



# A guide to...

## Plant-based, Vegetarian and Vegan Diets: how to get the Best Nutrition

*Patient Information*

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Author	Maylinee Chan, Dietitian
Department	Nutrition and Dietetics
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**A plant-based diet is based on foods derived from plants, including vegetables, pulses, wholegrains, nuts, seeds and fruits, with few or no animal products.**

The term plant-based diet can mean different things to different people.

### **Variations of plant-based diets**

- Lacto-ovo vegetarians: eat dairy foods and eggs but not meat, poultry or seafood
- Ovo-vegetarians: include eggs but avoid all other animal foods, including dairy
- Lacto-vegetarians: include dairy foods but avoid all other animal foods, including eggs
- Vegans: don't eat any animal products including honey, dairy and eggs
- Semi-vegetarians (or flexitarians): occasionally eat some meat, seafood, poultry, eggs and dairy
- Pescatarians: eat fish and/or shellfish

You may choose to follow a plant-based diet for a variety of reasons such as concern about animal welfare, health benefits, environmental concerns or personal preference.

### **Healthy plant-based eating**

A plant-based diet can support healthy living at every age and life stage, providing all the nutrients needed for good health, including essential fats, protein, vitamins, minerals and plenty of fibre. But as with any diet, you should plan your plant-based eating to meet your nutritional needs.

This information booklet provides guidance on a few nutrients which may require more consideration when choosing to reduce foods that come from animals or cutting them out altogether.

### **Nutrients for consideration**

#### **Protein**

Plant-based sources of protein include lentils, beans, chickpeas, seeds, nuts and nut butters (e.g. peanut butter), and soya products (e.g. tofu or tempeh). Eggs and dairy are also good sources if you are eating these. Meat substitutes like vegetarian burgers, soya sausages, and other meat alternatives can be useful for those adapting to a plant-based diet and can provide a source of protein. However, as with any processed foods, these can often be high in salt and fat so should be eaten in moderation.

Aim for at least two servings of protein per day

Examples of one serving:

- 1-2 eggs
- 60g (2oz) soya mince or tofu
- ½ tin of baked beans (207g/7oz)
- 3 tablespoons of kidney beans, chickpeas or lentils



#### **Vitamin B12**

Vitamin B12 is needed for growth, repair and general health. Most people get vitamin B12 by eating animal products including eggs and dairy foods. If you are excluding all animal products, the only reliable sources of vitamin B12 are supplements and fortified foods:

- Fortified yeast extracts e.g. Marmite and vegemite
- Fortified yeast flakes/ nutritional yeast
- Fortified breakfast cereals
- Fortified soya products



Aim to eat fortified foods at least twice a day or take a supplement: 10 mcg daily or at least 200 mcg weekly.

If you are worried whether you are obtaining sufficient vitamin B12, a dietitian can calculate your intake from food/ supplements, or a doctor can check your blood homocysteine levels.

## Calcium and vitamin D

Calcium is important to keep bones and teeth healthy. An adult requires approximately 700mg per day. Dairy foods are rich in calcium but if you are not eating these make sure you obtain calcium from other plant-based foods:

- Fortified dairy alternatives (soya, almond or oat milk)
  - Calcium-set tofu
- Sesame seeds/ 'tahini' paste
- Red kidney beans
- Dried fruit
- Nuts e.g. almonds
- Leafy green vegetables



Vitamin D is essential for the absorption of calcium. Major sources of vitamin D include sunlight exposure and fortified foods (dairy alternatives, breakfast cereals).

Since it is difficult to get enough vitamin D from food alone, everyone should consider taking a daily supplement of 10mcg/ day during the autumn and winter months. Please note - some vitamin D supplements are not suitable for vegans. Vitamin D2 and lichen-derived vitamin D3 are suitable.

## Omega 3 fatty acids

These fats have been shown to be important for health and are commonly found in oily fish. If you are not eating fish, plant sources of omega 3 include walnuts, flax (linseed), hemp seeds, chia seeds and soya-based foods e.g. tofu.

Aim to have the equivalent of 1 tablespoon of linseeds or 6 walnut halves per day. Oils such as rapeseed, hemp and flaxseed oil provide essential omega 3 fats and are preferable to corn/sesame/ sunflower oils. Omega-3 supplements made from algae are also available and are suitable for vegans.



