

Preventing Osteoporosis and Modifying Fracture Risk

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What is Osteoporosis?

Osteoporosis is a condition defined as having low bone mineral density (BMD). It is diagnosed by a bone density scan, also called a dual-energy x-ray absorptiometry (DEXA) scan.

Why Should You Care About Osteoporosis?

The real risk with osteoporosis is fragility fractures. People with osteoporosis who break a bone are at increased risk of losing the ability to care for themselves and of dying. After a hip fracture, 12% to 40% of patients with osteoporosis die within 6 months. It's important then that you understand your risk and take steps to decrease your risk. This will help you stay healthy and active for many years to come.

Are You at Risk for Osteoporosis and Fragility Fractures?

Bone density is an indicator of fracture risk; however, other important indicators also exist (see Table 1). An online Fracture Risk Assessment (FRAX™) tool, developed by the World Health Organization, is also now available for people to estimate their 10-year risk of fractures. You can access this free service at <http://www.shef.ac.uk/FRAX/index.htm>. Discussing your risks and concerns with your healthcare provider is important for creating a treatment plan that will help you to decrease the possibility of fractures.

Table 1. Indicators of Osteoporosis Risk

Alcoholism
Certain medical conditions such as chronic obstructive pulmonary disorder (COPD), Cushing's disease, gastrectomy, inflammatory bowel disease (IBD), rheumatoid arthritis, and others.
Certain medications such as anticonvulsants (phenobarbital, phenytoin), corticosteroids* (prednisone, dexamethasone, methylprednisolone), immunosuppressants, lithium, total parenteral nutrition, and others. *Note: If you do take corticosteroid drugs, its deleterious effects on bone density may be reduced by supplementation with 45 mg/day of vitamin K ₂ (as MK4).
Family history of osteoporosis
History of falls
History of prior fracture
Impaired eyesight (increases risk of falling)
Inadequate physical activity
Long-term low calcium intake
Poor nutrition
Smoking
Weight less than about 120 pounds

How Can You Prevent Falls and Fractures?

1. Eat a proper diet: Poor diet increases osteoporosis risk. In particular, decreased intakes of calcium, potassium, magnesium, and vitamin K have been associated with increased osteoporosis risk, as has low protein. These nutrients are found in whole fruits, vegetables, and grains; and in meats, poultry, and fish. Consuming a diet that includes whole foods and lean meats will not only help you to feel better and be healthier overall, it will help decrease your osteoporosis risk.

2. Exercise regularly: Not participating in routine aerobic, weight-bearing, and resistance exercises increases the risk of osteoporosis, broken bones, and an early death. Appropriate exercise may prevent the onset of osteoporosis and also has been shown to increase BMD and decrease fracture risk. Speak to your healthcare provider about adding exercises to your daily routine that are safe and appropriate for you.

3. Medications and Nutrients: Some specific medications and nutrients have been shown to significantly reduce the risk of fractures. Discuss with your healthcare practitioner what may be best for you.

4. Modify your home environment: Precautions such as ensuring adequate lighting can help prevent falls that can cause fractures. The North American Menopause Society (NAMS) has published guidelines to educate people how falls and fractures might be prevented (see Table 2).

Table 2. Modifying the Home Environment to Prevent Falls and Fractures

<p>Lighting</p> <ul style="list-style-type: none"> • Provide ample lighting • Have easy-to-locate light switches for rooms and stairs • Use night lights to illuminate walkways
<p>Obstructions</p> <ul style="list-style-type: none"> • Remove clutter, low-lying objects • Remove raised door sills to ensure smooth transition
<p>Floors and carpets</p> <ul style="list-style-type: none"> • Provide nonskid rugs on slippery floors • Repair/replace worn, buckled, or curled carpet • Use nonskid floor wax
<p>Furniture</p> <ul style="list-style-type: none"> • Arrange furniture to ensure clear pathways • Remove or avoid low chairs and armless chairs • Adjust bed height if too high or low
<p>Storage</p> <ul style="list-style-type: none"> • Install shelves and cupboards at accessible height • Keep frequently used items at waist height
<p>Bathroom</p> <ul style="list-style-type: none"> • Install grab bars in tub, shower, near toilet • Use chair in shower and tub • Install nonskid strips/decals in tub/shower • Elevate low toilet seat or install safety frame
<p>Stairways and halls</p> <ul style="list-style-type: none"> • Install handrails on both sides of stairs • Remove or tape down throw rugs and runners • Repair loose and broken steps • Install nonskid treads on steps