



What is Osteoporosis?

Osteoporosis is a bone disease characterized by low bone density (thickness of the bone), decreased bone strength, and a change in the bone structure, which can lead to an increased risk of fracture. The normal bone structure becomes thinned out and porous with poor nutrition, aging, or when osteoporosis develops, lessening the ability of the bone to withstand the typical forces that are applied in everyday living.

Bone is living tissue. Normally, one type of cell removes bone (osteoclasts) and another type of cell adds bone (osteoblasts) in a balanced, ongoing process. In osteoporosis, bones weaken when not enough new bone is formed and/or too much bone is lost. This imbalance commonly begins in women during the first 5 years of menopause. However, it can also occur in men and in children, often due to diseases that affect bone development, such as celiac disease, inflammatory bowel disease, rheumatoid arthritis, spina bifida, cystic fibrosis, or kidney disease.

How Osteoporosis is Diagnosed

Osteoporosis is best diagnosed through a specialized X-ray called the DXA, which measures bone density. The results are reported using T-scores and Z-scores.

- The T-score compares your score to that of healthy 30-year-old adults. If you have a T-score of -1 or less, you have a greater risk of having a fracture.
- If the T-score is -2.5 or less you will receive the diagnosis of osteoporosis.

- The Z-score compares your bone mineral density to those of the same sex, weight, and age. It is used for those whose bone mass has not yet peaked, premenopausal women, and men older than 50.

Physical Therapy & Osteoporosis

Your physical therapist can develop a specific program based on your individual needs to help improve your overall bone health, keep your bones healthy, and help you avoid fracture.

Healthy bone is built and maintained through a healthy lifestyle. Your physical therapist will teach you specific exercises to meet your particular needs.

The exercise component for bone building or slowing bone loss is very specific and similar for all ages. Bone grows when it is sufficiently and properly stressed, just as muscle grows when challenged by more than usual weight. Two types of exercise are optimal for bone health: weight-bearing and resistance. It is best for a physical therapist to provide your individual bone-building prescription to ensure that you are neither over exercising nor under exercising. Typically, exercises are performed 2 to 3 times a week as part of an overall fitness program.

Weight-bearing exercises such as:

- Dancing.
- Jogging (if your bone density is higher than -3.0).
- Racquet sports.
- Heel drops.

- Stomping.

Resistance exercises such as:

- Weight lifting in proper spine and lower-extremity alignment.
- Use of exercise bands.
- Gravity resistance.
- Balance exercises

If you are diagnosed with osteoporosis or low bone density, your physical therapist will work with you to:

- Build bone or lessen the amount of bone loss at areas most vulnerable to fracture through exercise—hip, spine, shoulder, arms.
- Improve your dynamic balance to avoid falls.
- Improve your posture.
- Recommend adjustments to your work and living environments to limit risk.
- Help you avoid exercises and movements that may potentially contribute to fractures, including any type of sit-up or crunch, and excessive spinal or hip twisting.

For further information refer to:

<https://www.choosept.com/guide/physical-therapy-guide-osteoporosis>[https://www.niams.nih.gov/health-topics/osteoporosis#:~:text=Osteoporosis%20is%20a%20bone%20disease,of%20fractures%20\(broken%20bones\).](https://www.niams.nih.gov/health-topics/osteoporosis#:~:text=Osteoporosis%20is%20a%20bone%20disease,of%20fractures%20(broken%20bones).)