

# Osteoporosis Management



## What is Osteoporosis?

Osteoporosis is a medical condition where bones become porous, weak, brittle and prone to fracture (crack or break) as compared to normal bones. Even a minor injury or fall can cause a serious fracture. The most common osteoporosis fracture sites are bones at the hip, spine, wrist, ribs, pelvis and upper arm.

Hip fractures in particular can have serious consequences. **1 in 3** individuals who sustain a hip fracture experience significant functional decline and become dependent on others for daily activities. **1 in 5** individuals dies within a year following a hip fracture.

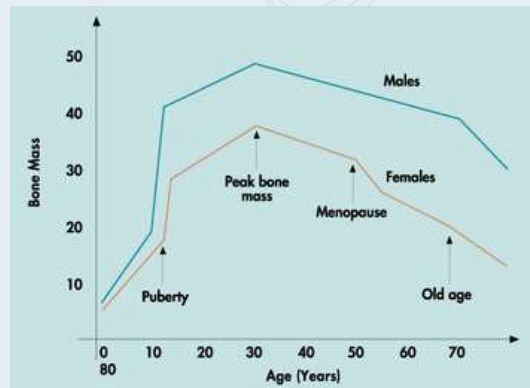
With an ageing population, osteoporosis is becoming an increasingly common and important health concern.

## How does it occur?

Osteoporosis occurs when bone loss occurs faster than bone production. During childhood & adolescence, bone production is more active than bone loss.

Our bones achieve peak bone mass at the age of 30.

Between ages 30 to 50, your bone mass does not change significantly but it is still important to maintain adequate calcium intake. After the age of 50 years in women and 65 years in men, bone loss starts to occur rapidly and it is important a high calcium diet and keep bones strong and healthy.



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## Who are at Risk?

You are more likely to have osteoporosis if you have the following risk factors. Women are at a higher risk for osteoporosis. However, men can get osteoporosis too!

### Modifiable (controllable) risk factors:

- Poor Nutrition
- Lack of calcium and Vitamin D in the diet
- Lack of regular exercise
- Smoking
- Alcohol

### Non-Modifiable risk factors:

- Age of more than 65 years
- Family history of osteoporosis
- Women who are post/ peri-menopause
- Women who had ovaries removed before the age of 45 years old
- Medications such as corticosteroids, gastric medications that contain aluminum or proton pump inhibitor, seizure medications



## What are the signs of osteoporosis?

Osteoporosis is a “silent” disease that usually has no warning during the early stage. But during the late stages, you may experience:

- Back pain
- Loss of height over time, with a stooped posture
- Fractures of the spine, wrist, hip or other bones



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## Tips & Tricks to protect your bones:

### Have a balanced diet

A balanced diet will provide your body with enough nutrients, including calcium, to build strong bones. The key is to eat a variety of different food groups in moderation



### Calcium intake tips

- Add skimmed milk powder or low-fat milk to soups, coffee, milo and soy drinks.
- Choose low-fat dairy products that contain as much calcium as normal products
- if you prefer soy drinks, look out for the ones labelled as fortified with calcium

### Lactose Intolerance tips

- Choose lactose free or reduced lactose products
- "Good" bacteria in yogurt helps digest lactose
- Include other non-dairy calcium rich foods in your diet

## Calcium-rich food

Your body needs calcium to keep your bones strong and to help your muscles and nerves work properly. Most of the calcium in your body is stored in your bones. If you do not get enough calcium from your diet, your body will take calcium from your bones, which can weaken them over time.

The amount of calcium you need depends on your age, whether you have gone through menopause, and your vitamin D level. It is important to get enough calcium each day based on your stage of life.

If you cannot get enough calcium from food alone, calcium supplements may help. Always speak to your doctor or dietitian before taking supplements, as they can cause side effects such as constipation.



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## Tips & Tricks to protect your bones:

### Vitamin D intake

Vitamin D strengthens your bones by increasing the absorption of calcium and regulating the amount of calcium in your blood.

There are a few ways that you can increase Vitamin D in your body:

- Food such as salmon, liver, eggs, cod liver oil, margarine, low-fat milk
- 15-30 minutes of daily sunlight exposure is the best way to obtain sufficient Vitamin D. However, do avoid outdoor activities during the hottest periods of the day
- Vitamin D supplements are good substitutes as well if you are unable to go outdoors or consume Vitamin D rich foods



### Top 10 Vitamin D3-Rich Food



Fatty Fish



Cod Liver Oil



Mushrooms



Egg Yolks



Fortified Foods



Beef Liver



Cheese



Tofu



Yogurt



Pork

### How much do we need?

|                  | Boys & girls | Men & women | Men & women  | Pregnant or breastfeeding |
|------------------|--------------|-------------|--------------|---------------------------|
| Age              | 10-18        | 19-50       | 51 and above | -                         |
| Calcium (mg/day) | 1000         | 800         | 1000         | 1000                      |
| Vitamin D (IU)   | 600          | 600         | 800          | 600                       |

Please discuss with your doctor or dietician should you require calcium & Vitamin D supplements.

