

Bone Up on Osteoporosis

Dr Goh Kian Peng, Endocrinologist, Saint-Julien Clinic for Diabetes and Endocrinology, explains the role of hormones in osteoporosis along with current and emerging new methods of treatment.

WHAT IS OSTEOPOROSIS?

Osteoporosis is a bone condition characterised by low bone mass or decreased bone strength. It results when there is an imbalance between new bone formation and old bone resorption, meaning bone loss. Simply put, it occurs when your body loses old bone faster than it forms new bone.

Over time, osteoporosis results in weakened bones that are prone to fractures, especially in the hip, spine and wrist.

HORMONES AND THEIR IMPACT ON BONE DENSITY

Sex hormones are responsible for a significant proportion of bone growth, especially during adolescence. Therefore, building strong bones during childhood and adolescence can help to prevent or delay the onset of osteoporosis in later life. On the other hand, excess cortisol, a steroid hormone, can decrease bone density.

“During menopause, there is a sharp reduction in the level of the female hormone oestrogen, with a corresponding drop in the bone density,” explained Dr Goh. “Whether or not the bone density drops to the level of osteoporosis depends on many factors, such as the baseline bone health, genetic factors, the presence of any other diseases and lifestyle factors such as exercise, use of steroids and alcohol intake.”

HORMONE REPLACEMENT THERAPY (HRT)

“HRT is a treatment option used to treat osteoporosis when premature menopause occurs. It is also sometimes prescribed for patients with bothersome menopausal symptoms such as hot flushes,” said Dr Wong. “It is generally safe and well-tolerated when used in the correct context.”

Conditions that preclude the use of HRT include a history of breast cancer, a previous venous thromboembolic event or stroke, active liver disease, unexplained vaginal bleeding, high-risk endometrial cancer and transient ischemic attack.

NON-HRT THERAPY

Non-HRT therapy options include antiresorptive agents, a class of drugs that prevents or inhibits the breakdown of bone and includes bisphosphonates. Another option is anabolic agents, a class of drugs that promotes bone formation.

Lifestyle factors such as adequate calcium and Vitamin D intake, as well as weight-bearing and muscle-strengthening exercises, can help prevent or delay the onset of osteoporosis.

ON THE HORIZON

A new class of bone formation drugs has recently appeared on the horizon, called sclerostin inhibitors. Sclerostin is a protein that helps regulate bone metabolism. It is



OSTEOPOROSIS

NORMAL BONE

produced by bone cells and inhibits bone formation. This new class of medication works by binding sclerostin, which then prevents it from blocking the signalling pathway for new bone formation. This results in new bone formation and to a lesser degree, reduces bone resorption. The first drug in this class was just approved in the US.

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START NOW

Osteoporosis is not necessarily a part of normal ageing, and there is much that you can do to build and maintain strong bones throughout your life, starting in childhood. You are never too young or too old to start looking after your bones.

Osteoporosis – Men, You Are Also at Risk

Over the last 30 years in Singapore, cases of hip fractures have increased five times in women aged 50 and above, and one and a half times in men of the same age group.

Men are also affected by osteoporosis though it is relatively less common. Oestrogen and the male hormone testosterone are important for bone health in men. Excessive alcohol intake, smoking or extreme thinness can affect bone health in both men and women.

Source:
<https://www.healthhub.sg>

Osteoporosis Prevention at a Glance

DO

- Eat a balanced diet that includes fruits and vegetables to ensure adequate calcium and Vitamin D intake



- Spend time in the sun to promote your body's production of Vitamin D
- Spread your calcium intake over breakfast, lunch and dinner, since calcium is more easily absorbed by the body in small amounts
- Build weight-bearing and muscle-strengthening exercises into your fitness routine

DON'T

- Consume alcohol excessively
- Smoke
- Drink coffee, tea and caffeinated soft drinks excessively, as caffeine may decrease calcium absorption
- Indulge in salty snacks, as excess sodium can cause bone loss

Source:
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