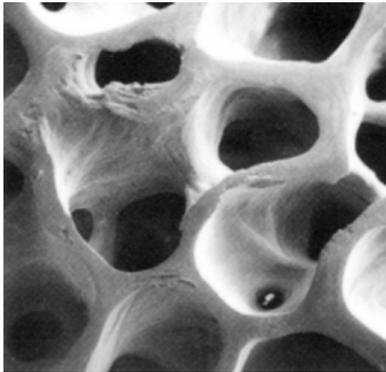
Osteoporosis and Broken Bones

What is osteoporosis?

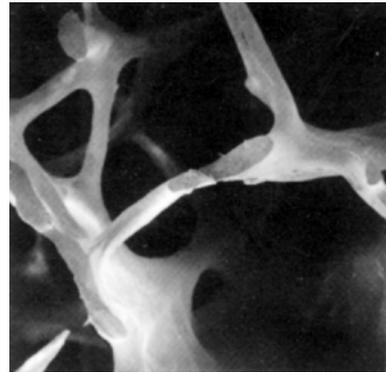
Bone is a living tissue. Old bone is constantly being removed and then replaced by new bone. As you get older, more bone is removed than is replaced by new bone.

If you have osteoporosis you lose bone faster. Your bones become thinner and weaker causing them to break or fracture more easily.

The bones that are most likely to break are in your hip, spine, rib and wrist.



Normal bone



Osteoporotic bone

Who has osteoporosis?

- About 1.4 million Canadians have osteoporosis.
- About 2 million more Canadians are at risk for getting osteoporosis.
- 1 in 4 women over the age of 50 has osteoporosis.
- 1 in 8 men over the age of 50 has osteoporosis.

Over 80% (8 out of 10) of fractures in people over the age of 50 are caused by osteoporosis. Some risk factors for osteoporosis are: a broken bone after age 40, family history of broken bones, low bone density (thin, weak bones), taking steroid medications (by mouth) for long periods of time, and older age.

How can I tell if I have osteoporosis?

You may not be able to tell that you have osteoporosis, but you may have:

- broken a hip, pelvis, wrist, rib or ankle
- spinal or vertebral fractures
- a loss of height – getting shorter
- back pain or feeling of tiredness in the middle of your back
- rounded shoulders – may have a hump in the back

Having any of these conditions could mean that you have osteoporosis.

Is there a test for osteoporosis?

Yes, it is called a bone density test. The medical name is Dual X-ray Absorptiometry, or DXA. This test is safe and painless. Your hip and spine are scanned by a machine as you lie on a table. The test measures the amount of mineral in your bone. Your doctor will also ask you if you have had any fractures/broken bones when figuring out if you have osteoporosis.

What is the treatment for osteoporosis?

The main treatment for osteoporosis is living a healthy lifestyle and taking medication. Doing both builds stronger bones!

Living a healthy lifestyle

- eat a variety of healthy and calcium rich foods, and take vitamin D
- limit alcohol to less than 2 drinks of alcohol, beer or wine a day
- limit caffeine to less than 3 cups of coffee, tea or cola every day
- stay active; regular exercise
- prevent another fall
- stop smoking – for support or help to stay smoke-free:
 - talk to a member of your health care team
 - contact Smoker's Helpline toll-free at 1-877-513-5333 or www.smokershelpline.ca

Taking medications

Some medications to treat osteoporosis are called Bisphosphonates. They work by slowing down the cells that break down bone, slowing down bone loss and allowing the bone to grow stronger.

For these medications to work, you need to continue to take calcium and vitamin D.

Bisphosphonates used in Canada that help prevent further hip fracture:

- Alendronate (Fosomax, Fosavance)
- Risedronate (Actonel), Actonel DR may be taken with food

Other medications may be used to treat osteoporosis. This depends on your medical history. These include:

- Raloxifene (Evista)
- Zoledronate Acid (Aclasta) – given by intravenous (IV) only once a year
- Denosumab (Prolia) – given by needle under the skin every 6 months

How to take a Bisphosphonate pills

- Take it either once a week or once a month. Your doctor or nurse will tell you how often you need to take it.
- Pills should be taken on an empty stomach. You may want to take the pills first thing in the morning when you wake up.
- Take pills with a full glass of water.
- Do not lie down or eat anything for ½ hour after taking.

