

Nutrition for Bone Health

Start protecting your bones

<p>(1) Adequate calcium</p> <ul style="list-style-type: none"> • Calcium is important to maintain bone health. • Refer to next page for dietary source of calcium and requirement. 	<p>(2) Adequate vitamin D</p> <ul style="list-style-type: none"> • Vitamin D helps our body to absorb calcium from our diet. • Vitamin D is made when our skin is exposed to Ultra Violet (UVB) rays during sunlight exposure. Aim for 10-30 minutes sun exposure. • Refer to next page for dietary source of vitamin D and requirement. 	<p>(3) Adequate protein intake</p> <ul style="list-style-type: none"> • Adequate protein intake is essential for healthy bone. • Protein sources are eggs, fish, poultry, meat, seafood, dairy products, legumes, soy and soy products and nuts. • Aim for 1 palm size (90-100g) of fish, chicken or meat, or 3/4 cup of legumes during lunch and dinner*. 	<p>(4) Maintain healthy body weight</p> <ul style="list-style-type: none"> • Low body weight increases the risk of osteoporosis and fracture. • A Body Mass Index (BMI) of 20-25kg/m² is generally considered ideal. • Healthy body weight = 20x height (m) x height (m) to 25 x height (m) x height (m)
<p>(5) Regular exercise</p> <ul style="list-style-type: none"> • Regular exercise especially weight bearing (brisk walking, dancing, stair climbing, hiking, tai chi, etc) and resistance exercises (weight lifting, push-ups). 	<p>(6) Limit alcohol intake</p> <ul style="list-style-type: none"> • Excessive amounts of alcohol can even decrease bone formation and body's ability to absorb calcium. • Recommendation: • Women ≤1 standard serving; Man ≤2 standard serving. • 1 standard serving = 220ml beer, 150ml wine or 30ml hard liquor 	<p>(7) Limit caffeine intake</p> <ul style="list-style-type: none"> • Over-consumption of caffeinated drinks such as soft drinks (cola), tea and coffee decrease calcium absorption. • Caffeine intake at 330 mg per day (~4 cups of coffee) could be associated with a 20% increase in risk of osteoporotic fractures. 	<p>(8) Avoid smoking</p> <ul style="list-style-type: none"> • Smoking causes bone loss.

**Choose fresh food instead of processed food as excessive sodium intake might increase calcium loss.*

Do I need to take calcium and/or vitamin D supplement?

- If you are consuming adequate calcium from dietary sources, taking calcium supplement is not necessary. Getting too much calcium can cause constipation, increase the risk of kidney stones. However, supplementation might be needed in elderly who are not able to consume adequate calcium from diet.
- Vitamin D supplementation is needed in for those who have vitamin D deficiency. Sun exposure may be insufficient for elderly since ageing affects the skin's ability to convert sunlight into vitamin D efficiently and needed vitamin D supplementation. Excessive of vitamin D supplementation can cause vitamin D toxicity.
- Please consult your doctor or dietitian before taking any calcium or vitamin D supplements.

CALCIUM

Recommended dietary allowance for calcium:

Age Groups	RDA for Calcium
Adults (19 - 50 years)	800mg
Adults (51 years and above)	1,000mg
Breastfeeding / pregnant	1,000mg

- If you already have osteoporosis, aim for **1000 mg per day** from dietary sources and supplements.

Calcium rich food sources

Dairy Products

Food	Serving Size	Calcium content (mg)
High-calcium milk powder	4 scoops (25 g)	500
Low-fat milk	1 glass (250ml)	380
Full-cream milk	1 glass (250ml)	300
Yoghurt	1 carton (150g)	240
Cheese	1 slice (20g)	200

- Aim 2 servings of milk/high calcium soymilk daily to achieve adequate calcium intake.

Calcium-fortified products

Food	Serving Size	Calcium content (mg)
High-calcium soybean milk	1 glass (250ml)	450
Enriched bread	2 slices (60 g)	100

Non-dairy foods

Food	Serving Size	Calcium content (mg)
Canned sardine (with bones)	1 fish (80g)	270
Dried ikan bilis (with bones)	2 tablespoons (40g)	270
Silken tofu	package (150g)	100
Tau kwa	1 small cake (90g)	150
Watercress, raw	100g	200
Kai lan, cooked	1 mug (100 g)	72
Spinach, cooked	1 mug (100 g)	136
Chye sim, cooked	mug (100 g)	125
Broccoli, cooked	mug (100 g)	46
Paneer pakora	1 bowl (100 g)	274
Almonds	1 handful (30g)	70
Chia seed	2 tablespoons (30g)	179
Black sesame seed	2 tablespoons (30g)	234

VITAMIN D

Recommended dietary allowance for Vitamin D:

Age group	RDA of Vitamin D
Adults, 18 and above	2.5mcg
Pregnant and lactating women	10mcg

Vitamin D rich food sources

Food source	Vitamin D
Cooked salmon, 3oz (90g)	11.17mcg
Egg yolk, 1 large	1.02mcg
Fortified milk, 1 cup (250ml)	2.87-3.1mcg
Fortified cereal, 1 cup	1mcg
Cod liver oil, 1 tbsp (15ml)	34mcg
Sardines, canned (200g)	7.5-15mcg
Tuna, canned (100g)	5.9mcg
Shitake mushrooms, fresh (100g)	2.5mcg
Shitake mushrooms, sun-dried (100g)	40mcg

Please contact KTPH Dietitian at 6602 2420 or YCH Dietitian at 6807 8584 if you have any nutrition related question.

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