

Lifestyle factors for better BONE HEALTH



PLANT-BASED
Health Professionals UK

Promoting Sustainable Health and Nutrition

By Mr Rajiv Bajekal, Orthopaedic Surgeon and Lifestyle
Medicine Physician,
and Lisa Simon, Registered Dietitian

1. NUTRITION

Protein - Plant sources of proteins: vegetables and legumes, seeds and whole grains such as soya and quinoa. Soya promotes bone health, so aim for two portions of minimally processed soya per day.

e.g. 1 cup of soya milk and 80g of tofu/tempeh/edamame beans.

Older adults need higher intakes of protein: 1-1.2 gram/kg per day.

Fat - Daily consumption of omega 3 fatty acids such as ground flax seeds, chia seeds, hemp seeds and walnuts.

Carbohydrates - All vegetables and fruits, including dried fruit such as prunes.

Vitamin D - in the UK, a daily **10mcg** supplement is required October to March.

Pregnant and breast-feeding women, those over 65 years of age, babies and young children, those with darker skin and those who spend a lot of their time indoors may need supplements all year round.

Vitamin C - recommended daily intake **40mg**; a medium orange has about **70mg**, good sources: all citrus fruits, strawberries, blueberries and green leafy vegetables.

Vitamin K - **1mcg/kg/body weight** per day. Good sources: dark green leafy vegetables such as spinach, kale and Brussel sprouts, broccoli and cauliflower, blueberries, herbs, especially parsley.

Vitamin K2 - produced in the gut by the bacteria from fibre contained in green leafy vegetables.

Vitamin B12 - must be supplemented in all vegans and all people above the age of 50.

Calcium - see below

Magnesium - RDA for men = **300mg** women = **270mg**, found in adequate amounts in nuts and seeds, green leafy veg, whole grains and dark chocolate.

Phosphorous - RDA for adults **550mg/day**, good sources: beans, chickpeas, lentils, soya, nuts, pumpkin seeds.

Silicon - found in green beans, carrots, nuts and seeds, whole grains, and cereals; no defined RDA in the UK.

Zinc, Copper, and manganese - required in small amounts; easily obtained in most balanced diets.

'Calcium thieves' - result in calcium loss: **avoid** smoking, alcohol consumption, coffee (more than 3-4 cups/day), sugar-sweetened beverages and fizzy drinks, especially co-la drinks that have caffeine and phosphoric acid, excess salt.

2. EXERCISE

Engage in regular, daily exercise and activity; at least **150** minutes per week of moderately-vigorous physical activity.

Mixed pattern of pattern of exercises seem to be more effective at improving bone strength, cardio, strength and balance training being very useful.

Walking maintains bone density but you need to wear **weighted jackets** and wrist and ankle **weighted bands** to increase the joint reaction force.

Resistance training at least three times a week.

Impact exercises such as jogging, skipping, star jumps, and stair climbing.

3. Restorative Sleep

4. Stress Management

5. Avoid Smoking and Alcohol

6. Forming and Maintaining Healthy Relationships

Calcium fact sheet

UK adult RDA 700mg

1000mg for those with osteoporosis, coeliac disease and inflammatory bowel disease and at least **700mg** for post menopausal women who do not have the protective effects of oestrogen.

Tip: by soaking and sprouting grains, beans and legumes you can increase the availability of calcium.

TABLE to show Calcium content in food

Food	Portion size	Calcium content (mg)
Rocket	50g	108
Spinach	50g	85
Broccoli	80g	35
Kale	60g	90
Avocado	1/3 50g	6
Tahini	15g	110
Sunflower seeds	30g	35
Calcium set tofu	80g	280
Nigari set tofu		150
Baked beans	150g	63
Chickpeas	150g	62
Fortified plant milk	200mls	240*

TABLE to show Calcium content in food

Food	Portion size	Calcium content (mg)
Fortified plant yoghurt	125g	150*
Almond butter	30g	113
Almonds	6	31
Dried fig	1 - 20g	50
Raisins	25g	23
Fortified breakfast cereal	30g	130-150*
Wholemeal bread	2 large slices 100g	54

*Variations may occur between brands, please check

Practical ways to increase your calcium intake

- Always ensure plant milk and yoghurts are fortified. Aim at minimum **400mls** daily.
- Drizzle **1tbsp of tahini** over baked vegetables.
- Aim for **two portions** of fortified soy daily – **200mls** soya milk in porridge or on fortified breakfast cereal plus **80g** calcium-set tofu will provide approximately **520-650mg** calcium.
- Try a sliced apple drizzled with **30g** almond butter – total **120g** calcium (including the apple).
- Make a mashed chickpea and avocado sandwich for lunch – total **122mg**.
- Homemade cocoa with fortified milk – **156mg** (if using cacao).

Note: calcium supplements are not recommended unless prescribed and monitored by your doctor.