What can increase my risk for having osteoporosis and breaking a bone?

You are at a higher risk for osteoporosis and breaking a bone if you have at least 4 of these risk factors:

- a woman over the age of 50
- a man over the age of 65
- have had a hip, spine and/or wrist fracture
- have a family history of osteoporosis

- have been through menopause (decrease in the hormone estrogen)
- have had your ovaries removed or menopause before age 45
- use certain medications such as steroids, thyroid hormone, anticonvulsants or heparin
- have a medical condition that causes bone loss

- do not get enough calcium from the food I eat
- do not get enough vitamin D
- do not get enough physical activity
- drink too much alcohol: have more than 2 drinks of alcohol, beer or wine a day
- drink too much caffeine: more than 3 cups of coffee, tea or cola every day
- smoke: ask your health care provider about helping you stop
- are at risk of falling

**People with healthier bones
live better lives – read on!**



Healthy Eating

Why is calcium important?

Calcium helps keep your bones strong. If your body does not absorb enough calcium from the foods that you eat, your body will take calcium out of your bones to get the amount it needs. This can cause you to lose bone.

How much calcium do I need every day?

The Osteoporosis Society of Canada recommends that people over 50 years old should get 1200 mg of calcium every day. It is best to try to get your calcium from the foods you eat. If you do not get enough calcium from food, you may need to take a supplement.

What foods have calcium?

Milk and milk products such as cheese and yogurt have a lot of calcium. Skim, 1%, 2% and whole milk have the same amount of calcium.

Table 1 shows the calcium values of some milk products. Talk with your dietitian about serving sizes or look at Eating Well with Canada's Food Guide.

Table 1

1 cup = 250 ml

Milk and Milk Products	Servings	Calcium (Approximate values)
Milk – whole, 2%, 1%, skim	1 cup	300 mg
Buttermilk	1 cup	300 mg
Cheese – Mozzarella	1 1/4" cube	200 mg
Cheese – Cheddar, Edam, Gouda	1 1/4" cube	245 mg
Yogurt – plain	3/4 cup (175 g)	332 mg
Ice cream	1/2 cup	80 mg
Cottage cheese – 2%, 1%	1/2 cup	75 mg

Source: <http://www.osteoporosis.ca/> (retrieved February 2016)

What if I cannot drink milk or eat milk products?

There are other foods that have calcium. Calcium is added to some drinks such as soy milk and orange juice. Look for the words fortified with calcium on the label. Other sources include canned salmon with the bones, tofu, kidney beans and lima beans. See Table 2 below.

Table 2

	Servings	Calcium
Fish and Alternatives		
Orange juice with calcium	1 cup	300mg
Soy drink with calcium	1 cup	300 mg
Salmon, with bones – canned	1/2 large can	240 mg
Sardines, with bones	1/2 can	200 mg
Soybeans – cooked	1 cup	170 mg
Tofu – with calcium sulfate	3 oz. (1/2 cup cubed)	130 mg
Almonds	1/4 cup	95 mg
Beans – lima, kidney, cooked	1 cup	50 mg
Breads and Cereals		
Muffin – bran	1 medium	84 mg
Bread – whole wheat	2 slices	40 mg
Fruits and Vegetables		
Figs – dried	10	150 mg
Bok choy	1/2 cup	75 mg
Broccoli – cooked	3/4 cup	50 mg
Orange	1 medium	50 mg
Banana	1 medium	10 mg

Calcium values are approximate

Source: <http://www.osteoporosis.ca/> (retrieved February 2016)

What can I do if I am not getting enough calcium?

Some people may not get enough calcium from what they eat and may need to take calcium supplements. Calcium supplements come as tablets, capsules, liquids and candies (soft chews). Talk with your health care provider about supplements such as calcium carbonate or calcium citrate.

Review all of your over-the-counter vitamins with your pharmacist.

Why is vitamin D important?

Vitamin D helps your body absorb calcium. If you do not get enough vitamin D, you can lose bone because your body is not able to absorb all of the calcium that it needs.

Your body can make its own vitamin D by being out in the sun, but often this is not enough. Older people and people with darker skin do not convert vitamin D from the sun as easily. During the winter in Canada the sun is not strong enough to produce vitamin D. Sunscreen, which is important to use, reduces the amount of vitamin D you make.

