



Osteoporosis

What is osteoporosis ?

Osteoporosis is globally the most common metabolic bone disease. Osteo means bone and porous means pore. Osteoporosis means loss of bone density.

What are the types of Osteoporosis? Which type do I have?

Our bones are made up of outer dense cortical bone and inner less dense trabecular bone. Type 1 (early) osteoporosis is characterised by excessive loss of trabecular bone. Type 2 (senile) osteoporosis is characterised by loss of both trabecular and cortical bone which is usually an age related disease. Ask your doctor for the type of osteoporosis.

What are the symptoms of osteoporosis?

Decrease in bone density is usually painless and is diagnosed mostly after patient has sustained a fracture. This is important as in view of lack of symptoms, you may presume you have no osteoporosis even when diagnosed by your physician.

What are the possible complications with osteoporosis?

As long as our bone density is normal, our bones are resilient to low trauma fractures. If bone density decreases there is high risk of fractures even with a minor fall. Ask your doctor what are the chances of fracture?

What are the common sites of osteoporotic fractures?

Common sites include are hip, spine, wrist and ankle.

Why is osteoporosis prevention important ?

- 50% of fractures in the world occur in Asia
- Beyond 50 years one in three females and one in five males sustain fractures due to osteoporosis.
- After sustaining an osteoporotic hip fracture 20-25% die within an year.
- A global survey brought out an interesting fact that number of days spent in hospital is more for osteoporosis and its complications in comparison to the much feared cancers and cardiac ailments.

Who are at risk for osteoporosis ?

The following populations are at risk for developing osteoporosis and need to be aware about the screening and treatment options available.

1) Elderly



- 2) Post menopausal women
- 3) Low Body Mass index (BMI)
- 4) Addictions - smokers and chronic alcoholics
- 5) Patients suffering from Rheumatological diseases like Rheumatoid arthritis, Ankylosing spondylitis, Psoriatic arthritis, Lupus and many more
- 6) Use of steroids
- 7) Chronic endocrine diseases like thyroid disorders, diabetes and hyperparathyroidism.
- 8) Malabsorption like celiac or Inflammatory Bowel Disease

What are the Screening methods for detection of osteoporosis ?

Dual energy X-ray absorptiometry (DEXA) scan is currently the method adopted for measuring bone mineral density. There are two types of DEXA scan - peripheral DEXA which are inaccurate handheld devices used for mass screening purposes and Central DEXA which is an accurate measure of bone mineral density. DEXA scan results are interpreted by your doctor in conjunction with the clinical scenario.

Tips for prevention of osteoporosis

Diet

It's high time we love our bones. Our bones love calcium. Hence the habit of intake of high calcium in diet must start from childhood. Foods rich in calcium are easily available like eggs, milk, curd, cheese, almonds, fish, coconuts, soya, oranges and greens.

Vitamin D

Vitamin D is considered now to be more of a hormone than just a vitamin. It plays a major role in maintaining good bone health. Even a diet rich in calcium becomes useless if our body does not have adequate vitamin D. One and only source of vitamin D that is available in plenty all around us is the sunlight. On exposure to sunlight, human skin synthesizes vitamin D which is vital for bone health. So daily exposure to sunrays for at least 20-30 minutes must become a routine habit for all who want their bones to be strong.

Habits

- avoid smoking
- restrict coffee or tea to a maximum of two small cups a day, as excess intake decreases the calcium absorption
- alcohol >14 units (women) >21 units (men) per week accelerates loss of bone density.



- simple exercises 30 minutes a day for atleast 5 days a week will improve bone strength.

Do's and Dont's to prevent falls in elderly

It is of utmost importance to avoid falls in elderly to prevent fractures of hip bone which is the most dangerous fracture beyond 65 years of age in view of the associated mortality and morbidity.

DO'S

ensure proper vision

good lighting in the room

night lamps

use cane/crutches/walker/hand railings/modified foot wear according to individuals needs for effective mobilisation

use railings for cot to prevent accidental fall from bed

DONTS

avoid walking on slippery and polished surfaces

avoid walking fast

avoid high heels

never let mobility restricted people unsupervised or unattended for long periods

Treatment

"Rheumatologist" **and endocrinologist** are the specialists who usually treat once osteoporosis develops. Therapeutic options for osteoporosis treatment include drugs like oral and intravenous bisphosphonates, hormones like teriparatide and calcitonin, monoclonal antibodies like denosumab. Calcium and Vitamin D supplements according to the severity of the disease is a part of every osteoporosis prescription. These drugs need to strictly taken only under medical supervision.

Those at risk should follow doctors advice on prevention of osteoporosis.