How Food and Lifestyle affects Heart Disease

Heart disease is unknown in primitive peoples living on simple diets of natural food, but it is common in the western world. This tells us that what we eat makes a difference. For instance, there no heart disease in New Guinea until 1975. As they started eating the western diet, things changed and now there are two attacks a week. This pattern has been seen in many underdeveloped countries.

This leaflet tells you which foods will help your heart and which will make it worse. We have seen many people with angina get better simply by changing their diet.

Foods That Harm

MAJOR CAUSES:

Seed Oils

Coronary heart disease was almost unknown in the nineteenth century with the first recorded heart attack in the USA in 1921. But by the 1930s it had become the leading cause of death. **This coincided with the rise in vegetable oils in the food supply** which increased from virtually zero at the turn of the twentieth century to 86% of all fats by the turn of the twenty-first century. These replaced butter, lard and tallow.

Seed oils are made industrially at high temperatures and pressures producing highly toxic oxidation products. They are used to produce cooking oils, margarines, shortenings and nearly all processed foods. Worse still they were promoted as being healthy options. They include soybean, canola (rapeseed), sunflower, safflower, rice bran, cottonseed and corn oils. By the 1980s trans fats were recognised as the most dangerous by-product of seed oils and a major cause of heart disease. Trans fats increase the risk of heart attacks 2.5 to 10-fold. The amount of trans fats in many foods then started to go down and heart disease began to decline*. Margarine consumption was associated with more heart attacks in the massive Framingham study.*

However, the danger has not been eliminated and it is wise to reduce consumption of processed foods and to cook with butter, lard or olive oil (ideally extra virgin olive oil).

Seed oils can be found in a **wide range of processed foods** such as biscuits, mayonnaise, pastries, pies, pizzas and pastas, crisps and cakes. They are also found in nearly all cooking oils. They may be labelled as vegetable oil, vegetable fat, shortening, hydrolysed fat, hydrolysed vegetable protein.

Milk

Milk is also strongly linked with heart disease. Seeley investigated 24 countries and found unfermented milk products had the strongest correlation with heart diseases. Grant found much the same in 32 countries. The strongest correlation with heart disease was non-fat milks in males and milk carbohydrates and sugar in females. Milk was noted to cause auto-antibodies and platelet aggregation (thickening of blood). Note it was the carbohydrates, not the fat, in milk that linked with heart disease. In other words **skimmed milk could make things worse**.

However milk consumption has not been associated with heart disease in pre-industrial populations. So many think it is the pasteurisation and homogenisation processes that has made milk so dangerous. In addition, powdered milk, which contains oxidised cholesterol, is added to milk and low fat products adding to its toxicity. It makes sense to **avoid heating milk** which likely increases the danger.

A key step is to **stop using milk on cereals.** There are many alternatives now available. Be careful of soya milks because most contain genetically modified soya so make sure it is **organic** to avoid this. The risks of GM foods are unknown and it makes no sense to take a chance with your health. Consider having tea and coffee without milk.

A survey of milk consumption per head of population in the UK and rates of CHD shows these both rose in parallel in the 1960s to 1970s and both decreased in parallel from the end of the 1980s and through the 1990s.

Sugar

Another food with a strong association with heart disease is sugar. It is a bigger risk factor in females. Refined carbohydrates have a similar effect to sugar. All white flour, white bread and white rice is refined as is a lot of brown bread. Use wholemeal or whole grain wherever possible.

One or two fizzy drinks daily increased the risk of a heart attack or stroke by 50% in one study. Another study found that in women just one sugary drink daily increased the risk of stroke by 83%.

Sugar causes platelet aggregation (the blood gets thicker and stickier) and this increases the risk of heart disease. Sugar can also increase cholesterol and triglycerides within days in males and post-menopausal women.

Diet Drinks

And it's not just sugar. Columbia University in 2012 found **one diet drink increased the risk of heart attack and stroke by 43%** compared to those who didn't take them. A 2019 study of 82,000 women over 50 years

found having over 2 diet drinks was associated with 29% more heart disease and 23% more strokes and overall mortality by 19%.

Smoking

Today far less people smoke and the danger to the heart is well-known.

