

Vegetarian eating

Vegetarians are people who don't eat meat. With careful planning, a vegetarian diet can provide all the essential vitamins and minerals necessary for a long and healthy life. A vegetarian diet has many health benefits, but can result in some vitamin and mineral deficiencies if it is not carefully planned.

Types of vegetarians

There are three main types of vegetarianism. These are:

- **Lacto-ovo vegetarians** - people who avoid meat, but include dairy foods (such as milk and eggs) and plant foods.
- **Lacto-vegetarians** - people who avoid meat 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 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 also have lower rates of illness and death from a number of degenerative diseases.

Meeting nutritional needs

If you choose to be vegetarian 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.

Daily nutritional requirements depend on a range of individual factors such as age, gender and stage of life. If you consume around the amount recommended for your particular age and gender (and you have no underlying medical conditions), it is unlikely you will be deficient. Dietary recommendations for a range of nutrients are available from the Australian Nutrient Reference Values (NRVs) website.

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 the only complete vegetable protein.

It was once thought that vegetarians 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.

Some good plant sources of protein include:

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

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

Minerals

If you're vegetarian 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 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 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 fruits 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. Seaweed also contains iodine, but is also high in salt.

Vitamin B12

Vitamin B12 is important for the production of red blood cells; it helps to maintain healthy nerves and mental abilities. Microorganisms that are ingested by animals manufacture vitamin B12. Strict 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 her baby's brain functioning.

Vitamin B12 can be found in dairy products and eggs. Vegans are advised to take B12 supplements. Vitamin B12 absorption becomes less efficient as we age, so supplements may be also be needed by older vegetarians.

Mushrooms 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 vitamin D fortified foods (such as margarine). Fortified low fat and skim milk is another source of vitamin D, but the levels are low.

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 house bound 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 children.

Strict vegetarian diets are generally not recommended for young children. The bodies of growing infants and toddlers have enormous demands for protein, vitamins and minerals. Small deficiencies can have dramatic effects on development. One way to ensure that vegetarian children meet their energy needs is to give them frequent meals and snacks, and include foods higher in fat, such as dairy foods.

A global view

Some people choose to become vegetarian as a healthy lifestyle choice or for ethical reasons. There are also sound social reasons to be a vegetarian. Vegetables are a more efficient source of protein - 40 per cent of today's world grain production is used to feed meat-producing livestock. Converting these cereals and grains to animal products involves significant loss of energy. It takes 5kg of grain to produce 1kg of beef. If meat consumption were lowered, more cereal grains and other food components might be used to improve the world's nutrition.

Where to get help

- Your doctor
- An accredited practicing dietitian, contact the Dietitians Association of Australia.

Things to remember

- Vegetarians don't eat meat - for health, environmental, ethical, religious or economic reasons.
- A vegetarian diet needs to be well balanced to ensure you don't develop protein, mineral or vitamin deficiencies.
- The stricter the diet, the greater the risk of deficiencies.

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

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