Foods that you eat can provide you vitamin D. Vitamin D is found in milk – about 100 IU per cup (250 ml). Small amounts are found in margarine, eggs, chicken, liver, salmon, sardines, herring, mackerel, swordfish and fish oils such as halibut and cod liver oils.

It is hard to get enough vitamin D from foods. A supplement is the best way to get Vitamin D. Calcium pills often have added vitamin D. Talk with your health care provider about supplements.

Osteoporosis Canada recommends that Canadians:

- age 19 to 50, include pregnant and lactating women, have vitamin D 400 to 1000 IU a day
- over the age of 50 have vitamin D 800 to 2000 IU a day

Can supplements cause constipation?

Yes. Some supplements, like calcium, can cause constipation. Pain medications can also cause constipation. Constipation is when you need to strain or push hard to have a bowel movement.

What can I do about constipation?

1. Eat fibre

Fibre is found in plant foods. Eating fibre helps add bulk to stool and makes it easier to pass. You need to eat 25 to 35 grams of fibre every day, which means 5 to 10 servings of foods that have fibre. Fibre is found in wheat bran, bran cereals, whole wheat bread, brown rice, vegetables and fruits.

2. Drink more fluids

Drink 8 glasses of fluid each day. The water in fluids helps to make stool soft and helps it to pass easier. Drinking water also helps the fibre to work better.

3. Keep active

Keeping active helps your bowels to move. Walking is a good way to keep active.

4. Talk with your health care provider

Talk with your health care provider about constipation. There are natural remedies and medications that can help you.

Keeping Active

Keeping active is part of a healthy lifestyle to build stronger bones. There are many exercises you can do depending on your health history. Community centres offer a variety of programs often at reduced rates for special groups such as seniors. Talk with your health care provider about how to get started and what types of exercises are safe for you to do.

Ways to stay active:

- walking – walk with friends in the mall
- hiking
- dancing
- climbing stairs
- water fit
- bowling
- gardening and raking leaves
- laundry
- cleaning the house
- exercise in a chair

Resistance exercises

You also need to include resistance exercises into healthy living. Resistance exercises move objects or your own weight to strengthen muscles and bone. It is important to talk to your health care provider before starting this type of exercise to know what is safe for you to do. Resistance exercises are done a few times a week or every other day. Some of these exercises are:

- lifting hand weights or exercise bands
- using a weight training machine
- pushing a swim noodle or paddles under water

Balance and posture exercises

Balance and posture exercises help you keep your body centred and coordinated to prevent you from losing your balance and falling.

Some of these exercises are:

- tai chi
- yoga
- stretching

How can I be active after breaking my hip?

As you recover and heal after surgery you will slowly get back to being active. The nurses and therapists will help you with getting started by showing you exercises that you can do while lying in bed and sitting in a chair. They will encourage you to walk and do more for yourself as you recover.

It hurts to move – can I control pain by staying in bed?

Staying in bed day and night is not a good way to control pain. You may become stiff and sore if you lie in bed too long. You quickly lose muscle strength, and tire more easily. If you want to get better, you need to be active.

There are ways to control pain with or without pain medication. Talk with your health care provider about ways to control your pain so you can keep active.

Ways to control pain without medication:

- physiotherapy
- occupational therapy
- massage
- using heat and ice
- TENS, a device which electrically stimulates nerves
- water therapy in swimming pools, hot tubs or whirlpools
- relax with deep breathing, imagery or progressive muscle relaxation
- meditation
- hypnosis
- acupuncture and acupressure
- fitness classes, such as yoga or tai chi

Some or part of these services may be covered by your insurance or OHIP.

Using medication to control pain

There are many medications available to control pain. A common pain medication is Acetaminophen (Tylenol). If you feel that the medication you are using is not helping your pain, talk with your health care provider.