And a Rarely Recognised Cause: Copper Deficiency

Copper deficiency may be a leading cause of ischaemic heart disease. It raises blood pressure, homocysteine, cholesterol and makes clotting more likely. All these factors increase the risk of heart disease. **It also makes aneurysms more likely**. It is thought that 70-80% of the population are low in copper. Unfortunately, there is no reliable test for copper deficiency. So, supplementing it makes sense. See leaflet on copper on website (not in alphabetical order). For more information see: *https://openheart.bmj.com/content/openhrt/5/2/e000784.full.pdf?ct.*

LESSER CAUSES:

Sterols

Plant sterols and stanols (like Benecol) are promoted to reduce cholesterol which they do but they have been found to increase both cardiac and overall mortality so are best avoided.

Meat

Wild animal meat is healthy. Meat from farm animals is not. Farm animals, particularly chickens, are bred to get as fat as they can as quick as they can and so it's no surprise that they are bad for our health. Grass fed animals have a better combination of fats than grain fed animals (most are grain-fed).

Four studies that I am aware of have looked at the risk of meat in the diet. A study of 150,000 Seventh-day Adventist lasting nearly 50 years, Dr Walter Willett' study of 100,000 people over 30 years, the PURE study following 134,297 people in 21 countries for 9.5 years and the EPIC (European Prospective Investigation into Cancer and Nutrition) following half a million people for 12 years.

The two longer studies have shown red meat increases heart risk. The first of the Seventh-day Adventists, renowned for their longevity, found three times weekly red meat doubled the risk of fatal heart disease (as compared with vegetarians) and reduced life expectancy by four to five years. Dr Willet's

study found those who had higher red meat had increased mortality, including increased rates of cancer and heart disease. An extra portion (85g) of meat daily increased mortality by 13% and of an extra portion (35g) of processed meat (bacon, salami, sausage) increased mortality by 20%. The PURE study found no association with unprocessed red meat or chicken but found an increased mortality (46%) with processed meat. The EPIC study showed again found an increased risk only with processed meat.

I think the balance of evidence shows processed meat does increase heart disease but unprocessed meats have only a minimal negative effect. Cutting down on processed meat makes sense and it would also make sense when eating meat to use organic or grass-fed meat where possible. **However, meat is not a major cause of heart disease.**

The link between saturated fats and heart disease has been **disproved in two major meta-analyses** and some studies suggest it may be beneficial. At least two studies have found that **saturated fats reduce the risk of ischaemic stroke**.

Drugs

Proton pump inhibitors (PPIs), such as omeprazole and lansoprazole, have been noted to increase the risk of heart events in a number of studies. A meta-analysis of 23 studies in 2012 found an **increase of 28%**[1] and a 2014 study found a **58% increase**[2]. More worryingly, a smaller 2021 study found a 200% increase [3]. These drugs block nitric oxide which blood vessels need to dilate. This puts people at high risk if they should have a heart attack are **people taking PPIs are twice as likely to die** [4].

Anti-depressants: A study by Dr Bansal from Bristol University on men and women who took long-term anti-depressants found those who took an **SSRI anti-depressant** for 10 years had a **87% greater risk of developing heart disease** and a 73% higher risk of dying from heart disease. For those using **non-SSRI antidepressants** the risk was **99% greater risk of developing coronary heart disease** with an 86% higher risk of dying from heart disease.

1) Int J Cardiology, 2012,167(3):965-74
2) In J Cardiol, 2015; 177(1): 292-7
3) Mayo Clinic Proc, 2021 96(10): 2540-49
4) Plos One, 2015 doi.org/10.1371/journal.pone.0124653

Foods That Heal

Of foods negatively correlated with heart (in other words **beneficial**), top of the list was **vegetables (0.81)** then **wine (0.75)** (again suggesting

fermentation is beneficial and then **olive oil (0.7).** Fruit and fish had less strong negative correlations.

Fruit and Vegetables

Many studies have confirmed that fruit and vegetables protect your heart. **Perhaps the most extraordinary results of any therapy used in heart disease comes from Dr Dean Ornish.** He did a series of trials using state-of-the-art technology to assess the effect of a plant-based diet of whole grains, beans, fruit and vegetables on the heart. **He found severely blocked arteries would reverse, people would quickly feel better and he noted a 91% reduction in angina within a few weeks.** The control group, on a standard diet, had worsening of their angina.

A Harvard study found greens have the strongest protective effect of any food and that each single daily serving of greens reduced the risk of heart attacks by 20%.

Fruit and vegetables have key nutrients such as the anti-oxidant vitamins A, C and E, flavinoids, magnesium and B vitamins which are known to help the heart. Organic vegetables contain between two to ten times the concentrations of nutrients found in non-organic vegetables, so buy these where possible. Garlic, onions and turmeric are especially beneficial. An excellent and enjoyable way of getting the benefits of fruit and vegetables is to use a juicer and make your own fruit and vegetable juice regularly. Also consider using green tea which has more anti-oxidants than ordinary tea.

