

Vegetarian eating

Vegetarians are people who don't eat meat or seafood and may not eat eggs or dairy foods. Vegans follow a form of vegetarianism but consume only plant foods. Well-planned vegetarian diets have many health benefits and can provide all the essential vitamins and minerals necessary for a long and healthy life.

Types of vegetarians

There are three main types of vegetarianism. These are:

- **Lacto-ovo vegetarians** – people who avoid meat and seafood, but include dairy foods (such as milk and eggs) and plant foods.
- **Lacto-vegetarians** – people who avoid meat, seafood and eggs but include dairy foods and plant foods.
- **Vegans** – people who consume only plant foods.

Health benefits of a vegetarian diet

A well-balanced vegetarian or vegan diet can provide many health benefits, such as a reduced risk of chronic diseases, including:

- Obesity
- Coronary artery disease
- Hypertension (high blood pressure)
- Diabetes
- Some types of cancer.

Vegetarians and vegans also have lower rates of illness and death from a number of degenerative diseases.

Meeting nutritional needs

If you choose to be vegetarian or vegan, you need to plan your diet to make sure it includes all the essential nutrients. The wider the variety of foods you eat, the easier it will be to meet your nutritional requirements.

Some essential dietary requirements, which could be missing from a vegetarian diet if it isn't carefully planned, include:

- Protein
- Minerals (including iron, calcium and zinc)
- Vitamin B12
- Vitamin D.

Protein

Protein is essential for many bodily processes, including tissue building and repair. Protein is made up of smaller components called amino acids. A complete protein has all the amino acids necessary to make up protein. Most individual plant foods are not complete proteins – they only have some of the amino acids. Soy is one of the only complete vegetable proteins.

It was once thought that vegetarians and vegans needed to combine plant foods at each meal to ensure they consumed complete proteins. Recent research has found that this is not the case. Consuming various sources of amino acids throughout the day should provide the complete complement of protein. Generally, lacto-ovo vegetarians and lacto-vegetarian diets meet or exceed their protein requirements but some vegan diets may be low.

Some good plant sources of protein include:

- Legumes such as beans, peas and lentils
- Nuts and seeds
- Soy products including soy beverages, tempeh and tofu
- Whole (cereal) grains.

It is recommended that vegetarians and vegans eat legumes and nuts daily, along with wholegrain cereals, to ensure adequate nutrient intakes.

Minerals

If you're vegetarian or vegan, you need to make sure you get the right amount of essential dietary minerals. Some of these minerals, and suggested food sources, include:

- **Iron** – vegetarian and vegan diets are generally high in iron from plant foods; however, this iron is not absorbed as well as the iron in meat. Good food sources of iron include green leafy vegetables, peas and wholegrains, enriched cereals and legumes. Combining these foods with foods high in vitamin C and food acids, such as fruit and vegetables, will help your body absorb the iron.
- **Zinc** – performs essential functions in the body, including the development of immune system cells. Good food sources of zinc include nuts, tofu, miso, legumes, wheat germ and wholegrain foods.
- **Calcium** – is needed for strong bones and teeth. Good food sources of calcium include dairy products, fortified cereals and fruit juices, fortified soymilk, tahini and some brands of tofu. Leafy dark green vegetables (especially Asian greens), legumes, almonds and Brazil nuts also contain calcium.
- **Iodine** – our bodies need iodine for the thyroid gland and other associated hormones to function normally. Iodised salt is the most common source of iodine in the Western diet. Iodine is found in seafood, which is a rich source of this element. Sea vegetables (seaweed) also contain iodine, but are also high in salt.

Vitamin B12

Vitamin B12 is important for the production of red blood cells – it helps to maintain healthy nerves and a healthy brain. Vegans are at risk of developing vitamin B12 deficiency because it is not found in plant products.

Anaemia is a common result of B12 deficiency. If a breastfeeding mother is following a vegan diet, the lack of vitamin B12 in her milk can interfere with normal brain development of her baby.

Vitamin B12 can be found in dairy products and eggs. There are fortified vegan foods such as some soy beverages and some vegetarian sausages and burgers. If vegans don't obtain their B12 requirement from these foods, they are advised to take B12 supplements. Vitamin B12 absorption becomes less efficient as we age, so supplements may also be needed by older vegetarians.

Mushrooms, tempeh, miso and sea vegetables are often claimed to be a source of B12. However, this is not accurate. They contain a compound with a similar structure to B12 but it doesn't work like B12 in the body. They may contain some B12 on their surface, from soil (bacteria) or fertiliser contamination.

Vitamin D

The main source of vitamin D for most Australians is sunlight. There are few foods that contain significant amounts of vitamin D. There is very little vitamin D in most people's diets unless they eat fatty fish, eggs, liver or foods fortified with vitamin D (such as margarine). Fortified low fat and skim milk is another source of vitamin D, but the levels are low.

Vegans can increase their chances of avoiding vitamin D deficiency by consuming fortified soymilk and cereals. As the sun is also a major source of vitamin D, dietary intake is only important when exposure to UV light from the sun is inadequate – for example, in people who are housebound or whose clothing covers almost all of their skin.

Vegetarian diets and children

Well-planned vegan and vegetarian diets are appropriate for all stages of a person's life. However, special care needs to be taken with young children.

Infants consuming breast milk or commercial infant formula usually have their nutritional needs met. Upon weaning, it is important to include protein and energy rich foods for growth, such as mashed tofu or cottage cheese. Later, add cheese, cow's milk, full fat soymilk and legumes. One way to ensure that vegetarian children meet their energy needs is to give them frequent meals and snacks. It is particularly important that vegan children have energy and nutrient dense foods regularly (examples include full fat soy drink, tofu, mashed avocado, tahini spread and vegetables cooked with oil).

A global view

Some people choose to become vegetarian or vegan as a healthy lifestyle choice or for ethical reasons. There are also sound social reasons to be a vegetarian. Livestock production accounts for nearly 80 per cent of greenhouse gas emissions from agriculture worldwide. Livestock production places a much heavier burden on water, land and fossil fuel resources than grains and other crops.

Where to get help

- Your doctor
- An Accredited Practising Dietitian, contact the Dietitians Association of Australia

Things to remember

- Vegetarians don't eat meat for a range of health, environmental, ethical, religious or economic reasons.
- A well-planned vegetarian diet can meet nutritional needs over all the stages of life.
- More restrictive vegetarian diets, such as vegan and raw food diets, are more likely lead to nutritional deficiencies.

This page has been produced in consultation with, and approved by:

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