

# Have you gone vegan? Keep an eye on these 4 nutrients

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Legumes are a good source of calcium. Credit: [Saschanti17/Shutterstock](#)

There are [many reasons](#) people go vegan, from wanting to be healthier, to reducing their environmental footprint, to concerns about animal welfare.

No matter what the reason, many people find it difficult to meet the [nutrient intake targets](#) for specific vitamins and minerals while on a [vegan diet](#). These include vitamin B12, iron, calcium, and [iodine](#).

Here's how to make sure you're getting enough of these vitamins and minerals while following a vegan diet.

## 1. Vitamin B12

[Vitamin B12](#), or cobalamin, is essential for making [red blood cells](#), DNA (your genetic code), [fatty acids](#) located in [myelin](#) (which insulate nerves), and some neurotransmitters needed for brain function.

Vitamin B12 is stored in the liver, so a deficiency probably won't happen in adults in the short term.

### Symptoms of B12 deficiency

Symptoms of vitamin B12 [deficiency](#) include tiredness, lethargy, low exercise tolerance, light-headedness, rapid heart rate or palpitations, bruising and bleeding easily, weight loss, impotence, bowel or bladder changes, a sore tongue, and bleeding gums.

Other [symptoms related to the nervous system](#) include a loss of sensation in the hands or feet, problems related to movement, brain changes ranging from memory loss to mood changes or dementia, visual disturbances, and impaired bowel and bladder control.

### Testing for B12 deficiency

Your doctor may request a [blood test](#) to check your vitamin B12 status and determine whether indicators are in the [healthy range](#).

### Vegan food sources of B12

Vitamin B12 is [abundant in animal foods](#) including meat, milk and dairy products.

For vegans, plant sources of vitamin B12 include some algae and plants exposed to bacterial action or contaminated by soil or insects. While traces of vitamin B12 analogues can be found in some mushrooms, nori or fermented soy beans, more reliable sources include vitamin B12-supplemented soy or nut "milks", or meat substitutes. Check the nutrition information panel on the label for the the B12 content.

[Crystalline vitamin B12](#) added to these products can boost the B12's absorption rate to a level similar to that from animal products.

## 2. Calcium

[Calcium](#) is needed to develop and maintain the skeleton bones, and is stored in the teeth and bones. It is also essential for heart, muscle and

nerve function.

### Testing for calcium deficiency

Low calcium intakes are associated with [osteoporosis](#) or "brittle bones" and a higher risk of bone fractures.

A [bone scan is used](#) to measure bone density, with [osteoporosis diagnosed](#) when bone density is low.

Both low calcium intakes and low vitamin D levels increase the risk of osteoporosis. Check your bone health using the [Know Your Bones online quiz](#).

### Vegan food sources of calcium

Although the richest sources of calcium are milk and milk-based foods, vegans can get calcium from tofu or bean curd, some fortified soy or nut beverages, nuts, seeds, legumes, and breakfast cereals.

Calcium needs can be higher for vegans and vegetarians due to the relatively high [oxalic acid](#) content of foods such as spinach, rhubarb, beans, and the high [phytic acid](#) content of seeds, nuts, grains, some raw beans, and soy products. These specific acids can lower the calcium absorption from these foods by 10-50%.

In a [study of calcium intakes of 1,475 adults](#), vegans were below national recommendations and had lower calcium intakes compared with vegetarians, semi-vegetarians, pesco-vegetarians, and omnivores.



Meat substitutes are often supplemented with B12. Credit: [Stephanie Frey/Shutterstock](#)

### 3. Iodine

[Iodine](#) is needed to make thyroxine, a thyroid hormone used in normal growth, regulation of metabolic rate, and development of the central nervous system. [Iodine](#) is concentrated in the thyroid gland.

### Symptoms of iodine deficiency

[Iodine deficiency](#) can lead to the enlargement of the thyroid gland, a [goitre](#), or hypothyroidism.

[Symptoms of hypothyroidism](#) include lethargy, tiredness, muscular weakness, feeling cold, difficulty concentrating, poor memory, weight gain, depression, facial puffiness, hair loss, dry skin, constipation, and slower heartbeat.

In women, iodine deficiency can increase risk of miscarriage and stillbirth, and congenital anomalies, including mental retardation and [cretinism](#).

### Testing for iodine deficiency

Your iodine status can be assessed by a range of tests, including thyroid hormones in your blood, the size of your thyroid gland, or the presence of a goitre. Talk to your doctor about these tests.

### Vegan food sources of iodine

The [iodine content of food](#) depends on the iodine content of plants, which in turn depends on soil iodine content. When soil content is low, iodine may need to be supplemented.

Major sources of iodine are seafood, dairy products, and eggs.

For vegans, iodised salt, commercial bread made using iodised salt, fortified soy or nut milks (check

the product label) and seaweed are important.

Substances called goitrogens, which are found in [brassica vegetables](#) – including cabbage, broccoli and Brussels sprouts, sweet potato and maize – can interfere with the production of thyroid hormones.

#### 4. Iron

[Iron](#) is needed to make [haemoglobin](#) in red blood cells, which carries oxygen around your body.

Iron is [also needed for the production of energy](#) in your muscles, and for concentration and a healthy immune system.

#### Symptoms and testing for iron deficiency and anaemia

Not having enough iron leads to [iron deficiency](#), and is associated with reduced work capacity, impaired brain function, lower immunity, and delayed development in infants.

The first stage of [iron deficiency](#) is referred to as [low iron stores](#) and your doctor may refer you for a [blood test](#) to check your iron status.

#### Vegan food sources of iron

In Australia and New Zealand, the biggest contributors to iron intake are wholegrain cereals, meats, chicken, and fish.

The amount of iron absorbed from food depends on a person's iron status (with those who are iron-deficient absorbing more), as well as the iron content of the entire meal, and whether iron is haem (from animal foods) or non-haem iron from plant sources such as grains and vegetables.

Although iron from plant sources is less able to enter the body, you can boost your absorption by adding lemon or lime juice (citric acid) or other [vitamin C](#)-rich vegetables and fruits, which convert non-haem iron to a form that is better absorbed.

Take care with food components that inhibit absorption of both haem and non-haem iron,

including [calcium](#), zinc and phytates in legumes, rice and other grains, and [polyphenols](#) and vegetable proteins that can inhibit absorption of non-haem [iron](#).

Long-term vegans will also need to keep an eye on levels of [vitamin D](#), [omega-3 fat](#) and [protein](#).

A good strategy is to check in with your GP periodically to review your health and well-being, and an [accredited practising dietitian](#) can check whether you're getting all the nutrients you need.

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