The Mediterranean Diet

The Mediterranean diet is known to be associated with a low rate of heart disease and a low rate of cancer. It is almost identical to the diet recommended above in that it is high in fresh fruit and vegetables, grains and olive oil and low in meat and dairy products. A study in 2000 compared the effect of eating the Mediterranean diet compared to standard dietary advice in patients with heart attacks. After 4 years those on the **Mediterranean diet had a 70% reduction in heart disease** compared with those given standard advice and this diet gave three times the reduction of risk given by cholesterol drugs. Of some interest is that this was achieved without any change in cholesterol.

Seventh-day Adventists

This group of people have been studied in great detail partly because of their reputation for longevity. They typically outlive all other groups living a western lifestyle. Three useful facts have emerged from these studies.

1) As mentioned before, those who are vegetarians outlive and have less heart disease than those who eat meat. Vegetarians had half the rate of fatal heart disease.

2) Those who ate nuts five times a week also had half the risk of heart disease whether vegetarian or not.
3) Men who drank 5 or 6 glasses of water daily reduced their risk of a heart attack by 60-70% compared with those who drink considerably less.

Some Surprising Facts about Heart Disease

What can help heart disease and how does it compare with taking heart drugs?

Keep in mind the best ever trial of statins showed a reduction of risk of heart disease of 40% in men who already had heart disease. However, since the regulations on drug trials were tightened up in 2005 trials of statins have failed to show any consistent benefit on mortality.

It is interesting to compare the benefit of statins with various nutrients. **Nuts reduced the risk of heart disease by 50%, water (5 to 6 glasses daily) reduced the risk by 70% (in males) in the above study. In another study of 20,000 people (this time in both men and women followed for 6 year) drinking 5 or more glasses had half the rate of fatal coronary event compared with those drinking 2 glasses or less.**

A Chinese study found that eating 100 grams of fruit daily (equivalent to half an apple) reduced the risk of a heart attack by 60%. Another found each 25 grams of fruit eaten daily reduced the risk by 9%. Other research has shown **drinking tea (without milk)** three times a day reduces the risk of heart disease by 30%, having **oily fish three times a week** reduces the risk by 30%.

Doubling exposure to sunlight reduces the risk by 50%. In other words, numerous studies show that **healthy foods protect to a greater level than the best drugs available** and more surprisingly just drinking more water outperforms all drugs.

Essential Fats

For a healthy heart you need good fats often called essential fats. There are two essential fats: Omega 3 and Omega 6. Most people are short of the Omega 3 fats rather than Omega 6 fats. The major sources of essential fats are from **oily fish, seeds and nuts.**

Several studies have shown that **fish protects the heart**. Eat plenty of **oily fish** which include herring, mackerel, sardines, wild (not farmed) salmon, pilchards and anchovies. These contain the key Omega 3 fats. Avoid frying which destroys the fat. If you have heart disease then consider a **fish oil** (an EPA Fish oil not cod liver oil) which contains concentrated Omega 3 fats (but toxicity can be concentrated too and that the level of toxins in fish is now causing concern).

There are some healthy seed oils (see below for explanation) which are high in essential fats. **The best seed for the heart is flax seed** which contains the key Omega 3 fats. It is available from all health food shops and can be added to cereals or salads. Take 1 to 2 dessert spoonfuls daily. It needs to be chewed. It is also a good idea to take in other seeds such as sunflower, safflower or pumpkin seeds. These contain more of the Omega 6 fats which are also important. If you don't like the seeds you can use a cold-pressed unheated seed oil.

Seed oils are an even more concentrated source of essential fat but take care for there are hazards for the unwary. They must be **cold** or **cool-pressed, which in effect means buying from a health food store.** Never heat these.

The Seed Oil Paradox

Cold-pressed sunflower oil is great for your health giving you essential fats (omega 6 in this case) whereas **sunflower oil from a supermarket is an industrial product and a major health hazard.** The reason is that the essential fats have become hydrogenated on heating and processing. They will both be labelled as high in polyunsaturates but they have very different effects on your body. Flaxseed oil is also beneficial for the heart as mentioned.

Another excellent source of essential fats is nuts. Several studies have shown that **nuts protect your heart.** The best are almonds and walnuts (not roasted nuts). There is also a little essential fat in vegetables.

