



VEGETARIANISM

One in seven households have at least one vegetarian in them. With more people taking up this dietary practise, what are the pros and cons of being a vegetarian?

There are several types of vegetarians:

- Most people are lacto-ovo-vegetarians – they eat eggs and milk.
- The next most common are fish eating vegetarians.
- Lacto vegetarians have milk products.
- Vegan – no animal products at all – no milk, eggs or butter.
- Macrobiotic – like vegan and use only unprocessed, unrefined “natural” and organic cereals, grains and condiments.

The important problem about vegetarianism is that plant foods do not contain any vitamin B, vitamin B12 or omega 3 fatty acids. In addition, plant foods have lower amounts of methylamine, iodine and carnitene. Components in plant foods inhibit absorption of the following nutrients in them – iron, calcium and zinc. Iron deficiency causes inhibited formation of omega 3 fatty acids in the body.

However, there are some good points about vegetarianism. It reduces heart disease by 24% - this is partly due to a lower intake of saturated fat and cholesterol. Animal fats can cause hypercholesterolaemia. There is a significant association between beef consumption and fatal heart disease in men. Plant sources of fat actually lower cholesterol, i.e. oleic acid in olive oil, grape seed oil, sesame oil, hazelnuts, almonds, pistachio nuts etc.

In addition, vegetarianism gives the following benefits:

- Lowers blood pressure.
- Lowers rheumatoid arthritis symptoms.
- Reduces Parkinson's disease.
- Reduces diverticular disease.
- Helps insulin sensitivity so helps diabetes and weight loss.
- Complex carbohydrates with low glycaemic index helps glucose control. (Glycaemic index is an indicator of how quickly the food becomes simple sugars in the blood stream. A low GI is good. High GI comes from sugar and sugary foods.)
- Soluble fibre sources like oats, barley and legumes help much more than insoluble fibre.
- Reduces CRP. (CRP is an indicator of inflammation in the body.) It is thought that high salicylates and maybe other anti inflammatory substances in the foods do this.
- There is lower oxidative damage to lipids, proteins and DNA due to the high antioxidant intakes from fruit and vegetables.
- Reduction of some cancers, especially breast, bowel, prostate, bladder, pancreas and lung.
- Fermentable fibres in legumes, fruits and vegetables increase faecal bulk and reduce transit time – this reduces exposure of the intestinal lining to cancer causing substances.
- Ingredients in fruit and vegetables modulate the enzyme system responsible for metabolising carcinogens – these are flavonoids, isothianates and allyl sulphides.
- Vitamins C, E and polyphenols inhibit formation of the potential carcinogens – N-nitroso compounds.
- Soy contains lignins and phyto-oestrogens which lower the risks of hormone related cancers.
- Certain plant starches help bifido bacteria grow. We know that bifido bacteria are amongst the good organisms that help regulate the gut and immune system.
- Wholegrains and legumes contain chemicals that block initial DNA damage and suppress progression towards the cells becoming cancerous.
- There is selenium in brazil nuts. Selenium is a strong antioxidant.

- There is co-enzyme Q10 in pistachios, walnuts and sesame seeds. Co-enzyme Q10 is important for energy production, prevention of heart failure, and prevention of hypertension and some cancers, as well as Alzheimer's disease.
- Saponins in legumes form insoluble complexes with micelles (a form of cholesterol) and thus interfere with cholesterol absorption.
- Plant proteins (e.g. as in soy) alter LDL receptor activity. LDL is the "bad" cholesterol.
- Antioxidant nutrients like vitamin E, betacarotene, vitamin C, selenium, polyphenols and flavenoids are potent inhibitors of LDL oxidation. Oxidation of the bad cholesterol LDL causes it to become more "rancid" in the body and thus rancidity promotes inflammation and disease.
- Vegetarians have a higher intake of the amino acid arginine and pyruvate precursors. These cause increased glucagon secretion – in turn this causes reduction of denovolipogenesis, decrease in fat storage, reduction of cholesterol production and in circulating LDL, and a reduction of triglycerol synthesis.

But of course there are always bad points to anything and there are only a few for vegetarianism:

- There is a risk of low iron, vitamin B12, omega 3 fatty acids, calcium, zinc, vitamin D in the body. There is also a higher risk of higher levels of homocysteine. Homocysteine is an amino acid that is increased in the body in relation to lowered levels of folic acid, B12 and B6. homocysteine levels in excess damage blood vessels. However, eating dairy and eggs will help vitamin B12 intake.
- Calcium absorption is blocked by spinach and rhubarb intake which have high oxylate levels. However, low oxylate vegetables like kale, bok choy, broccoli, help calcium absorption.

Those more at risk as a vegetarian include pregnant and breastfeeding women but if they have eggs and dairy it is okay. It is important to note that foetuses need vitamin D and the DHA component of omega 3 fish oil for their developing brains. In children, cognition is influenced by iodine, iron, zinc, vitamin B12, folic acid and omega 3 fatty acids. There is concern in children that they can't get enough energy and nutrients from bulky vegetarian diets.

Some vegetarian athletes could be at risk of low iron and B12. In addition, athletes need more protein. Endurance athletes are at higher risk of iron deficiencies.

Tips to vegetarians:

1. Ensure that if you have a vegetarian diet you get professional support to make sure that you do not miss out on all your nutrients.
2. Have vitamin C foods with iron containing foods to help absorption of iron, e.g. have kiwifruit, orange juice or citrus foods when you have had your vegetables.
3. Avoid having coffee or tea with food because it blocks iron absorption.
4. Accept the need from time to time that you might need iron or B12 supplementation.
5. Get plenty of sunlight carefully to avoid sunburn so that you can get more vitamin D, or be prepared to supplement your vitamin D levels.
6. Take omega 3 fish oil, especially if you do not have fish.