

# EATING FOR SPORT & MANAGING A VEGETARIAN DIET

There are many reasons why people choose to follow a vegetarian diet. For some, it is part of their cultural, religious or moral beliefs. For others, it is about making a personal dietary choice to work towards a healthy lifestyle. Vegetarians choose to exclude food derived from animal origin and may exclude several of the following foods: red meat, poultry, fish and seafood, eggs, milk and dairy products.

There are several ways to classify the vegetarian diet depending on what is included and excluded:

- **LACTO-OVO VEGETARIAN** – all meat, poultry, fish and seafood are excluded but milk and eggs are consumed.
- **LACTO-VEGETARIAN** – all meat, poultry, fish, seafood and eggs are excluded, but milk is consumed.
- **SEMI-VEGETARIAN** – red meat is most often excluded, however fish, shellfish and/or chicken may also be excluded.
- **VEGAN** – all meat, poultry, fish, seafood, eggs and dairy products are excluded. Vegans will often not consume honey or foods containing gelatin (e.g. jelly lollies and marshmallows) and may choose not to make use of products containing wool or leather.

In addition to these main classifications there are also others such as the ovo-vegetarian (consumes eggs but not dairy products) and the pescovegetarian (consumes fish but not red meat or poultry).

## IS A VEGETARIAN DIET HEALTHY?

Following a vegetarian diet can be a healthy way to eat provided that the food products excluded are replaced with suitable vegetarian alternatives which provide similar nutrients. For most vegetarians, the main nutrients to consider are protein, iron, zinc, omega 3 and Vitamin B12. For vegans and

ovo-vegetarians, it is also important to consider calcium.

It is yet to be determined if a vegetarian diet can improve or hinder sporting performance. In theory, if you have a healthy balanced vegetarian diet that meets your requirements for energy (kJ), carbohydrate, protein and fat, as well as providing all the vitamins and minerals you need for good health, then the dietary choice would support performance. However, if you are following a vegetarian diet you need to be aware that a poorly planned vegetarian diet could be low in essential nutrients which could have a negative impact on your training, performance and recovery.

## ACHIEVING A HEALTHY VEGETARIAN DIET

### ENERGY

Given that a vegetarian diet is generally rich in fruit, vegetables, wholegrains and legumes, it can result in a diet which is very high in fibre.\* Fibre is

well known for its important role in maintaining a healthy gut, however a very high fibre diet may mean that you become full very quickly and may then struggle to eat adequate total KJ per day to support your training demands. This can be a particular issue for children and adolescents who not only need energy for training, but also have high kilojoule requirements because they are still growing.

If you are vegetarian and still eat dairy products such as cheese, yoghurt, creamed rice and custard it quite easy to increase the amount of energy and protein you have without adding too much fibre and bulk which is helpful. If you are vegan, incorporating tofu, tempeh, texturised vegetable protein and smoothies or custard made with soy or rice milk would help.



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## CARBOHYDRATE

Given that most breads and cereals are suitable for vegetarian diets, it is quite easy to eat enough carbohydrate. Wholegrain breads, oats, pasta, rice or starchy vegetables (potato, kumara) should be included at each meal and snack. Fruit and vegetables are also valuable sources of carbohydrate. It can be helpful to include carbohydrate before you exercise to provide fuel. Including carbohydrate rich foods/drinks afterwards also helps assist with recovery and to help replenish glycogen stores.

## PROTEIN

Including protein-rich foods is important to maintain good health and promote recovery after exercise. As a vegetarian diet may exclude common protein-rich foods, alternatives need to be included in meals and snacks. It is important to bear in mind that most plant proteins are not considered 'complete' proteins as they often lack one or more amino acid (for more information see sheet on Protein). For this reason, recommendations for vegetarian athletes are approximately 1.3 – 1.8g/kg/day (rather than the normal 0.8-1g/kg/day) to ensure they get the full balance of amino acids they need.\*

The key is for vegetarians and vegans to have a varied diet and include a range of protein-rich foods.

## SOURCES OF PROTEIN

Fish, eggs, and dairy products are excellent sources of protein, if you eat these. Other sources include legumes (e.g. beans, peas and lentils), tofu, nuts, soy milk, rice/oat milk and soy yoghurt. Low fat varieties of these foods should be selected where possible.

