

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.

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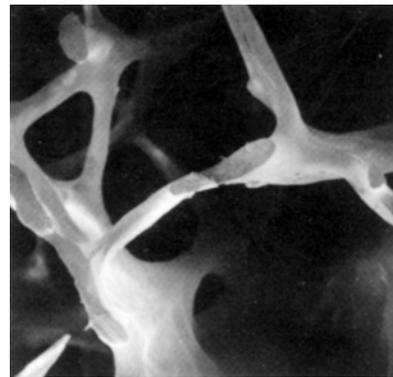
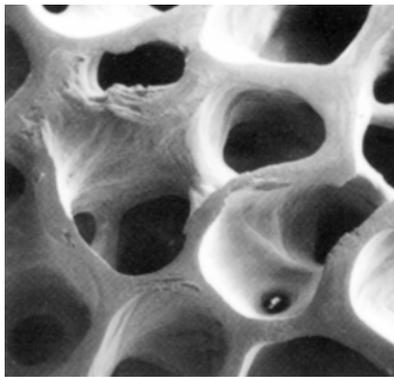
Osteoporosis and Broken Bones

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?

Osteoporosis is generally under diagnosed and so, we do not know exactly how many people have osteoporosis in Australia.

- It is estimated that around 924, 000 Australians have osteoporosis [self-reported data from the Australian Bureau of Statistics (ABS) 2017–18 National Health Survey] representing 3.8% of the population
- About 2 million more Canadians are at risk for getting osteoporosis.
- Osteoporosis is more common in women than men and in 2017–18, 29% of women aged 75 and over had osteoporosis compared with 10% of men.
- Osteoporosis affects over 1 in 4 women aged over 75

The **4 most common** risk factors for osteoporosis are: a broken bone after age 40, family history of broken bones, low bone density (thin, weak bones) and older age.

Data above is from the Australian Institute of Health & Welfare. See [link](#) (last updated 25 AUG 2020). Accessed 1 MAR 2021.

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.

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; undertake 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 Quitline for help to quit smoking. Call the hotline on 13 QUIT (13 7848), to talk to a counsellor or request a call-back. Note, the Quitline offers an online chat service and has resources for health professionals. Visit their website for more information:
<https://www.health.gov.au/contacts/quitline>.

The Quitline is a service provided by the Anti-Cancer Council Victoria.

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 Australia that help prevent further hip fracture include:

- **Alendronate tablets** (brand names Fosamax, Adronat, Alendro, Fonat), which can be taken either once per week or once daily;
- **Risedronate tablets** (Actonel, Acris), taken either once per week, once per month or once daily; and
- **Zoledronic acid** (e.g. Aclasta, Ostira), which is given as an infusion via or a drip into a vein (intravenously) once per year.

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

- **Denosumab** (Prolia) – given by needle under the skin every 6 months
- **Raloxifene** (Evista) - used as an alternative to bisphosphonates or denosumab in postmenopausal women with osteoporosis; raloxifene tablets are taken once daily.

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 the pills with a full glass of water.
- Do not lie down or eat anything for ½ an hour after taking your pills

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, you:

- are a woman over the age of 50
- are 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 went through 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 you 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?

Healthy Bones Australia (formerly called Osteoporosis Australia) recommends that adults get 1000mg of calcium per day. Women over 50 years old should get 1300 mg of calcium every day. Men 70 years of age or older should also have 1300mg of calcium per day.

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 and whole milk have the same amount of calcium.

Table 1 shows the calcium values of some milk products.

Table 1

1 cup or 1 glass = 250 ml

Milk and Milk Products	Servings	Calcium (Approximate values)
Milk – whole, 2%, 1%, skim	1 glass	300 mg
Buttermilk	1 glass	285 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)	295 mg
Ice cream	1/2 cup	80 mg
Cottage cheese – 2%, 1%	1/2 cup	75 mg

Source: Published by the Osteoporosis Society of Canada, April 2000.

What if I cannot drink milk or eat milk products?

A number of other foods also 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 of calcium include canned salmon with bones, tofu and kidney beans. See Table 2 below and the link below.