## Iron

This mineral is vital to health, as deficiency causes anaemia.

Plant sources of iron include:

- Dried fruits
- Wholegrains
- Nuts and seeds
- Peas, beans and lentils



The form of iron in plant foods is absorbed less efficiently than iron from animal-derived sources such as meat and eggs. To increase absorption, consume iron-rich, plant-based foods with vitamin C e.g. citrus fruits, berries, green leafy vegetables and peppers.

## Zinc

Zinc is important for growth and development in childhood and is necessary for the immune system. Like iron, zinc absorption from plant foods is lower than from animal foods. Good sources of zinc include:

- Beans (soak dried beans then rinse before cooking to increase absorption)
- Wholegrains
- Nuts and seeds
- Fermented soya such as tempeh and miso
- Some fortified breakfast cereals



## Iodine

The iodine content of plant foods depends on the iodine content of the soil in which they were grown. Foods grown closer to the ocean tend to be higher in iodine. Where soils are iodine deficient, iodised salt, fortified dairy alternatives and seaweed provide iodine. However, the iodine content of seaweed is highly variable and often too high, therefore you should not consume sea vegetables (seaweed, kelp, and samphire) more than once a week. An excess of iodine can be harmful. A non-seaweed supplement may be most reliable to meet requirements in vegans.

## Meal and snack ideas

### Main meals

- Vegetable and bean casserole, chilli or curry
- Shepherd's pie (made with lentils, soya or Quorn)
- Spaghetti Bolognese (made with lentils, soya or Quorn)
- Nut roast, lentil loaf or vegetarian sausages  
Served with potato, bread, rice or pasta and vegetables or salad
- Stir fry with cashew nuts and tofu pieces
- Jacket potato with baked beans, chilli bean filling or dairy-free 'cheese'



### Light meals

- Sandwiches filled with peanut butter/ hummus/ vegetarian pâté/ dairy-free 'cheese'/ meat alternatives
- Toast topped with baked beans/ dairy-free 'cheese'/ avocado/ jam, marmalade, peanut butter, marmite, dairy free chocolate spread
- Mushroom/ vegetable/ lentil or split pea soup
- Pasta salad

### Snacks

- Soya, coconut, or almond yogurts
- Fresh/ tinned/ dried fruit/ nuts and seeds
- Pitta bread/ crackers/ vegetables with dips (e.g. hummus/guacamole)
- Fruit cake, date slice, banana cake, flap jack or cereal bar
- Dark chocolate
- Popcorn



### Quick tips

#### Pulses

- Dried beans, peas or whole lentils cook much more quickly if soaked in water overnight
- Add seasoning after cooking as salt, tomatoes and lemon juice will toughen the pulses
- Cooked pulses can be frozen
- Tinned, ready cooked varieties (choose canned in water) are just as nutritious and can be more convenient

## Budgeting

- Plan in advance and shop carefully to prevent impulse purchases
- Buy produce that are in season as these are usually cheaper
- Buy frozen and tinned fruit (in juice, not syrup) and vegetables as these can be cheaper and last longer
- Take advantage of reduced-price items as they can be frozen on day of purchase until needed
- Prepare meals in bulk and freeze the extra portions for another day

## Food labelling

There is now guidance from the Food Standards Agency for manufacturers to follow when labelling products vegetarian or vegan. Many manufacturers will state whether a food product is suitable for a vegetarian or vegan diet. However, the vegetarian and vegan society also have trademark logos which appear on the labels of approved foods.



## Enriching your plant-based diet

Plant-based diets are generally lower in energy and higher in fibre and water, which may make maintaining or gaining weight more difficult. The following two pages provide guidance on what to eat and drink if you are concerned about having a poor appetite or are experiencing difficulties with eating during periods of illness.