## FATS

Including healthy fats is important for a balanced diet. Olive, canola and rice bran oils are ideal. Avocado, nuts and seeds are also a source of healthy fat which you can be included every day. If you don't eat fish alternative sources of omega 3 include flaxseed (linseed) oil, ground flaxseeds, LSA and walnuts. Omega 3 supplements from a reputable brand can be used if preferred.

## VITAMINS

Vitamin B12 is needed for blood cells to develop normally. The main sources of this

vitamin are meat, milk, eggs and yoghurt. Vegans are particularly susceptible to low levels of Vitamin B12 as they exclude all of these foods. Small amounts of B12 can be found in peas, whole wheat, ground nuts, alfalfa sprouts and fermented soy bean products like tempeh. Using fortified breakfast cereals, marmite and fortified soy milk is a very good idea if you are vegan.

However the vitamin is poorly absorbed by the body in the plant form and vegans may need to get additional vitamin B12 in the form of a supplement. Talk to your GP for more information.

## MINERALS

Removing animal products from your diet can potentially mean you don't get enough iron or zinc, and calcium, for those who exclude dairy products.

**IRON** – If you don't have enough iron, it may result in fatigue and a feeling of low energy.

For vegetarians who eat eggs, these are a valuable source of iron. Plant sources of iron include tofu, green leafy vegetables, oats, legumes (including baked beans) and some dried fruit. The iron found in plant sources is known as non-haem iron and is absorbed far less efficiently than haem iron, which is found in meat. To enhance the absorption of non-haem iron from plant sources, it is important to include Vitamin C in the same meal. In practical terms, this means having fruits/vegetables which are high in Vitamin C at the same time as plant sources of iron. A good example of this is consuming a glass of orange juice with an iron-enriched breakfast cereal. Fruits high in Vitamin C include citrus fruit, oranges, berries, kiwifruit, grapes, grapefruit, feijoas and passionfruit. Vegetables high in Vitamin C include dark green vegetables, red, yellow, green and orange peppers and tomatoes.

For more information, see Nutrition Advice sheet on 'Iron'.

**ZINC** - Zinc is an antioxidant which is essential for a healthy immune system as well as playing a vital role in many metabolic processes in the body. Sources of zinc for vegetarians include dairy products and shellfish (if you eat it), dried peas, pulses (like lentils and chickpeas), wheat germ, wholegrains, seeds and nuts.

**CALCIUM** – It is important if you exclude dairy products to include calcium enriched soy or rice milk and yoghurt alternatives to make sure you get enough calcium. Tofu, nuts, seeds and pulses such as chickpeas, provide small amounts of calcium but will not satisfy your daily calcium needs on their own.

## HEALTHY MEAL IDEAS FOR VEGETARIANS

### BREAKFAST

- Hot Oats made with calcium enriched milk/soy milk topped with kiwifruit, dried apricots and chopped nuts
- Low fat yoghurt (can be soy) layered with muesli, fresh or frozen berries and sliced almonds
- Peanut butter on wholegrain toast topped with sliced banana and a glass of calcium enriched milk/soy milk
- Scrambled egg or tofu on wholegrain toast with sliced avocado and tomato
- Smoothie made with calcium enriched milk/soy milk, MILO (if milk is consumed), banana, oats and a drizzle of honey

### LUNCH

- Chickpea and roast vegetable salad with a citrus dressing and a low fat yoghurt/soy yoghurt
- Baked beans on toast with a glass of fruit juice
- Omelette (if you eat eggs) with veggies and a potato salad with low fat dressing
- Hummus with wholemeal pita and a mixed salad with nuts and dried fruit

### DINNER

- Rice with chilli made from lentils, kidney beans and veggies
- Dhal or a chickpea curry with rice and spinach
- Tofu and vegetable stir fry with noodles
- Lentil bolognese with spaghetti and green salad with citrus dressing

**Nutritionist's note:** Given the variety of vegetarian diets, ideally seek individual advice for a meal plan created to suit your specific needs.

\* Nutrition for Athletes 2012. A practical guide for health and performance. Cultural and religious issues – Considerations for Vegetarians. Pg 48. International Olympic Committee

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