Before taking pain medication ask:

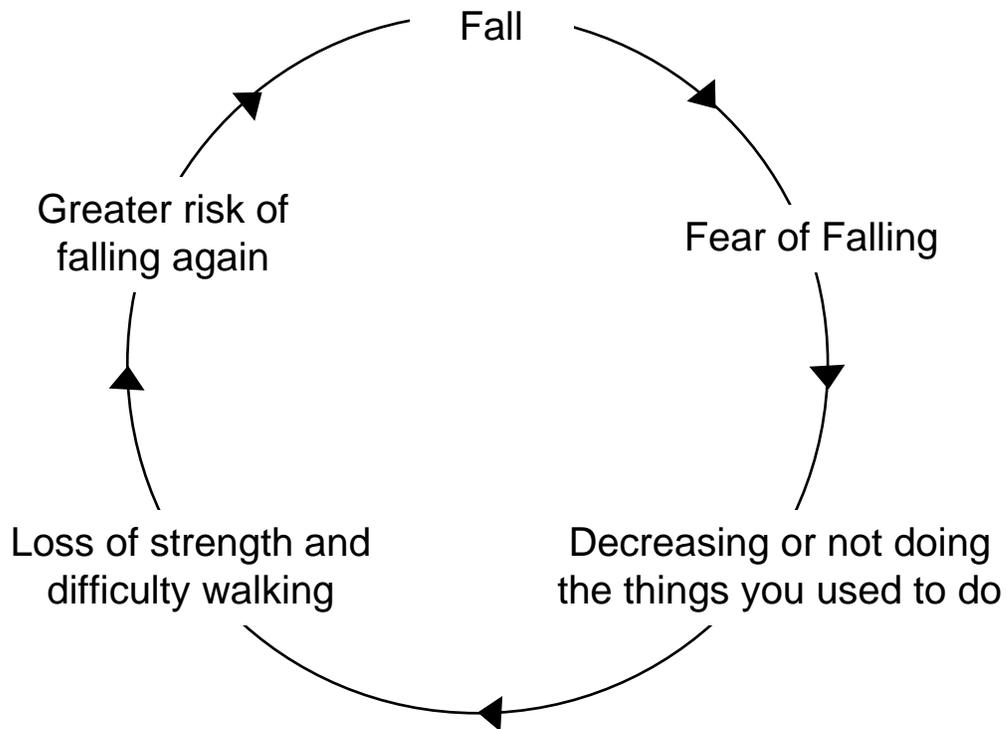
- How and when do I use this medication?
- Will this medication hurt me if I am taking other medications?
- What are the side effects? Taking more than one medication can make the side effects worse.

The most common side effects of pain medication are:

- Feeling dizzy, sleepy or confused. This could result in a fall.
- Constipation.
- Some medications may cause high blood pressure, an upset stomach or swelling in the legs.

Reduce the Risk of Another Fall

To reduce your risk of having another fall you need to break the fall cycle.



Reproduced with permission from "You Can Prevent Falls!" Brant County Health Unit, Brantford, Ontario.

Are you at risk for falling checklist

As you get older, your risk for falling increases. There are also other factors that can increase your risk of falling. These include:

- you are over the age of 65
- you have changes in your balance, strength or flexibility
- you have changes in your eye sight, hearing or memory
- you take more than one medication, including over-the-counter medications and herbal supplements

- you feel dizzy or light headed sometimes
- you have trouble walking or getting out of a chair
- you have had a fall or have almost fallen in the past
- you have a fear of falling

- you live alone
- you are not physically active
- you are not eating well
- you have no one to help you with household activities

If you are worried about falling talk with your health care provider about what you can do to prevent a fall. There are also things that you can do around your house to keep it safe and help prevent a fall.

To decrease your risk of falling at home

Bathrooms and kitchens

- Many floors are slippery such as ceramic and glossy hardwood. Floors can also get very slippery when they get wet. Wear non-slip footwear and wipe up spills!
- Take away any rugs or floor mats that slide easily.
- Keep food and things that you use often in an area where you can easily reach them. Do not stand on chairs or bend down to pick things off the floor. Use a long handled reacher to pick things up.
- Put grab bars in areas where you may have had a hard time getting up from either a sitting or lying position. You could put them near the bathtub, toilet or your bed.
- Do not use soap holders, towel racks, sinks or counter tops for support when getting in and out of the bathtub or getting on and off the toilet. They are not made to take your weight, and if your hands are wet they may be slippery.

Bedroom

- Keep a lamp within easy reach where you sleep and a night light on in case you need to get up at night. Make sure that the path to the bathroom is well lit and free of clutter.
- Use LED sensor lights in halls and rooms that automatically light up when you move.

Clothing and footwear

- Wear clothing that fits well. Loose clothing such as a long bathrobe or pants that fall below your ankle could cause you to trip.
- Attach a string to your glasses or keep your glasses by your bedside or chair. Put them on before you get up.
- Keep your glasses clean.
- Wear non-slip socks or shoes with rubber soles and flat heels. It is important to wear shoes that will not fall off your feet, even indoors. You should not walk around in stocking feet.

