

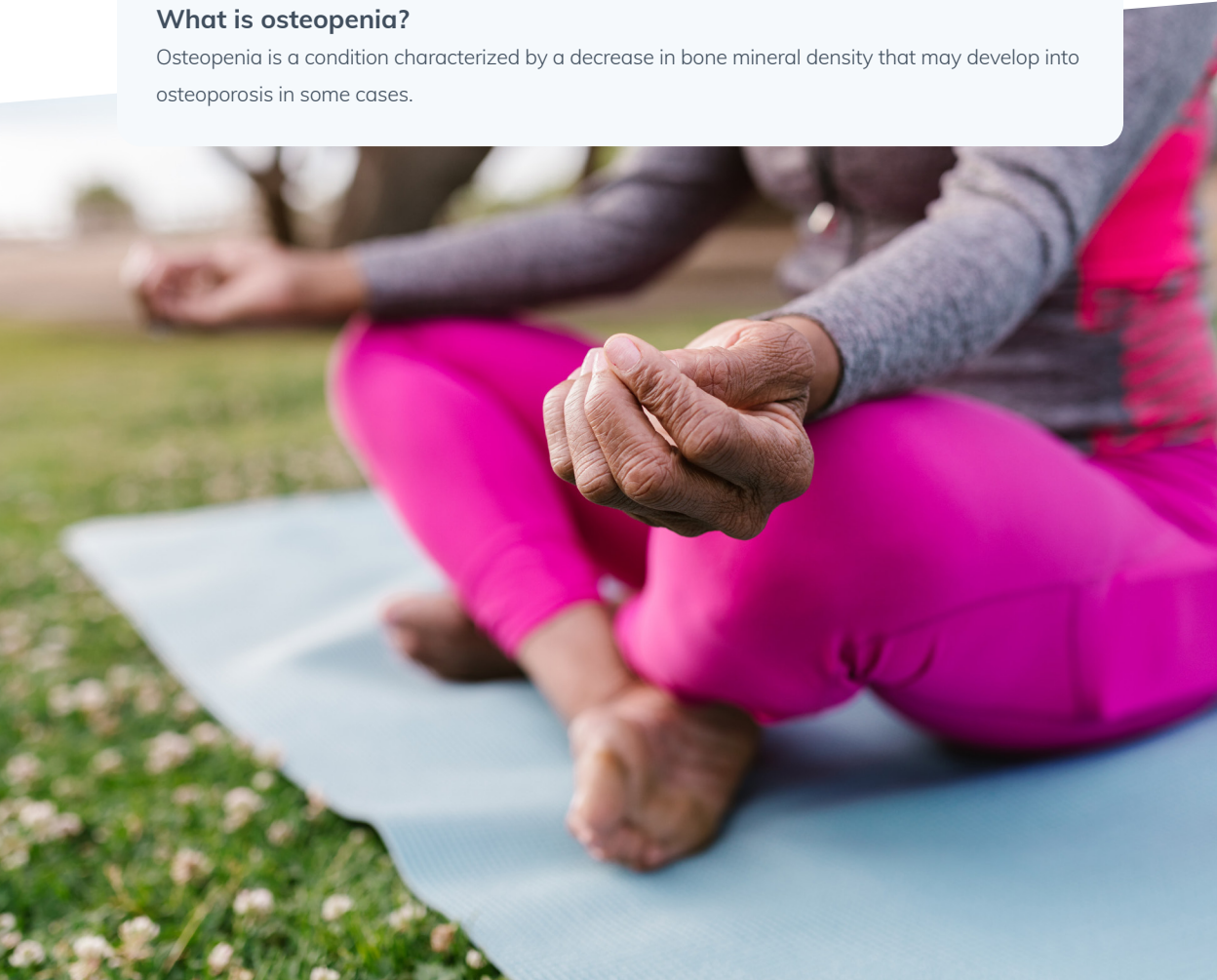
Osteoporosis

Osteoporosis is a skeletal disease characterized by low bone mineral density, low bone mass, and bone tissue deterioration. [Bones](#) are more fragile in individuals with osteoporosis, increasing the risk of fractures, which can be fatal in some cases. In individuals over the age of 65, the disease affects about 25% of women and 5% of men.

