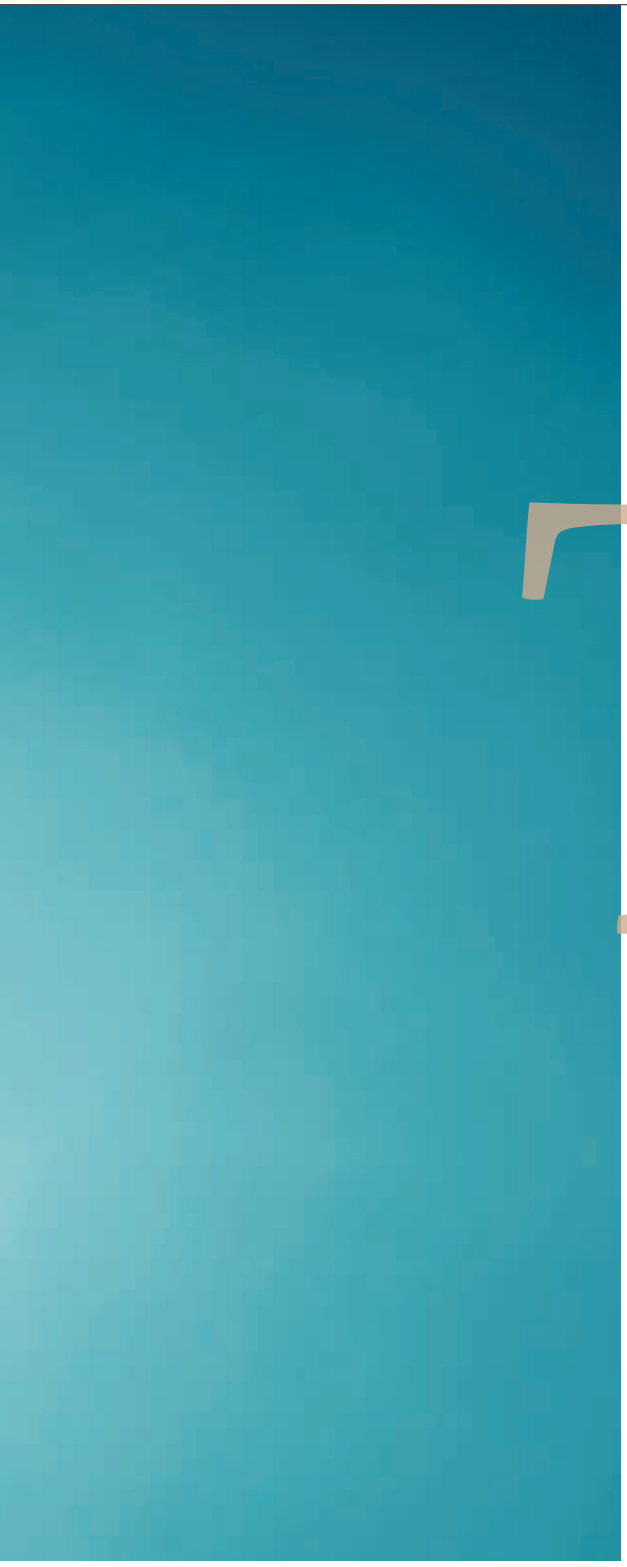
FEATURE

SKELETON

BY SHERALYN TAY WITH CONSULTATION FROM MS LIM WAN PENG, SENIOR PHARMACIST, TAN TOCK SENG HOSPITAL



Bones are the body's inner skyscraper — they keep your body upright. And as a protective internal armour and frame, bones also protect the organs and act as an anchor for muscles, tissues, and ligaments for movement. Given all they do to support you, isn't it time for you to do more for your bones?

KEY

They may seem like inanimate structures, but the bones in your body are anything but bereft of life. In fact, your entire skeleton is an organ — a collection of very dense connective tissue that is lightweight and yet remarkably strong. Within the smooth exterior of your bones lies an intricate honeycomb-like internal structure that teems with activity. More than just its mechanical role as your body's supportive frame, the bones in your skeleton also act as the body's repository of calcium and phosphorus, blood production facility and acidity regulator.