Supplements

Let's start with two very useful nutrients which are known to help heart disease, have other benefits and are extremely safe.

VITAMIN E: In the 1940s Wilfred and Evan Shute treated 30,000 patients with cardiovascular disease with Vitamin E using doses of up to 3200 IU daily . (Doses up 5000 IU daily are known to be safe). They found it highly effective in angina. It also reduced irregular heart beats and caused "thinning of the blood". Many think the latter is a key factor in reducing heart attacks. They commented **"the complete or nearly complete prevention of angina is the usual and expected result of treatment with d alpha tocopherol".** The dose was usually 800IU daily but this was increased when necessary. As with nearly all pioneers using non-pharmaceutical therapies, these stunning results were not welcomed by the medical profession and they were banned from presenting their findings at medical meetings. Even today few cardiologists have heard of this research.

Perhaps surprisingly two further studies were published in the New England Journal of Medicine in 1993. They studied 125,ooo men and women and concluded that 100 IU reduced heart disease by 59-66%. A further study

in 1996 at Cambridge University followed patients with atherosclerosis and found 400 -800 IU of d alpha tocopherol reduced heart attacks by 77%.

In summary Vitamin E is highly effective and far safer than drugs when it comes to treating angina. **If I had angina, it would be my first choice of treatment.** The natural forms (d alpha tocopherol or mixed tocopherols) are the best forms of Vitamin E rather than the synthetic dl alpha tocopherol. Increase the dose until the angina disappears.

Vitamin E may have a negative effect if you are taking a statin. This is probably because it works in conjunction with Co-enzyme Q10 and statins lower these.

VITAMIN K2: Vitamin K2 activates a protein, **matrix gla protein (MGP)** which removes calcium from soft tissues and arteries. **Without MGP we can't get calcium out of our arteries** (mice with an inability to make MGP die rapidly from massive artery calcification)**. So vitamin K2 is essential for the health of our arteries.** The problem we are facing is a massive decrease of Vitamin K2 in our food supply due to modern farming methods. It is possible for it to be completely absent. (A British study from 2005 found Vitamin K2 intake in children had dropped from 39mcg daily in the 1950s to 24mcg daily in the 1990s).

Vitamin K2 comes exclusively from animal sources. Animals, such as cows, can (unlike us) convert Vitamin K1 in grass and plants to Vitamin K2 and in the past when we consumed their meat or milk it gave us Vitamin K2. However farm animals today are fed on grain at some point in their lives and this massively depletes the amount of Vitamin K2 available.

One answer is to supplement Vitamin K2. **MK-7 supplements are the best choice of Vitamin K2 supplement.** Take 90-120 mcg daily of MK-7 for routine use and double this if you have heart disease. In one study of 16,057 women, initially without cardiovascular disease, were followed for 8 years, the risk of cardiovascular disease decreased by 9% for each 10mcg of MK-7 taken. (See osteoporosis leaflet for more information on Vitamin K2).

NIACIN: The Coronary Drug Project Research Group trial started in 1966 and was a large study of 8341 men with previous heart attacks done in hospitals in 26 American states and compared niacin to other compounds over a 9 year period. Niacin was the only treatment to have benefits and these benefits were substantial.

Niacin (a form of Vitamin B3) **decreased mortality by 11% but those who remained on it for 10 years had a 90% decrease in mortality** and the benefits continued for many years after they stopped taking it. On average those who took **niacin lived 2 years longer** (compare this with statins where the increase in life expectancy is measured in days). The mortality was lower in every cause of death including heart disease, other cardiovascular disease and cancer (again most statin studies show only a benefit for cardiovascular disease but not for overall mortality).

The men in the study received 3000mg of niacin. This is a big dose but niacin is one of the safest compounds ever discovered and has been used in

much higher doses (40,000mg daily) without adverse effects. Niacin almost always causes flushing but this typically disappears after a week or two. Other forms of B3 such as niacinamide do not have the same cardiovascular benefit.

In a study of 443 men aged between 70 and 85 years over 5 years done by the Karolinski Institute giving 200mg Co-enzyme Q10 and 200iu selenium reduced heart disease by 53%.

In a study of 10,000 men done by the University of Copenhagen monitored over 29 years those with **low Vitamin D** levels as opposed to optimal levels had **a 64% increased risk of myocardial infarct and an 81% increased risk of dying from heart disease.** Vitamin D comes mainly from sunshine (or supplements). Vitamin D levels are typically low in the UK so keeping levels up is important in heart disease.

