

Do you want to know?

Osteoporosis

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What is it?

Osteoporosis is a disorder characterized by a decrease in the quantity and deterioration in the quality of bones, resulting in deterioration of bone strength and increased fragility and susceptibility to fractures.

Bone mass increases gradually from birth. It reaches its peak by age 20–30 years. After peak bone mass is achieved, slow bone loss takes place in both men and women at an accelerated rate in women after menopause. Osteoporosis can be the result of having achieved a low peak bone mass, having experienced accelerated bone loss, or a combination of both.

What do you need to know?

Population at risk of osteoporosis and osteoporotic fractures

People at higher risk are

- People with family history of osteoporosis
- Elderly men and women
- Postmenopausal women, especially those with early menopause
- Thin people
- Smokers
- Heavy alcohol consumers
- Astronauts, immobilized people and those having a sedentary lifestyle
- People who do not have adequate calcium intake throughout life
- People who have medical conditions associated with accelerated bone loss such as chronic intake of cortisone, hypogonadism (low levels of male hormone), kidney failure, Cushing's disease (hormone disorder), hyperparathyroidism (over production of parathormone by the parathyroid glands), hyperthyroidism (excessive secretion of thyroid hormone), and chronic intake of drugs for epilepsy (convulsion).

Bone density test is indicated in the following individuals

- 65 year-old people and older
- A patient with fragility fracture
- Patient on chronic cortisone therapy
- Patient with bone mineralization by X-rays
- Patient with a chronic disease known to increase bone loss
- A man with hypogonadism (low levels of male hormones)

Symptoms

Osteoporosis is a silent disease until a fracture occurs. It can be manifested by

- Bone fracture after minor trauma
- Loss of height and kyphosis (hump) may be due to compression fracture of the vertebrae
- Demineralized bone that may be evidenced by X-rays.

Treatment options

Several treatments help maintain or increase bone mass

- Adequate intake of calcium and vitamin D is recommended in all cases
- Bisphosphonates [oral bisphosphonates available are Alendronate (Fosamax) and Risedronate (Actonel)]. They are available on both daily and weekly doses]. In case of gastrointestinal intolerance of oral bisphosphonates, other bisphosphonates such as Pamidronate (Aredia) can be given through intravenous infusions periodically.
- Serum Estrogen Receptor Modulators (SERM) such as Raloxifene (Evista)
- Calcitonin (Miacalcic)
- Estrogen replacement therapy in select patients
- Testosterone replacement therapy in hypogonadal men
- Anabolic agents: Parathormone (Forteo)

The content of this educational leaflet is of general information. Ask your physician or health care provider if this content applies to you.

Prepared by the Nursing Services in coordination with other health care disciplines.

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- Take the medications only as prescribed by your physician.

Considerations



- Always apply universal measures that prevent bone loss
 - Quit smoking
 - Avoid excessive alcohol intake
 - Follow a regular exercise program. Weight bearing exercise such as walking and running are the most beneficial
 - Avoid excessive weight loss
 - Make sure that you are eating the recommended daily levels of dietary calcium. Calcium is important because in the event of low calcium, the body draws calcium from bones to keep the calcium level in blood normal. It is therefore important to consume the daily required quantity of calcium for age. This can be achieved either by taking calcium-rich foods or calcium tablets. The recommended daily dose of calcium is between 1000 and 1500 mg, depending on age, menopausal status, and intake of hormone. Check with your physician on the exact dose
 - Make sure that you are eating the recommended daily levels of vitamin D. Vitamin D is essential for calcium absorption through the intestine. The recommended dose of vitamin D needed to prevent bone loss varies between 400 and 800 IU, depending on the patient's age and medical condition. This can be achieved through the intake of vitamin D fortified foods, the intake of a preparation of vitamin D, or the intake of some tablets containing calcium and vitamin D
 - Eat or drink fortified foods: the commonly fortified ones are powdered milk products where a glass of milk (250 ml) provides approximately 100 IU of vitamin D
- Expose your head, arms, and legs to the sun for approximately 15 min daily. This is because vitamin D, is synthesized under the influence of the sun
 - Apply measures that help avoid falls and fractures:
 - Use handrails when available and elevators instead of stairs to prevent falls.
 - Use extreme care when getting in and out of the bathtub. Equip your tub with railings or use showers.
 - Do not lift heavy objects.
 - Do not push or exert bodily force to move furniture or stubborn objects.
 - Do not risk falling by climbing on chairs or stepping ladders to reach high places.
 - Do not stoop to pick up things.
 - Do not use small floor mats at your home to prevent falls.
 - Use caution when walking on floors that are slippery or have visually confusing floor patterns.
 - Use a rolled towel or pillow support with sufficient thickness for comfort behind your lower back, when sitting in bucket seats or soft couches.
 - Always use medications as prescribed by your physician.
 - Other recommendations
 - Do not take iron with calcium supplements
 - Take calcium carbonate at meal time or with sips of milk.
 - Calcium citrate can be taken on an empty stomach.
 - Consume a high fiber diet because some preparations of calcium can cause gas and constipation.
 - If you have a history of kidney stones, consult your physician before increasing your calcium intake.

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