

Osteoporosis

What is osteoporosis?

Osteoporosis is a condition where there is a decrease in the mass and strength of the bone. This makes a person more vulnerable to fractures of the spine, hips and wrist.

Who gets osteoporosis?

Osteoporosis affects 20% of women over the age of 45 and 40% of women over the age of 75. Men are also affected as they grow older.

What causes osteoporosis?

From childhood to early adulthood, more bone is formed than absorbed in our body. After age 35, the body starts to lose very small amounts of bone. After menopause, women will lose bone much more rapidly due to the decrease in estrogen levels. This bone loss will result in reduced bone strength.

What is it like to have osteoporosis?

Osteoporosis can be painful, disfiguring and debilitating. The spine can collapse and lead to a stooped posture and a humped back. When a person falls, the hips, spine, and wrists are easily broken.

What factors may make a person more likely to develop osteoporosis?

The following are risk factors for developing osteoporosis:

- Early menopause before the age of 45 – either naturally or after the surgical removal of the ovaries
- High intake of alcohol (more than 2 drinks a day) or caffeine
- Cigarette smoking, high caffeine or aerated drinks intake
- Low dietary calcium intake
- Lack of exercise, particularly those that use the long bones, such as walking
- Some medications, such as long term corticosteroids
- Some medical conditions such as thyroid disease, disorders of the intestines and kidney

How do you detect osteoporosis?

Osteoporosis can be detected on plain X-rays and special bone scans such as dual energy X-ray densitometry.

How do you treat and prevent osteoporosis?

Prevention is better than cure. The following are good measures that can be taken to prevent osteoporosis:

- Adequate dietary calcium intake – eat more dairy foods like cheese, milk, and foods high in calcium including sardines, almonds
- Avoid smoking
- Avoid heavy alcohol use
- Adequate weight bearing exercises e.g. walking, jogging at least 3 times a week for at least 20 minutes each time

Calcium and vitamin D supplements should be given to all postmenopausal women. This has been shown to reduce bone loss and prevent osteoporotic fractures.

In a postmenopausal woman with established osteoporosis, medications like biphosphonates (alendronate or etidronate) and calcitonin as well as raloxifene can be used and are effective and safe.

Calcium content of various foods:

Milk	1 cup	290-300mg
Swiss cheese	1 slice (oz)	250-270
Yogurt	1 cup	240-400mg
Ice cream	½ cup	90-100
Sardines in oil with bones	3 oz	370 mg
Tofu	4 oz	145-155
Egg	1	55
Turnip greens/kale	½ cup cooked	90-100 mg

Exercises and Osteoporosis

- Exercise increases bone density
- Disuse such as in prolonged bedrest or even in astronauts causes bone loss
- Brisk walking 20 minutes 4 times a week
- Resistance training (hip extensions, lumbar extensions, leg extensions and presses, pullove, torso arm/ rowing, arm cross, lateral raise, chest presses) 15 repetitions
- Avoid risky movements such as heavy lifting, bending, high impact.

Who should have a bone density scan?

- Post-menopausal women – definitely if older than 65 years and consider if 50-65 years
- Any adult with one or more fragility fractures (vertebral spine, etc)
- Anyone with vertebral abnormalities/ deformities
- Chronic steroid use
- Primary hyperparathyroidism
- Family history of osteoporosis
- Thyroxine use
- Height loss
- Fractures with mild or disproportionate injuries