Hormones significant in keeping healthy bones

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CAN hormones influence our bone health? The short answer is yes. While much of the focus on bone health revolves around calcium intake, the strength and integrity of our skeletal system rely on more than just that. Hormones, in particular, play a significant role in maintaining healthy bones.



Did you know that cortisol, the stress hormone, can inhibit bone formation? Cortisol triggers inflammation and diverts energy away from processes like healing and bone rebuilding. This is one of the reasons why practices like yoga, which involve calming the body and mind through controlled breathing and fluid movements, can improve bone health. Yoga helps with flexibility, strength and balance, promoting healthier bones over time.

Hormones like oestrogen, androgens, calcitonin, nitric oxide and transforming growth factorbeta all play a role in regulating bone resorption (the process of bones breaking down). For example, low oestrogen levels contribute to higher bone resorption, increasing the risk of osteoporosis. On the other hand, sufficient body fat is vital for bone health because it aids in the absorption of key nutrients like minerals and vitamin D, which are essential for strong bones. Additionally, body fat is necessary for the production of hormones that support bone health.

One important hormone, oestrone (a form of oestrogen), stimulates the activity of osteoblasts — cells responsible for building bone — as well as myoblasts, which are involved in muscle tissue formation. Women in their 40s and 50s produce less oestrogen in the leadup to menopause, which is often when bone density issues are first detected. However, there is a long leadup to get to this point.

DHEA, another antiageing hormone, has also been shown to contribute to bone health. Testosterone, often associated with men, is a critical hormone

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for both genders in preventing bone loss. Free testosterone levels, measured through blood tests, have been used as an indicator of spinal bone health in postmenopausal women. This

is another reason why strength training is so beneficial as we age — muscle activity helps maintain healthy testosterone levels, supporting bone integrity. One often overlooked factor in

Calciumrich foods are good for your health.

bone health is the consumption of carbonated drinks, including sparkling water, soda and flavoured fizzy beverages. These drinks can leach minerals such as calcium, magnesium, silica and boron from the bones over time, weakening them. To protect your bones, it’s best to limit these drinks. Weightbearing exercises like

walking, skipping, tennis and running are beneficial for boosting bone density and overall skeletal health. Being out in the natural daylight to get some vitamin D on your skin will further support this process. A mother’s nutrition before conception and during the first trimester can have a lasting impact on bone health. During pregnancy, calcium is crucial as it supports the development of the foetal skeleton and protects the mother’s teeth and bones, especially in the first and third trimesters. Interestingly, calcium meta-

bolism changes during pregnancy — calcium absorption increases, and urinary calcium excretion roughly doubles compared to a nonpregnant state therefore consuming enough mineralrich food is important. Dairy products such a plain Greek yoghurt and cottage cheese as well as canned sardines and salmon with the bones, raw almonds, sesame seeds, dried figs, kale and other leafy greens are all good food sources of calcium. In conclusion, while minerals such as calcium, boron, silica and magnesium are important, hormones also have a profound impact on bone health. Paying attention to these factors — whether through diet, exercise or managing stress — can help you maintain stronger bones throughout your life.

— The advice contained in this column is not intended to be a substitute for direct, personalised advice from a health professional.