**Food fortification** can help to increase your energy and protein intake without adding extra bulk to your diet.

### • Fortified dairy alternatives

Tip: choose 'original' or 'sweetened' versions, as these are higher in energy. Soya tends to have a higher calorie and protein content

- Use in sauces to have with meals or as an additional ingredient e.g. in white sauce, mashed potato or pasta
- Use to make tea, coffee and other milky drinks e.g. hot chocolate (see additional milkshake recipes below)
- Use custard powder made up with dairy-free 'milk', or ready-made soya custard to use as a dessert or as a sweet topping
- Use soya/ oat/ coconut cream on desserts or with fruit

- **Dairy-free 'cheese'**

- Add into meals e.g. soft 'cheese' stirred into mashed potato, grated 'cheese' on top of pizzas, vegetables, sauces, or soups
- Vegan 'cheese' and biscuits make a good snack between meals

- **Fats and dressings**

- Use olive or vegetable oils generously in cooking, dressings, and drizzled over meals
- Use olive or vegetable oil-based spreads generously on toast, in mashed potato, or melted over vegetables, potatoes, or pasta
- Choose sauces such as vegan mayonnaise or ketchup to top meals or to dip chips or crackers
- Use nut and seed butters to top toast, snack on, or in meals e.g. peanut butter on toast or porridge, tahini (sesame seed paste) in sauces, and almond butter with fruit as a snack

- **Sugar**

- Stir additional sugar into drinks and desserts to taste
- Top breakfast cereals or porridge with additional table sugar, maple syrup, jam, golden syrup, or agave nectar
- Avoid artificial sweeteners and choose ordinary sugar products
- Avoid 'sugar-free' options of squash or fizzy drinks

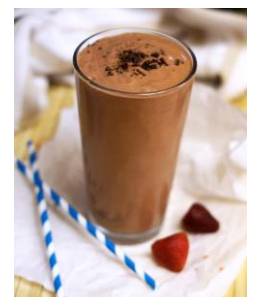
In addition to fortifying foods, try to have smaller but more frequent meals throughout the day, as well as nourishing snacks and drinks between meals.

### **Nourishing Drink Ideas**

- **Chocolate Milkshake**

(Per 250ml: 412 kcal and 17g protein)

330ml soya milk, 20g pea protein powder, 200g chocolate soya ice cream  
*Add the protein powder to the milk and whisk to mix thoroughly. Mix in the ice cream (may need to be blended or left to soften so that it can be mixed easily).*



- **Strawberry Ice Shake**

(Per 250ml: 566 kcal and 16.5g protein)

100g or 1 medium banana, 80g frozen strawberries, 200g soya ice cream, 50g coconut cream, 250ml coconut milk, 20g pea protein  
*Mix all ingredients in a blender.*

### **Nutritional supplement drinks**

There are now plant-based high energy, high protein shake-style drinks available. If you require oral nutritional supplements whilst in hospital or in the community, AYMES ActaSolve Smoothie may be prescribed (available in mango/ peach/ pineapple/ strawberry/ cranberry flavours).



### **For a healthy vegan diet:**

- Eat at least five portions of a variety of fruit and vegetables every day
- Base meals on potatoes, bread, rice, pasta or other starchy carbohydrates (choose wholegrain where possible)
- Have some fortified dairy alternatives, such as soya drinks and yoghurts (choose lower-fat and lower-sugar options)
- Include beans, pulses or other sources of protein at each mealtime
- Eat nuts and seeds rich in omega-3 fatty acids (such as walnuts) every day
- Choose unsaturated oils and spreads, and eat in small amounts
- Have fortified foods or supplements containing nutrients that are more difficult to get through a vegan diet, including vitamin B12, vitamin D, calcium, iodine, zinc and iron
- Drink plenty of fluids (aim for 6-8 cups or glasses a day)
- Highly processed plant-based foods (such as vegan meats and cheeses) can be high in fat, salt or sugar – have these less often and in small amounts.

### **Further information**

Food fact sheets on specific nutrients including Iodine and Vitamin D are available at:

[www.bda.uk.com/foodfacts](http://www.bda.uk.com/foodfacts)

### **Useful links**

The Vegan Society

[www.vegansociety.com](http://www.vegansociety.com)

The Vegetarian Society

[www.vegsoc.org](http://www.vegsoc.org)

### **Contact details**

WGH Nutrition & Dietetics department

Sycamore House

Watford General Hospital

Vicarage Road

Watford

Hertfordshire WD18 0HB

**Tel: 01923 436 236**