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## Tips & Tricks to protect your bones:



### Say no to Smoking

Smoking causes bone loss and early menopause in women. If you do not smoke, don't start. If you are trying to quit smoking, please call HPB's experienced quit advisor at **1800 438 2000**

### Limit Alcohol

Alcohol is also harmful to your bones. Excessive consumption can reduce bone formation and the body's ability to absorb calcium.

Quantifying intake limits:

**Men:** Not more than 3 standard drinks /day

**Women:** Not more than 2 standard drinks /day

### Physical Activity

Nutrition alone is not enough to promote strong and healthy bones in the long run. Physical activity is just as important in reducing the risk of developing osteoporosis. It is highly encouraged to exercise 5 days a week for at least 30 minutes, at moderate intensity to maintain good health.

Bone building exercises such as weight bearing and resistance exercises (strength training) are important in maintaining good bone health.

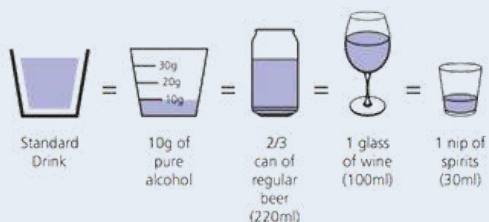
### Examples of exercises

#### Weight bearing exercises:

- Tai Chi
- Brisk walking
- Jogging
- Dancing
- Stair climbing
- Racquet sports

#### Resistance exercises:

- Push-ups
- Weight training
- Free weights or weight machines



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## How is osteoporosis detected?

Routine X-rays cannot detect osteoporosis unless it's quite advanced or the bone fractured. The best way to accurately detect osteoporosis is to carry out a Bone Mineral Density (BMD) test to measure bone density at various sites like your hips and spine.

The BMD test is a simple and non-invasive procedure like X-ray to measure bone mass. You should consider a BMD test if:

- You are on prolonged use of steroids (i.e. prednisolone & dexamethasone)
- You have family history of hip fracture
- You are immobilised for a long period of time
- You had a previous fracture due to a fall
- You reached menopause before age 45
- You are over 65 years old

Please approach your doctor if you think you need a BMD test.

## Self Assessment

You may use Osteoporosis Self Assessment Tool (OSTA) to assess your risk for osteoporosis.

| Age (Yr) | Weight (kg) |       |               |       |       |          |       |       |
|----------|-------------|-------|---------------|-------|-------|----------|-------|-------|
|          | 40-44       | 45-49 | 50-54         | 55-59 | 60-64 | 65-69    | 70-74 | 75-79 |
| 45-49    |             |       |               |       |       |          |       |       |
| 50-54    |             |       |               |       |       | Low Risk |       |       |
| 55-59    |             |       |               |       |       |          |       |       |
| 60-64    |             |       |               |       |       |          |       |       |
| 65-69    |             |       | Moderate Risk |       |       |          |       |       |
| 70-74    |             |       |               |       |       |          |       |       |
| 75-79    | High Risk   |       |               |       |       |          |       |       |
| 80-84    |             |       |               |       |       |          |       |       |
| 85-89    |             |       |               |       |       |          |       |       |

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## Understanding your OSTA score



### Understanding your OSTA score

| Risk Category | What does it mean?                                                                                                                                                                                                | What must you do?                                                                                                                                                               |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High          | Your risk of having osteoporosis is <b>HIGH</b> . About <b>61%</b> of individuals in the high-risk group have osteoporosis. Consult your doctor to have your bone mass checked.                                   | In addition to a diet with adequate calcium and regular weight-bearing exercises, you may require medicine/supplements to strengthen your bones.                                |
| Moderate      | Your risk of having osteoporosis is <b>MODERATE</b> . About <b>15%</b> of individuals in the moderate-risk group have osteoporosis. See your doctor to determine whether you have any other risk factors.         | In addition to a diet with adequate calcium and regular weight-bearing exercises, you may need to change your lifestyle (quit smoking, drink less alcohol) to reduce your risk. |
| Low           | Your risk of having osteoporosis is <b>LOW</b> . Only about <b>3%</b> of individuals in the low-risk group have osteoporosis. However, if you have any of the risk factors listed on page 3, please see a doctor. | You still need to maintain a diet with adequate calcium and do regular weight-bearing exercises to maintain bone mass.                                                          |

***Osteoporosis is preventable!***  
***Make simple changes to your lifestyle today to reduce your risk.***

- Eat a well-balanced diet with adequate calcium and Vitamin D
- Do regular weight-bearing exercises
- Avoid smoking
- Limit alcohol intake



# Osteoporosis Management



Learn how to manage your condition with us today!

## Meet Our Professionals



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