Love your bones

Nutritionally Kate

Bone Health:

The Skeleton in the cupboard...

Not many people think about nourishing their skeleton. There is almost a belief that once your bones are formed, they are there for good - until they start to break down.

Hello, joint problems like arthritis or osteoporosis.

Yet the bones, like every other part of the body, are continually being rebuilt. Fortunately, many nutrition and lifestyle habits can help you build strong bones and keep them healthy as you age, and I'm going to be sharing some of my best tips in this guide.

About our bones

Bone is a living tissue that is constantly changing and renewing itself. There are two different types of cells in your body that carry out this process: osteoclasts and osteoblasts.

Osteoclasts break down old bone, creating cavities. Osteoblasts build new bone, filling the cavities. During childhood and adolescence, there is an emphasis on building new bones, increasing their density and strength.

By the time you get to your mid to late twenties, you will have reached your maximum bone strength, which is called peak bone mass. Then, after the age of 40, the ageing process leads to an increase in the breaking down of bone. This means you start to lose bone density and strength, making bones more susceptible to fractures.

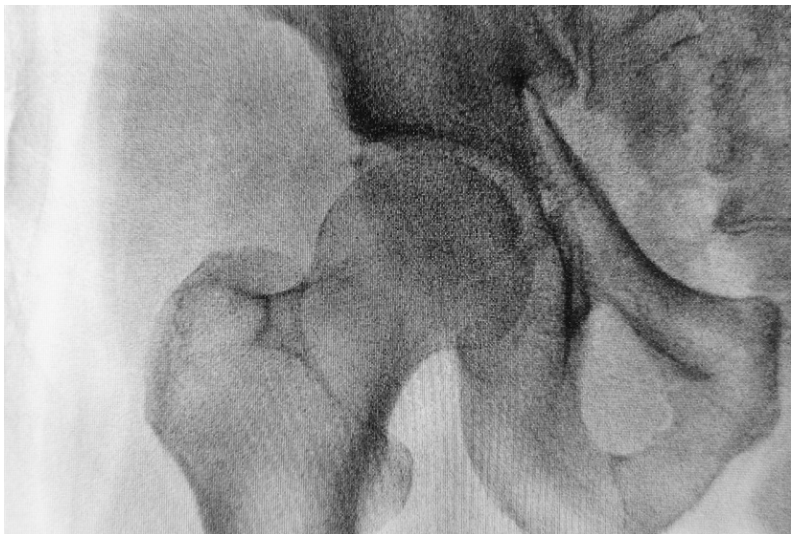
Osteoporosis

A fear– or worse still, a diagnosis – of osteoporosis makes many women think seriously about the health of their bones. The ageing process is the silent thief that robs up to 25% of your skeleton by the time you reach 50.

Particularly prevalent in women after menopause due to falling levels of both oestrogen and progesterone, getting older increases the risk of bone fractures.

Osteoporosis is also more common in women because they tend to have smaller, less dense bones than men.

However, it's not just a female phenomenon. Osteoporosis is still common in men, affecting one in five, often secondary to another health problem, thanks to decreased testosterone.



Are you at risk?

There is a genetic component to osteoporosis, so a family history does increase your risk. However, there are a number of other lifestyle factors that also have an impact.

Do any of these apply to you?

- Previous fragility fracture (breaking a bone following a minor incident)
- History of maternal hip fracture
- Thin or small bone frame
- Low levels of sex hormones – lack of oestrogen/progesterone in women, and testosterone in men
- Low Body Mass Index (BMI)
- Conditions that affect the absorption of food like Crohn's or coeliac disease
- Conditions like rheumatoid arthritis, hyperthyroidism and parathyroid disease
- Use of some pharmaceutical drugs like long-term or high-dose use of steroids, anti-epileptic drugs or antacids
- Excessive alcohol consumption
- Low stomach acid or frequent indigestion
- Smoking
- A diet low in calcium
- Low levels of vitamin D
- Lack of exercise

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More than just calcium

People often think what's needed to protect bones is to crack open the calcium supplements but it's a lot more complex than that. Although calcium is the most prevalent mineral in bone tissue, osteoporosis is much more than a lack of dietary calcium.

Magnesium – used in so many processes in the body – is now considered key in the prevention and reversal of osteoporosis. Even mild magnesium deficiency is thought to be a risk factor in the development of the condition.

While bones use phosphorus as building materials, the ability to absorb calcium into bones depends on vitamin D and is assisted by the trace mineral boron.

Vitamin C makes collagen which helps to resist fractures, and zinc helps make new bone cells.

Vitamin K is involved in bone mineralisation and increases bone density. Vitamin K1 is a single form synthesized by plants, whereas the group of vitamins K2 is found in multiple forms, mainly synthesized by bacteria. Modern diets have low vitamin K intake.

