

18th October 2021



## Bone Health

Bone is living tissue with its own blood and nerve supply. A healthy skeletal structure keeps the body intact. The core of bone provides enough strength to withstand fracture when falling from your own body height but is light enough to move easily. Bone renews itself constantly; cells in your body remove the old bone and replace it with new bone.

## What do we mean by “bone health”?

In healthy bone, up to the menopause, the production of new bone happens more than the removal of old bone, but the opposite happens after menopause. After your last menstrual period, your ovaries stop the production of the hormone estrogen. This leads to increased removal of bone which results in decreased bone strength. Age-related changes also lead to increased removal of bone.

People are living longer and therefore the amount of people suffering from poor bone health is increasing. This can significantly affect their day-to-day functioning, quality of life, ability to live independently, life expectancy and places a huge burden on health care systems.

## What is osteoporosis?

Osteoporosis is diagnosed when bone health deteriorates to such an extent that it reduces bone strength. This can cause a fracture of the forearm, spine or hip when falling from own body height, which could reduce quality of life and increase risk of death.

Osteoporosis as such does not cause symptoms until you break a bone. That is why it is referred to as a “silent disease.” Prevention of osteoporosis related fractures is the main reason why we should care about bone health. Previously, osteoporosis was only diagnosed when a fracture occurred.



We can predict the risk of fracture by the presence of risk factors. Such risk factors include:

- a recent fracture
- low body mass index
- family history of hip fracture
- rheumatoid arthritis
- type 1 diabetes
- early menopause
- smoking and abuse of alcohol
- sedentary lifestyle
- estimation of bone mineral density by a test called DXA

Your health care practitioner will be able to combine the presence or absence of these risk factors to make a risk prediction of fracture over the next 10 years. This may trigger the need for specific medication to restore bone strength before a fracture occurs. Reducing your risk of fracture could extend the quality and length of your life.

## What is sarcopenia?

Sarcopenia is a newer concept that incorporates the inevitable loss of muscle mass, muscle strength and performance as we age. When sarcopenia exists as well as osteoporosis, a woman's risk of breaking a bone is greatly increased.



## What can I do to keep my bones healthy?

A bone-friendly lifestyle includes the following:

- Optimise dietary intake of calcium by using a calcium calculator (available online) and only supplement with calcium tablets if unable to do so by eating foods rich in calcium such as milk, yogurt, and green leafy vegetables.
- Optimise blood levels of Vitamin D. This is closely associated with sunlight exposure but can be measured by a standard blood test. Vitamin D deficiency can be corrected with supplements.
- Dietary intake of 1 gram protein daily per day.
- Weight bearing exercise (such as walking) for 30 minutes most days of the week.
- Add balance exercises and strength training when possible.
- Avoid smoking.
- Limit the amount of alcohol you drink.



## Fall prevention

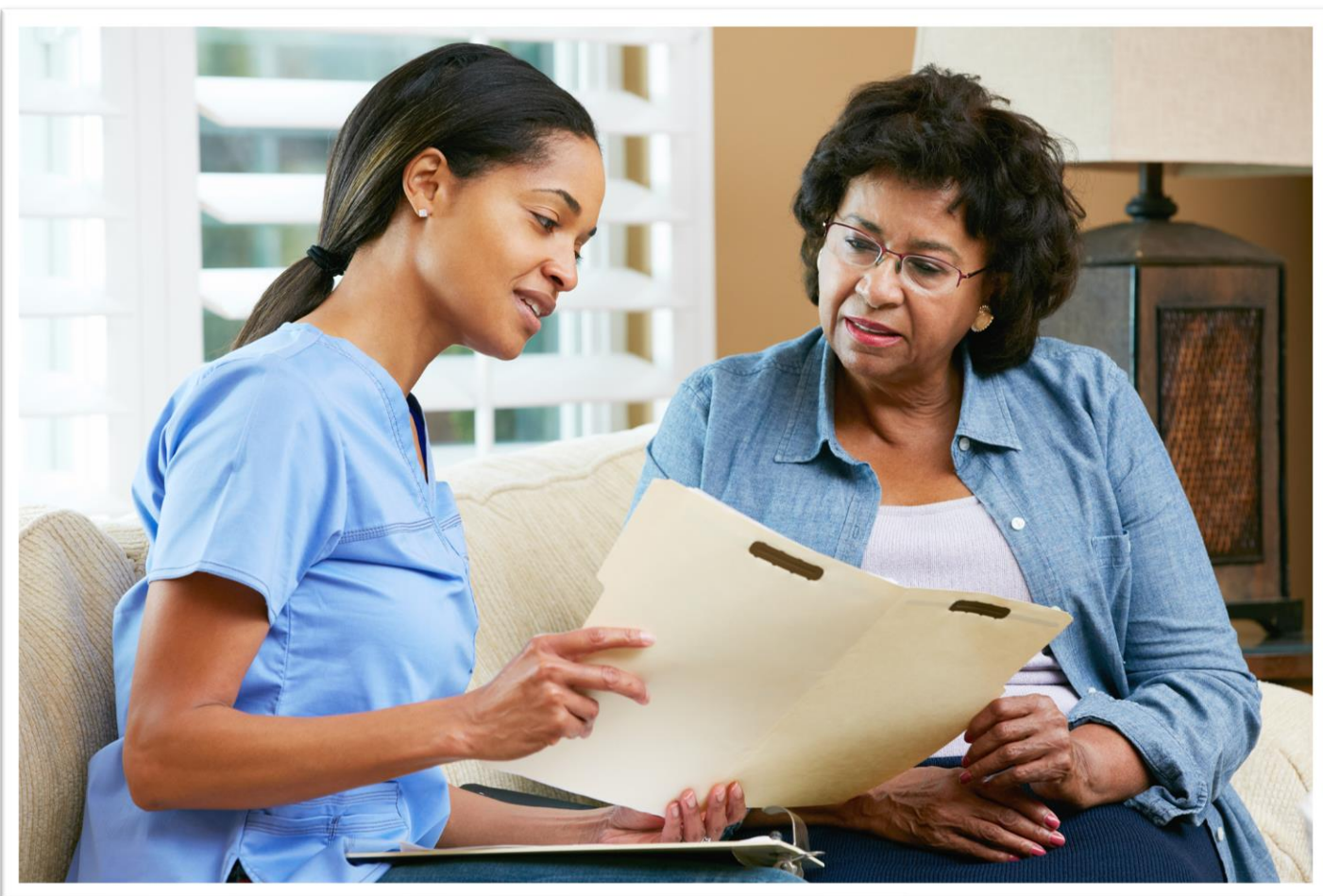
A big component of bone health as one ages is reducing the chances of falling. In order to do that you should:

- Make sure all rugs have a non-slip backing.
- Make sure all walkways are well lit.
- Watch out for slippery areas, especially ice.
- Consider wearing shoes with rubber soles.
- Maintain the best possible vision that you can.
- Engage in balance exercises and muscle building strength training.
- Ask your healthcare provider whether any of your medications might cause dizziness or increase your risk of falling.



## Are there medical treatments to keep my bones healthy?

For some patients, hormone replacement therapy in menopause is very effective in maintaining bone health. A number of other non-hormonal medications have been developed that specifically target keeping bones strong. Such decisions are made on a very individual basis, and you should discuss this with your healthcare provider.



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