



If someone is considering making the switch to vegan, what's the healthiest way to do this?

Make sure there are good levels of protein and unrefined whole foods with a variety of vegetables in your meals. People can have unhealthy plant-based diets because they are thinking of no animal foods and yet are living on white bread, pizza and lots of cakes and biscuits with added sugar.

What are the main benefits of cutting back on meat?

One issue with eating meat is that not only is it high in saturated fats, but also certain carcinogenic chemicals are formed when the meat is cooked. These are called heterocyclic amines (HCAs) and are formed when amino acids and creatine (a chemical found in muscle) react at high temperatures. They are found in cooked muscle meat like chicken and fish, but not in other animal proteins like eggs. The higher the cooking temperature, the more HCAs that are formed. So frying, grilling and barbecuing produce the largest amounts. Stewing, boiling and poaching are done at much lower temperatures and produce insignificant amounts of HCAs. These HCAs are also linked to colon cancer for both men and women and prostate cancer for men. The World Cancer Research Fund suggests avoiding processed meats like ham and bacon completely because of the risk of cancer.

Is there strong evidence to suggest eating a more plant-based diet is healthier? Yes a plant-based diet has been linked to reducing risk of cancer as it supports more regular bowel motions with the increase in fibre and also boosts antioxidant intake. It is also known that women who have a diet rich in

phytoestrogens have fewer menopause symptoms and a reduced risk of breast cancer.

Earlier this year a report from University College London showed how eating seven or more portions of fruit and vegetables a day is healthier than the minimum five currently recommended and will prolong our lives. The study looked at general mortality as well as death from cancer, heart disease and stroke, and found the risk of premature death from any cause decreased as fruit and veg consumption increased. In fact, the more fruit and vegetables people ate, the less likely they were to die. Opting to go vegan is one way to bump up your vegetable intake, as long as you don't resort to eating lots of pizza and pasta.

If someone is a vegan, what nutrients are they at higher risk of being deficient in?

The one major nutrient that a vegan can become deficient in is vitamin B12, found mainly in animal foods. A vitamin B12 deficiency can give you symptoms such as fatigue, weakness and memory loss. Iron is another important nutrient and is absorbed as haem iron from animal sources. In plants, it is in the form of nonhaem iron which is not absorbed as well as the haem form. It's often thought that people who avoid dairy products can become deficient in calcium but there are many vegetable sources of calcium including kale, sesame seeds and tofu. I think it's more important to make sure that your levels of vitamin D are good as that nutrient is needed for calcium absorption.

What foods should vegans consume to address any nutrient gaps? Research has shown that the seaweed nori is a good vegan source of vitamin B12. Otherwise you will need to have

foods that are fortified with vitamin B12 like some cereals. Interestingly, nutritional yeast will only contain vitamin B12 if it has been added to it. Good non-haem sources of iron are beans, nuts, sprouted beans, cereals and green leafy vegetables. Vitamin C helps to increase the absorption of iron so it's important to include plenty of fruit and vegetables or take a vitamin C supplement.

Make sure you are getting enough of the omega 3 fats from walnuts, chia and flaxseeds. It is estimated that we are getting up to 25 times more omega 6 fats from our diet than omega 3. Your body produces substances called cytokines from essential fatty acids, some of which are anti-inflammatory and some of which are pro-inflammatory. Consuming too much of the omega 6 fats can cause inflammation which can lead to not only visible signs such as joint pains, arthritis, swollen gums, skin problems and colitis, but also serious illnesses such as heart disease, type 2 diabetes, Alzheimer's, osteoporosis and cancer.

What supplements are important for a vegan?

Make sure you are eating a wide variety of food and not including a lot of sugar and refined carbohydrates. It's also important to take a good vegan multivitamin and mineral. It will contain vitamin B12 and D3 plus all the other important vitamins and minerals. I would also suggest you take a good vegan algae source of EPA and DHA omega 3 fats just in case your body is not converting enough from the flaxseeds.

What are the best sources of protein when avoiding animal-based products? Go for quinoa, nuts, seeds and beans and aim to include protein with every meal and snack.

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