

Shalamar Hospital is striving to provide our patients quality health care, at lowest possible costs. Our hospital is continually active in pioneering new treatments and therapies to improve the lives of people in our community.



For those on osteoporosis drug treatments, up to 1,000mg daily is recommended. If breastfeeding, an additional 550mg of calcium should be consumed daily.

## WHAT ARE SOME GOOD SOURCES OF CALCIUM AND VITAMIN D?

Calcium is commonly found in dairy products such as milk, cheese, and yogurt. A pint of skimmed milk contains 880mg of calcium. Green vegetables like okra and watercress and certain types of fish are also good sources of calcium if you cannot or prefer not to consume dairy products. Vitamin D can be obtained from oily fish such as salmon, trout, mackerel, herring (including kippers), and fresh tuna. If your diet lacks sufficient amounts of calcium or vitamin D, or if your bone density is low, consider talking to your doctor about taking calcium and vitamin D supplements, even if you are already taking medication for osteoporosis. Here are some key points to keep in mind regarding osteoporosis prevention:

1. Having an overactive thyroid (hyperthyroidism) can increase your chances of developing osteoporosis.
2. Treating hyperthyroidism can slow down bone loss and potentially improve bone strength.
3. If you have had prolonged untreated hyperthyroidism, along with other risk factors for osteoporosis, talk to your doctor about getting a bone mineral density scan.
4. Maintaining a diet rich in calcium and vitamin D, along with regular high-impact exercise, can help reduce your risk of developing osteoporosis.
5. The National Osteoporosis Society recommends a daily calcium intake of 700mg for adult men and women, including pregnant women, with an additional 550mg for breastfeeding women.
6. If you are taking osteoporosis drug treatments, a daily calcium intake of around 1000mg may be beneficial.

An anatomical diagram of the human thyroid gland is overlaid on a grayscale image of a woman's neck. The thyroid gland is shown in a reddish-pink color, highlighting its butterfly-like shape and its position in the neck. The background image shows the woman's face and neck, with her hands resting on her neck, providing a clear anatomical context for the gland's location.

## Thyroid Problems and Osteoporosis

A GUIDE TO THYROID DISEASES AND OSTEOPOROSIS

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## Overview of Osteoporosis

Osteoporosis is a medical condition where the bones become fragile and more susceptible to breakage. This condition occurs when the rate of bone loss exceeds the rate of bone formation, leading to a decrease in bone density. The common sites for breakage are the hip, spine, and wrist. Although osteoporosis can be treated, it is better to prevent it in the first place.

## Causes of Osteoporosis

Bone remodeling is a constant process that involves the actions of two types of cells - osteoclasts that break down bone tissue and osteoblasts that build it up. This process is influenced by several factors including hormones, exercise, and nutrient intake. Normally, bone replacement occurs at a balanced rate, taking about 200 days per cycle. However, when the rate of bone loss exceeds the rate of bone formation, the bones become less dense, increasing the risk of osteoporosis. Osteoporosis can lead to increased susceptibility to fractures.

## WHO IS SUSCEPTIBLE TO OSTEOPOROSIS?

Bone density loss is a natural aspect of aging that affects both men and women. However, osteoporosis is more prevalent among older women after menopause, as they stop producing estrogen, which shields the bones. Bone loss may happen more quickly in the first five to ten years after menopause. The following factors raise the risk of osteoporotic fractures:

1. History of fragility fractures resulting from low trauma, such as minor falls, or occurring spontaneously.
2. Family history of osteoporosis or fragility fractures
3. Early menopause
4. Prior use of steroid medication
5. Anorexia nervosa
6. Low body weight
7. Inadequate diet
8. Smoking
9. Excessive alcohol consumption
10. Lack of physical activity or mobility
11. Untreated hyperthyroidism for an extended period
12. Over-treated hypothyroidism for an extended period
13. Other diseases such as rheumatoid arthritis, coeliac disease, and primary hyperparathyroidism.

## WHAT IS THE RELATIONSHIP BETWEEN THYROID DISEASE AND OSTEOPOROSIS?

The thyroid hormone has an impact on bone replacement rate. If there is too much thyroxine in your body, the rate at which bones are lost increases. This can result in the osteoblasts being unable to replace bone loss quickly enough. A prolonged period of high thyroxine levels or low thyroid-stimulating hormone levels may increase the risk of osteoporosis. People with low TSH levels may lose bone at a faster rate than those with normal TSH levels, even if their thyroxine levels are within the normal range, but research on this topic is

ongoing.

**Hyperthyroidism:** If you have hyperthyroidism, treating the overactivity is the first step. Reducing the level of thyroid hormone to a normal level will decrease the rate of bone loss, and bone strength may improve. However, some people will have persistent bone loss, especially postmenopausal women, and they are at high risk for osteoporosis. If you have had prolonged untreated hyperthyroidism and have other risk factors for osteoporosis and bone fractures, it is recommended to have a bone mineral density scan two to three years after your thyroid treatment starts. Osteoporosis can be treated with medication if the scan shows bone loss.

**Hypothyroidism:** Although an underactive thyroid is not a direct risk factor for osteoporosis, if you are prescribed levothyroxine to increase your thyroid levels to the normal range, you should have regular blood tests to ensure that your thyroid hormone levels are not too high.

## HOW CAN YOU REDUCE THE RISK OF OSTEOPOROSIS?

You can maintain healthy bones by eating a well-balanced diet that includes calcium-rich foods, ensuring that you have normal vitamin D levels, avoiding smoking, limiting alcohol intake, and exercising regularly. High-impact exercises like jogging or power walking can strengthen bones. Other exercises, such as pilates and yoga, can improve balance and reduce the risk of falls that could result in broken bones. Hormone replacement therapy (HRT) may reduce the risk of osteoporosis in women, but it is now recommended only for the treatment of menopausal symptoms, and it may be associated with increased risk of other conditions depending on the individual. Spending 10-20 minutes daily in the sunshine during summer months provides the best source of vitamin D.

## WHAT STEPS CAN BE TAKEN TO REDUCE THE RISK OF OSTEOPOROSIS?

To reduce the risk of osteoporosis, a well-balanced diet containing calcium-rich foods, maintaining normal vitamin D levels, avoiding smoking, limiting alcohol intake, and regular exercise are recommended. High-impact exercises like jogging or power walking are useful for strengthening bones, while other exercises like yoga and pilates can improve balance, reducing the risk of falls that may result in broken bones. Hormone Replacement Therapy (HRT) may also be helpful in reducing the risk of osteoporosis in women, but it is now recommended only for the treatment of menopausal symptoms and may increase the risk of other conditions depending on the individual. Spending time in the sunshine for 10-20 minutes daily can provide the best source of vitamin D during summer months.

## WHAT IS THE RECOMMENDED DAILY INTAKE OF CALCIUM?

The National Osteoporosis Society recommends a daily intake of 700mg of calcium for men and women, including pregnant women.