Table 2

	Servings	Calcium
Fish and Alternatives		
Orange juice with calcium	1 glass	300mg
Soy drink with calcium	1 glass	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

Source: Published by the Osteoporosis Society of Canada, April 2000. Note calcium values are approximate.

For more detailed overview of calcium in foods and one-page printable table see this [link](#) on the Healthy Bones Australia website.

For a selection of calcium rich recipes see this [link](#) on the Jean Hailes website.

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 doctor about taking supplements such as calcium carbonate or calcium citrate.

At the same time, you should review all of your over-the-counter vitamins with your Doctor or Pharmacist.

Why is vitamin D important?

Vitamin D helps the body absorb calcium from the intestine. Vitamin D is also involved in supporting growth and maintenance of the skeleton and regulating calcium levels in the blood. If you do not get enough vitamin D, you can lose bone tissue because your body is unable to absorb all of the calcium that it needs.

The main source of vitamin D is from exposure to sunlight. Vitamin D is produced when our skin is exposed to ultraviolet B (UVB) light from the sun. A small amount of sun exposure is needed to produce adequate levels of vitamin D.

In Australia, exposure times required for vitamin D production vary, based on the seasons and location. Your skin type and the amount of skin exposed to the sun also affects the amount of sun needed for healthy bones. It is important to balance the need for sun exposure while avoiding sun damage to the skin. The Australian Cancer Council advises when the UV Index is 3, or above, sun protection is required if outdoors, for more than a few minutes. A few minutes mid-morning or mid-afternoon (outside UV Index 3 or above) is generally adequate for vitamin D production in summer. Longer exposure times are needed in winter. Sunscreen, which is important to use, reduces the amount of vitamin D you make. Talk to your doctor about optimal sun exposure times.

Certain foods provide vitamin D. For example, vitamin D is found in milk and there is about 100 IU of vitamin D per cup (250 ml). Small amounts of vitamin D are found in margarine, eggs, chicken, liver, salmon, sardines, herring, mackerel, swordfish and fish oils such as halibut and cod liver oils.

Even though the body can make its own vitamin D and get vitamin D from food, sometimes the amount made often is not enough. Older people and people with darker skin do not convert vitamin D from the sun easily. According to Healthy Bones Australia around 30% of Australian adults have a mild, moderate or severe deficiency of vitamin D.

For some people a supplement is the best way to get enough Vitamin D. Calcium pills often have added vitamin D. Healthy Bones Australia recommends a vitamin D supplement intake of 600 - 2000 IU per day, depending on a person's individual circumstances. You should always talk with your doctor before commencing any supplements, including Vitamin D supplements.

For more information about Vitamin D see this [link](#) at Healthy Bones Australia.

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?

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.

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.

Keep active

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

Talk with your health care provider

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

For more information about fiber, see this [link](#) from Nutrition Australia.

Keeping Active

Keeping active is part of a healthy lifestyle to build stronger bones. There are many exercises you can do, to strengthen your bones, depending on your health history.

Community centres often offer a variety of programs, often at reduced rates, for special groups such as seniors. Talk with your doctor 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 for healthy living. Resistance exercises move objects or use your own weight to strengthen muscles and bone. It is important to talk to your doctor 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.

Balance and posture exercises include:

- 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. This process is called rehabilitation. Your health care team 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 will also 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 doctor and health care team 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 health insurer, if you have private health insurance.

Using medication to control pain

There are many medications available to control pain. A common pain medication is paracetamol (Pandaol). 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:

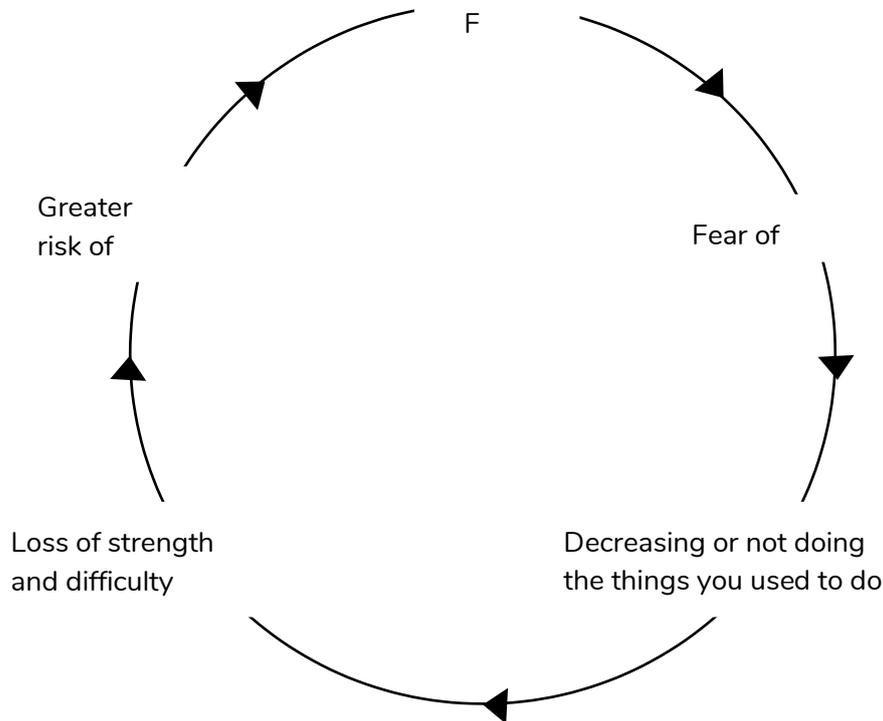
- How and when do I use this medication?
- Will this medication hurt me if I am taking other medications?
- What are the side effects? Taking more than one medication can make the side effects worse.

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.

Checklist - Are you at risk for falling?

As you get older, your risk for falling increases. Other factors can also increase your risk of falling. These include:

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

- you sometimes feel dizzy or lightheaded
- 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 doctor about what you can do to prevent a fall.

There are also a number of things that you can do around your house to keep it safe and help prevent a fall.

Things you can do 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 immediately!
- 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 a sitting or a lying position. For example, 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 answer the phone when it rings.
- Do not rush to the bathroom. Wear pads if you lose urine sometimes.
- Keep pathways clear of water and slippery surfaces.
- Use hand rails when going up and down stairs.

Stay safe ...

- ✓ 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.



Get More Information

Healthy Bones Australia (formerly Osteoporosis Australia)

For more information on osteoporosis including downloadable pamphlets, a newsletter subscription, finding services near you and other advice.

Helpline: 1 800 242 181 (Free call)

Website: <https://healthybonesaustralia.org.au>

Strength Training for Older Adults

COTA (Council on the Aging) Victoria partners with organisations across Victoria to provide strength training programs specifically for older people. Strength training means using weights, like hand weights, machines or just your own body weight, to build muscle strength and endurance. Strength training helps you to stay active and independent as you age.

Live Longer Live Stronger™ strength training programs are offered at community health centres, fitness and leisure centres and neighborhood houses across Victoria.

Check the provider map or search the venue lists on COTA's website ([link](#)) to find your nearest venue.

For help or more information, call: 1300 13 50 90

Email: lls@cotavic.org.au.

Website: <https://www.cotavic.org.au>

Older People Preventing Falls at Home

Downloadable leaflet from the Better Health Channel. Discussion points include:

- Falls as a major cause of injury for older people.
- Falls as an indicator of deteriorating health.
- Exercising to maintain strength and balance.
- Taking precautions in and around the home to avoid falls and injuries from falls.
- Use of monitoring or personal alert systems or services to give older people independence and peace of mind.

See <https://www.betterhealth.vic.gov.au/health/healthyliving/falls-prevention-at-home>. Accessed 1 MAR 2021

My Aged Care

For finding out how to access help around the house or to explore aged care homes, see the Australian Federal Government's My Aged Care website. This website is a useful starting point, for information about services and funding that you can access.

Helpline: 1800 200 422 (Free call)

Website: <https://www.myagedcare.gov.au>