And as with any organ in the body, your bones require essential minerals to keep them strong and healthy. This is where calcium comes in. Calcium — and to a smaller extent, phosphate — forms the building blocks of bone tissue. This means adequate intake of calcium can help build stronger bones, preventing bone-related diseases, such as osteoporosis (see sidebar), later in life.

The best time to build your stores of calcium is when one is young, emphasised Ms Lim Wan Peng, Senior Pharmacist, Tan Tock Seng Hospital. "The optimum growth period is from childhood to puberty and it is important to deposit as much calcium as possible during this period so that the optimal peak bone mass can be achieved when one reaches the age of 18," she explained, "After the age of 18, one can only maintain what is already stored to help bones stay healthy."

As you age, your mineral stores of calcium in the bone progressively becomes depleted, weakening bones, so a good 'store' of calcium compensates for the bone loss that occurs when you age, staving off the risk of osteoporosis.

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MAKE GOOD BONES

Building good bone health early in life calls for a mix of ensuring both good nutrition and physical health. We all know that milk and other dairy products are good sources of calcium and are often considered as main dietary sources. Salmon is also high in calcium as are fish with edible bones, such as dried ikan bilis and canned sardines. In addition, broccoli, kale (kailan), tofu, almonds, spinach, beans and legumes are also calcium-rich and suitable for those who are lactose intolerant, vegetarian or vegan.

Boost your calcium intake with Vitamin D, which can be acquired through healthy exposure to the sun. Vitamin D plays an important role in helping the body use calcium.

Apart from diet regular exercise, exercises such as walking, jogging, stair-climbing, aerobic dancing, racquet sports, basketball or soccer, are good ways to build strong bones. Sports and exercise also have the added benefit of staving off lifestyle diseases such as diabetes, high cholesterol and blood pressure.

To ensure that you get your daily nutritional requirement of calcium, include calcium-fortified foods such as high-calcium soya bean milk, fortified cereals or calcium-enriched bread each day.

In general, a healthy balanced diet can provide enough calcium; though the elderly, those with poor appetites and those on calcium-depleting medications have a lowered ability to absorb calcium. In this case, calcium supplements should be considered, but consult a family doctor first before taking supplements.

For vegetarians or vegans, less calcium may be absorbed because of their limited diets. However, Ms Lim noted that lacto-ovo vegetarians (who consume eggs and dairy) have similar calcium intakes to non-vegetarians. If you are a vegetarian considering supplements, Ms Lim advises that you should first estimate if your diet provides sufficient calcium. "Excessively high levels of calcium in the blood known as hypercalcemia may impair kidney function and lead to reduced absorption of other essential minerals, such as iron, zinc, magnesium and phosphorus. However, hypercalcemia rarely results from dietary or supplemental calcium intake."

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WHERE TO GET HELP

TAN TOCK SENG HOSPITAL (TTSH)
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PHOTOS: CORBIS

SILENT BREAK

With an ageing population, the incidence of osteoporosis is on the rise. Some studies have shown that hip fractures have increased by 5 times in women and 1.5 times in men when compared to the 1960s. Often called a 'silent' disease, osteoporosis is often only diagnosed when it's too late. The disease often presents itself dramatically — when a slight bump or minor fall results in broken bones. A majority of hip fractures are due to the disease. Sometimes, pain does also occur, particularly if minor fractures are present in a sensitive area, such as the spine.

Screening is also important, particularly for groups at risk. This includes menopausal women, anyone with a family or medical history and heavy smokers. Screening involves bone density assessments and early diagnosis allows specific treatment and drugs to be started, in order to regain bone strength.

GOT CALCIUM?

AGE GROUP	RECOMMENDED CALCIUM INTAKE
Boys & Girls Aged 7-9 years	700 mg
Boys & Girls Aged 10-18 years	1000 mg
Adults Aged 19-50 years	800 mg
All adults Above 51 years	1000 mg
Lactation & breastfeeding Post-menopausal women	1000 mg