Omega 3 Fatty Acids: help to reduce inflammation and provide building blocks for healthy hormones that regulate bone tissue formation.

This orchestra of nutrients are the main ingredients found in bone-friendly supplements. However, if you have any concerns about your bone health, you should consult with a GP.

As a Nutritional Therapist, I am able to help you figure out where nutritional and lifestyle changes can help you improve your bone strength as you age.

Are you making any of these diet mistakes?

Eating too much refined sugar and/or carbohydrates:
This depletes the minerals necessary for good bone health.

Drinking too much coffee, alcohol and other diuretics:
These cause you to excrete minerals. Cola drinks are especially bad because they are high in phosphorus and promote the excretion of the calcium and magnesium which are necessary for good bone health.

Eating a very high protein diet:
While everyone needs protein, protein-rich foods are acid-forming. The body must keep the blood pH as close to neutral as possible. Minerals are needed as buffers, and once stores of sodium are used up, calcium is taken from the bones to neutralise the acid. Therefore, the more protein you eat, the more calcium you need.

Not eating enough fruit and veg:
A diet high in fruit and vegetables has been found to reduce bone turnover and increase bone density*.

* Prynne CJ, Mishra GD, O'Connell MA, Muniz G, Laskey MA, Yan L, Prentice A, Ginty F (2006) Fruit and vegetable intakes and bone mineral status: a cross-sectional study in 5 age and sex cohorts. American Journal of Clinical Nutrition 83: 1420-1428.

Food for strong bones

Although you can just pop a pill if you want to show your bones some love. Science tells us, it's far better to get your nutrients from food than from a supplement*.

Calcium-rich sources of food are dark leafy greens (kale, rocket, watercress), almonds, cheese, yoghurt, broccoli, chia seeds, sesame and tahini, sardines and canned salmon (because of their edible bones), whey protein, edamame beans and tofu.

You can't just rely on plant sources alone for your calcium as they are harder for the body to absorb than calcium from animal sources. The ideal scenario is that you spread your calcium intake, including a source of animal-derived calcium, across the day.

The best food sources of calcium and magnesium include green vegetables, seeds and organic dairy. I recommend focusing on diet first to get enough calcium by eating a salad everyday, adding in steamed veggies and adding leafy greens such as spinach and kale t smoothies as often as possible. You can also add in organic dairy sources such as raw cheese, kefir or yogurts and butter/ghee.

* Anderson et al., (2016) Calcium Intake From Diet and Supplements and the Risk of Coronary Artery Calcification and its Progression Among Older Adults: 10-Year Follow-up of the Multi-Ethnic Study of Atherosclerosis (MESA). Journal of the American Heart Association, 5 (10).

You'll find vitamin D in oily fish like salmon, trout, mackerel, sardines and fresh tuna, egg yolks, liver and cheese. That said, it's hard to get a therapeutic dose from food, and it's worth getting your vitamin D tested so you can supplement adequately.

The best source of vitamin D is sunshine. Enjoy time ten minutes of midday sunshine whenever you can.

Vitamin K can be found plant foods and also exists in small amounts in liver, eggs and meat and in fermented foods like natto, tempeh,cheese, sauerkraut and kimchi.

Omega 3 Fatty Acids: help to reduce inflammation and provide building blocks for healthy hormones that regulate bone tissue formation. Eat organic meat, free-range eggs, oily fish, green veggies and flax/chia/hemp/pumpkin seeds.

Healthy Weight, Happy Bones

Low-calorie diets:

Apart from making you feel hungry and miserable and wrecking your metabolism, low-calorie diets are bad news for your bones. Studies show that diets providing fewer than 1,000 calories per day can lead to lower bone density in normal weight or overweight people*

* Villareal et al., (2015) Effect of Two-Year Caloric Restriction on Bone Metabolism and Bone Mineral Density in Non-obese Younger Adults: A Randomized Clinical Trial. Journal of Bone Miner Research, 31 (1)

Being underweight:

Especially in perimenopause and beyond low weight and BMI contributes to reduced bone density and bone loss [Rav et al. 1999. Low body mass index is an important risk factor for low bone mass and increased bone loss in early postmenopausal women*.

* Early Postmenopausal Intervention Cohort (EPIC) study group, Journal of Bone and Mineral Research. DOI: 10.1359/jbmr.1999.14.9.1622.

Obesity:

The same is true at the other end of the scale. Research suggests that being obese can impair bone quality and increase the risk of fractures due to the stress of excess weight - so finding your healthy weight keeps your bones happy, too.

* Sundh et al., (2015) A High Amount of Local Adipose Tissue Is Associated With High Cortical Porosity and Low Bone Material Strength in Older Women. Journal of Bone Mineral Research, 31 (4).