MAGNESIUM: many studies across the world have shown higher rates of heart disease in communities with magnesium-deficient water or magnesium-deficient food. In 2013 a meta-analysis showed higher rates of cardiovascular events in those with low dietary magnesium intake. One of the reasons may be that magnesium is needed to produce a vitally important substance called nitric oxide.

Nitric Oxide

Nitric oxide (NO) may be the single most important substance for heart health. It is produced by our arteries, causing relaxation of the arterial walls (hence opening up arteries). This simple molecule also stimulates new blood vessel growth and has an anticoagulant effect. Anything which increases NO levels is extremely good news for coronary heart disease. The most well-known drug to increase nitric oxide is sidenafil (Viagra) but statins (but they also have heart negative effects such as reducing Co-enzyme 10) and ACE inhibitors also increase nitric oxide. The supplement pycnogenol (pine bark) increases NO.

Anything that reduces NO is bad news for the heart and blood vessels. The best-known drug to do this is thalidomide which cuts off the blood supply from developing limbs. **However, acid-blocking drugs called PPIs (such as omeprazole and lansoprazole) also block NO**. As you would expect they are bad for the heart. They are associated with a 16-21% increase in heart attacks and a 25% increase in all-cause mortality. **But worse still, for anyone who should develop a heart attack whilst on these drugs, the risk of death is doubled**. This illustrates the critical importance of NO.

However, if we want our arteries to work well, we need a better understanding of how nitric oxide works. How do we keep or levels of NO optimum? The first point is nitric oxide is rapidly destroyed by free radicals which then cause arteries to stiffen. These free radicals, in turn, are destroyed by antioxidants. Free radicals have multiple sources (smoking, junk food, pollution, stress).

So if we want good levels of NO, the key is to reduce our exposure to free radicals and increase our levels of anti-oxidants. A third strategy is to have the building blocks for NO readily available.

Putting people on an anti-oxidant rich diet has been shown to improve arterial dilation within two weeks. Anti-oxidant rich foods are basically fruit, vegetables, herbs and spices and the richer the colour and the more variety of colours the better. NO is produced from nitrates in food. Having more of these will also increase NO**. Rich sources of nitrates are leafy green vegetables, beetroot, rhubarb, basil and coriander. Sunshine also increases nitric oxide.**

Pycnogenol keeps nitric oxide at optimal levels and helps to stop platelets sticking together and hence keeps arteries unblocked in two different ways (100-200mg daily).

I think dealing with these factors is central to improving heart health and it is likely to be more effective than simply using a drug.

Physical Fitness

A study published in 1999 that followed 25,000 executives for 10 years found that low fitness accounted for three times as many deaths as caused by elevated cholesterol in those who had a normal weight (though less for the obese). The interesting fact was that for those who were least fit but became fitter, the risk of dying was reduced by half. A study of women also found those who were least fit were far more likely to die of heart disease and had twice the risk of dying from any cause over the next 20 years.

When it comes to stroke the situation is even more marked: a sedentary lifestyle increases the risk eight-fold, smoking increases it six-fold, raised blood pressure increases it two to fourfold and diabetes increases it twofold. A raised cholesterol had little effect on risk.

I think this is worth emphasising this as people often worry unduly about having raised cholesterol but worry less about lack of activity which is far more dangerous.

Electromagnetic Fields

We know these affect heart rhythm and function. These come from wifi, DECT phones, smart meters and mobile phones and masts. Because of this anyone with a heart problem needs to keep their exposure low and, in particular, **avoid carrying mobile phones anywhere near their heart, such as an inside pocket.**

And Finally

Although not related to food it is worth knowing that there is a strategy that can reduce risk of heart attacks by 88% (in men). This study of 2,800 males over 9 years found that those who donated blood had a 0.7% risk of

future heart attacks as against 12.5% in those who didn't (88% reduction in risk). Blood donors have also found to have half the rate of cancers. Admittedly this was a small study but it showed a huge difference and a highly significant reduction in heart attacks. The likely explanation of this is that donating blood reduces viscosity (makes blood less sticky) which is known to reduce risk of heart attacks. (*This may also explain why drinking more water helps so much).* Women rarely develop heart disease before the menopause but after this their risk starts to approach that of men. It is likely that until the menopause periods protect women in the same way by making blood less sticky. Blood donations have also been found to reduce gastro-intestinal cancers by 50%.