

# Keep on pumping

**O**f all the complex jobs our bodies have to perform it sounds a comparatively simple demand that we make of our heart - just sit there and pump. That's what it does, day in and day out, pushing blood around the body to supply individual cells with food and oxygen. Unfortunately, we're extremely adept at shoving a spanner in the works - although veggies not so much so. Recent studies show that when compared with meat-eaters, vegetarians have an incredible 25 per cent lower risk of dying from heart disease (1). How so? Many of the risk factors for heart disease are related to diet and vegetarian diets tend to be healthier.

## Number Crunching

Cardiovascular disease (CVD) is the main cause of death in the UK with over 235,000 fatalities annually. The main forms of CVD are coronary heart disease (CHD) and stroke. Over 270,000 people have a heart attack each year, with 125,000 of them dying. CVD also accounts for high levels of serious long-term illness (morbidity). Half-a-million people have heart failure and around 1.5 million suffer from chest pain (angina) when they exert themselves (2). These figures show the staggering extent of this largely man-made epidemic.

## Risk Factors

Major risk factors for CHD include smoking, lack of exercise, stress, high alcohol intake, a poorly-balanced diet, high blood pressure, high cholesterol levels, diabetes and being overweight. Vegetarian diets tend to be made up of the kinds of foods that have been shown over many years to help reduce these risks.

## Cholesterol Levels

Too much saturated fat in the diet encourages the body

to increase its cholesterol levels - a major risk factor for CHD. Meat and dairy are major sources of saturated fat while vegetarian and vegans diets tend to contain lower levels (1). The most powerful cholesterol-lowering agents are all found exclusively in plant foods - soluble fibre in oats, fruits and vegetables and plant protein such as soya.

There are two types of cholesterol - LDL (low-density lipoprotein) and HDL (high-density lipoprotein). LDL has long been considered the most damaging to artery health because it is deposited directly on artery walls. This damage to blood vessels is particularly acute when the LDL is itself damaged - or oxidized.

Fortunately, the body does have a potent defence against oxidation and it's made up of substances called, appropriately, antioxidants. These are primarily the vitamin beta-carotene - converted into vitamin A by the body - and vitamins C and E, all of which are found only in plant foods. Selenium and zinc are other antioxidants.

No surprise, then, that studies show vegetarians to have higher antioxidant levels than meat-eaters! (3). What's more, a recent study suggests that vegetarian diets reduce the risk of LDL damage due to oxidation! (4). It seems that antioxidants work on two levels - they reduce damage to blood vessels and weaken those things responsible for causing the damage. A double whammy in reverse.

## Homocysteine

This is the most recently discovered risk factor for heart disease. Homocysteine (Hcy) is an amino acid and one of the building blocks that make up protein. It



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is produced by the body during the breakdown of another amino acid - methionine. High levels of Hcy have been linked to an increased risk of heart disease and stroke - possibly by causing lesions in blood vessels which then lead to a narrowing of the arteries.

Three key B-vitamins are crucial to lowering Hcy levels and potential risk of CHD and stroke. Folate and vitamin B6 are found abundantly in plant foods and vitamin B12 is added to many foods including breakfast cereals and meat substitutes. A daily intake of 3 micrograms is recommended (5,6) found in an average 250ml serving of soya milk plus a 50g serving of cereal plus a couple of pieces of toast with margarine and yeast extract. Versions of all these products are available fortified with B12 so check the labels.

## Blood Pressure

Officially known as hypertension, it increases the risk of artery blockages and is described as the silent killer - most people don't even know they have it. Again, vegetarians come up trumps and suffer much less from hypertension than meat eaters. A vegetarian diet can even lower blood pressure (7,8,9,10,11). Encouraging everyone to adopt a plant-based diet would be an obvious and major step in reducing this extremely common condition.

## Weight Maintenance

Another winner for veggies is keeping to an ideal weight as numerous studies show that vegetarians tend to be slimmer than meat-eaters (1,12,13,14,15,16). It goes without saying that a well-balanced vegetarian or vegan diet, together with regular exercise, is the key to maintaining a healthy weight. You can have your cake (chocolate and vegan of course!) and eat it - but best keep it for special occasions.

## Aspirin Alternative

Diet isn't just about reducing the risk of disease, the right one can help to reverse damage that has already occurred. The fact that vegetarian diets can perform this therapeutic role in heart disease has long been known. The Reversal Diet, devised by Californian clinician Dr Dean Ornish, clearly shows the ability of a veggie diet to reverse even severe CVD. Patients who follow his near-vegan diet show a significant reduction in the hardening of their arteries (17,18,19).

Whilst aspirin is widely prescribed to reduce the risks of heart disease by thinning the blood, there is a downside in the form of an increased risk of ulcers. Can plant-based diets offer any alternatives here? You bet they can! A neat little study by Scottish researchers found that levels of salicylic acid - the main component in aspirin - was up to 12 times higher in vegetarians than meat-eaters (20). Not surprising, really, when you realise that salicylic acid is widely present in fruits and vegetables.

## Strategic Planning

There is no longer any argument that huge benefits result from eating a plant-based diet. As to what types of foods to choose, a few simple rules apply (21).

Firstly, get the right source of fat in your diet.

Fats are vital for the heart but not all fats are equal! It is important to replace saturated - mainly animal - fat with plant-derived, unsaturated fats. These can be obtained from eating beans such as soya, seeds such as sunflower and flax, and un-salted nuts. And, of course, there are the bottled oils which are extracted from them. These all provide essential omega-3 and omega-6 fats the heart needs. Olive oil is also heart friendly. Whilst oily fish contain omega-3 fats, they come ready-packaged with those nice little toxic chemicals, PCBs and dioxins! Trans-fats, known as hydrogenated fats, can be from plants but they are altered - hardened - for use in many processed foods and they are bad news for hearts and should be avoided.

The second rule is to eat plentiful amounts of fresh fruits and vegetables.

Thirdly, eat wholegrains. Foods made from processed white flour, such as white bread, are best avoided along with sugar. Brown rice is preferable to white rice and wholemeal pasta is better than white pasta.

And fourthly, eat moderate amounts of healthy sources of protein, such as almost any variety of bean, lentils, nuts and seeds.

## You know it makes sense

Good vegetarian diets are based on these four dietary strategies. Regular physical exercise, healthy weight maintenance and avoiding smoking are, of course, also necessary to keep hearts healthy.

There is now a large body of scientific evidence that shows unequivocally the power of plant-based diets in maintaining a healthy heart. Go veggie - your heart will thank you for it!

*Free reference list available on request by sending a stamped, self-addressed envelope. Research papers available at £2 each. Send to the Vegetarian & Vegan Foundation, 12 Queen Square, Brighton BN1 3FD.*

*Laura Scott will explore a new health topic in each issue of Veggiehealth. They will be reproduced as fact sheets and will be available to order.*