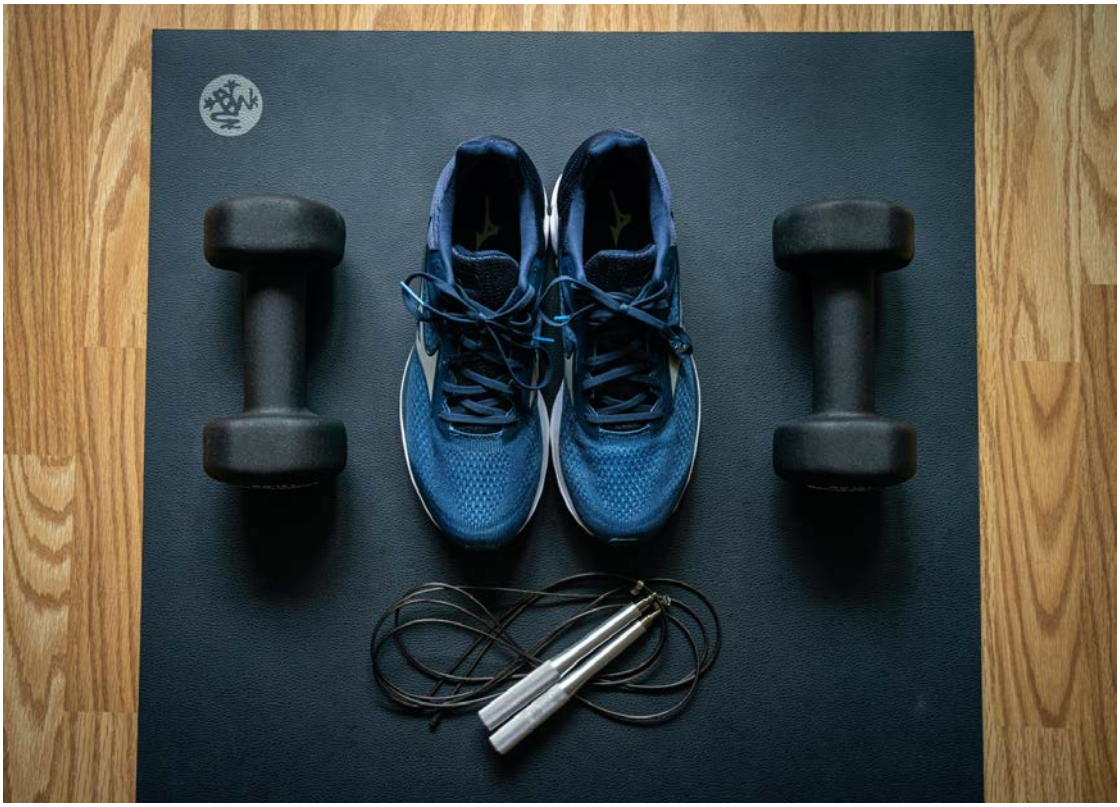
Stress and your bones

There are all kinds of ways in which stress robs you of your health. Since we're talking about bones here, it's worth knowing that an increase in the stress hormone cortisol impairs calcium absorption*, which leads to leaching of important minerals and may result in a range of mineral deficiencies.

Do you have a good stress action plan, which includes plenty of relaxation and good quality sleep?

* Deutsch E (1978) Pathogenesis of thrombocytopenia. 2. Distribution disorders, pseudo-thrombocytopenias. Fortschr. Med.96 (14): 761–2.

Exercise to strengthen your bones



We know that people who lead a more physically active life tend to have a higher bone mineral density – and, consequently, stronger bones – than those who are more sedentary. If you know you don't move enough, now is a great time to start.

The best exercise for building stronger bones is weight-bearing exercise. That means the kind of exercise where you are supporting the weight of your body, like dancing, walking, lifting weights or using resistance bands, rope skipping, climbing stairs, playing tennis, kettlebells, hiking and even gardening.

Exercise also strengthens muscles, improving balance and thereby reducing the risk of falls.

To ensure you feel motivated to exercise regularly, choose an activity you actually enjoy. Start slowly and build up gradually, and if you have any concerns about starting to exercise, please speak to your GP. Remember, exercise is not just good for bones and muscles, it benefits your general health too.

If you'd like some nutritional guidance on loving your bones and reducing aches and your risk of fractures, let's have a chat. I'll bring the knowledge of what to eat for your goals, and support you to create healthy habits that last. I'll also be your cheerleader if you experience any barriers or setbacks that look like they might stand in the way of you achieving your goals. Now is exactly the right time for a brand new you: new diet, new attitude towards stronger, healthier bones.

Contact me at https://calendly.com/nutritionallykate to book your free ***a free 30 minute Health Transformation*** call.