Other ideas to prevent falling

- Carpet and stair treads should be attached firmly to the floor. Old carpets with bald spots should be replaced.
- Avoid shag carpet or carpets with thick underpadding.
- Know where your pets are – you do not want to trip over them!
- Keep the floor clear of electrical and telephone cords.
- Have phones in each room or keep a cordless phone with you so you are not rushing to it when it rings.
- Do not rush to the bathroom. Wear pads if you lose urine sometimes.
- Keep pathways clear of ice and slippery surfaces. Avoid walking on ice.
- Use railings going up and down stairs.

Where You Can Get More Information

Osteoporosis Canada

For more information on osteoporosis. Free pamphlets. Books and videos can be purchased. Find out about support groups in your area.

Address: 1200 Eglinton Avenue East,
Suite 500
Toronto, Ontario M3C 1H9

Phone Toll-free: 1-800-463-6842 (English)
1-800-977-1778 (French)

Website: www.osteoporosis.ca
E-mail: osc@osteoporosis.ca

Hamilton-Burlington Chapter:

Address: 75 MacNab Street South
Hamilton, Ontario L8P 3C1

Phone: 905-525-5398
E-mail: hamilton@osteoporosis.ca

Help at home

Community Care Access Centre (Hamilton, Niagara, Haldimand, Brant)

This agency provides in-home nursing, physical and occupational therapy and homemaking at no cost. There is a high demand for their services. You may wait several weeks or months for help.

Address: 211 Pritchard Road
Unit 1
Hamilton, Ontario L8J 0G5

Phone: 905-523-8600
Toll-free: 1-800-810-0000
Website: www.healthcareathome.ca/hnhb/en

Clinics at St. Peter's Hospital

Falls Intervention Clinic

For seniors living in the community at high risk for falls.

and

Osteoporosis and Fracture Prevention Clinic

For people who have had a fracture or are at risk for having a fracture.

Address: St. Peter's Hospital
88 Maplewood Avenue
Hamilton, Ontario L8M 1W9
Phone: 905-777-3837, Ext. 12294
Fax: 905-549-7003

To attend these clinics you need a referral from your family doctor (may be faxed to the clinic). There is no age requirement.

At these clinics an assessment is done to figure out your risk for falling or having a fracture. Working with you and your caregivers, the staff will design a plan to help you prevent a fall and fracture. After this clinic, you may be referred to Physiotherapy or Occupational Therapy.

Exercise programs

YWCA of Hamilton

Bones Plus Program
52 Ottawa Street North
Hamilton, Ontario L8H 3Y7
905-522-9922
www.ywcahamilton.org

YMCA of Hamilton/Burlington/Brantford

Total Bone and Joint Health Program
www.ymcahbb.ca
Check your local listings for phone numbers.

Philips Lifeline

With Philips Lifeline, help is just a press of a button away. Live safely and independently in your own home knowing our monitors are available 24 hours a day, if assistance is needed.

Website: www.lifeline.ca
Phone: 1-866-784-1992

Health Canada

For more information on healthy eating, falls and keeping active. Free pamphlets and guides are available.

Toll-free: 1-866-225-0709
Fax: 1-613-941-5366
Website: www.hc-sc.gc.ca/
E-mail: Info@hc-sc.gc.ca

Dairy Farmers of Canada

For more information on healthy food choices and milk products.

Toll-free: 1-800-361-4632
Website: www.dairyfarmers.org

Home safety

Website: www.cmhc.ca

- Maintaining Seniors Independence: A Guide to Home Adaptations
- About Your House: Preventing Falls on Stairs

Medication management

Website: www.canadapharma.org

Search for the article “Knowledge is the best medicine”.

Nutrition

Eating Well with Canada’s Food Guide

Website: www.healthcanada.gc.ca/foodguide

Physical activity

Public Health Agency of Canada

Search for “physical activity for older adults”

Website: www.phac-aspc.gc.ca

Stay safe ...

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Old carpets with bald spots should be replaced.

Avoid shag carpet or carpets with thick underpadding.

Know where your pets are – you do not want to trip over them!

Keep the floor clear of electrical and telephone cords.