Bones are not simply hard skeleton but porous, living tissue. Bone mass decreases with age starting in your mid-30s and deteriorates more quickly in women following [menopause](#) as a result of hormonal changes. Osteoporosis screening using a bone density test is typically recommended for women over the age of 65, younger women at increased risk, and men over the age of 70.

What is osteopenia?

Osteopenia is a condition characterized by a decrease in bone mineral density that may develop into osteoporosis in some cases.



Causes and risk factors

- Advanced age
- Certain conditions (e.g., anorexia, chronic renal failure, Cushing disease, hyperparathyroidism, hyperthyroidism/ overtreatment of [hypothyroidism](#), malabsorption)
- Certain medications (e.g., antiepileptics, certain cancer medications, corticosteroids, proton pump inhibitors)
- Chronic excessive alcohol intake
- Excessive dieting; certain nutrient deficiencies (e.g., [calcium](#), [vitamin D](#), [protein](#))
- Family history of osteoporosis
- Female sex
- History of bone fracture(s)
- Low body mass index (BMI)
- Sedentary lifestyle
- Smoking

Signs, symptoms, and complications

- Bone fractures from minor falls or activities (e.g., bending, coughing)
- [Chronic pain](#)
- Height loss
- Posture changes (e.g., stooped back)



Preventing and addressing osteoporosis

The following lifestyle approaches can help reduce your risk of osteoporosis, slow disease progression, and prevent bone fractures.

Diet

Research has shown that a healthy dietary pattern, such as the Mediterranean diet, and adequate protein intake can improve your bone mineral status and decrease the risk of osteoporosis. Additionally, the table below summarizes bone-supportive nutrients and their sources.

Nutrient	Function	Dietary sources
Calcium	Provides structure to the bones and teeth	Canned fish with bones (e.g., salmon, sardines) Chia seeds Dairy products (e.g., cheeses, milk, yogurt) Fortified foods (e.g., orange juice, tofu) Leafy greens (e.g., bok choy, kale, turnip greens)
Magnesium	Supports bone structure development	Nuts and seeds (e.g., almonds, cashews, chia seeds, pumpkin seeds) Legumes (e.g., black beans, peanuts, soy products) Potatoes Spinach
Vitamin D	Promotes calcium absorption from intestines Is required for bone growth and remodeling Produced in the skin from sunlight exposure	Beef liver Certain fish (e.g., salmon, sardines, trout, tuna) Eggs Fortified foods (e.g., milk, non-dairy beverages) Mushrooms
Vitamin K	Assists bone and cartilage mineralization	Green vegetables (e.g., broccoli, collards, kale, okra, spinach) Soy products (e.g., edamame, natto) Pumpkin



Physical activity

Adults, including older adults, should exercise for a minimum of 150 minutes per week (e.g., 30 minutes five times per week). Weight-bearing and resistance exercises, such as walking, hiking, elliptical training, and weight lifting, are recommended to support bone health and muscle mass. Balance training activities, such as tai chi and yoga, can help reduce the risk of falls and should be incorporated at least once per week. To prevent injuries, high-impact activities, such as running and sports that involve running, should be avoided.

Substance use moderation

Avoiding smoking, secondhand smoke, and excessive alcohol intake is essential for supporting your bone health. Current guidelines limit alcohol intake to two standard drinks per day for men and one standard drink per day for women. A standard drink is defined as as 12 oz (355 mL) of regular beer (5% alcohol), 5 oz (148 mL) of wine (12% alcohol), or 1.5 oz (44 mL) of 80 proof distilled spirits (40% alcohol).

Other lifestyle considerations

You can make your home safer to prevent falls by removing rugs or other obstacles, improving lighting, and adding handrails or grab bars where needed.



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This handout was developed and medically reviewed by Fullscript's Integrative Medical Advisory team.

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Updated: November 2021