Food, Heart Disease and Cholesterol

Reducing heart disease and reducing cholesterol are not the same. I would suggest you reduce all the foods that promote heart disease and increase the ones that protect against it and don't worry about cholesterol.

Foods that Promote Heart Disease

Trans Fats –These are found in processed foods, cooking oils, fried foods, confectionary, popcorn, mayonnaise, pies, pizzas and margarines. Anything food that can sit in a wrapper on a supermarket shelf with a long expiry date will likely contain trans fats.

Sugar
(eg one sugary drink a day increases the risk of heart disease & stroke by 50% and one diet drink daily increased the risk of heart attack and stroke by 43%)

Milk
(this is thought to be due to the lactose, not the fat, so using skimmed & semi-skimmed milk will be a worse choice),

(Some but not all studies implicate meat but this is a lesser risk).

Note **saturated fats are not a cause of heart disease** and protect against stroke.

Other Lifestyle factors

Smoking: These days fewer people smoke and nearly everyone knows the dangers, including higher risk of heart disease.

Foods that Help Prevent Heart Disease

Oily fish: mackerel, herring, sardines (not salmon which is mostly farmed)
Nuts
Fruits, Vegetables, Herbs & Spices
Water
Olive Oil
No drug comes close to giving these benefits

Other Lifestyle factors

Exercise has a strong protective effect against heart disease.

See leaflet: **FOOD, LIFESTYLE AND THE HEART** for more detailed information.

Cholesterol

Many people worry about cholesterol. However, this is mainly a risk factor in middle-aged males.

Some countries with higher average cholesterols than the UK have markedly lower mortality from heart disease (France, Switzerland) and some with lower cholesterols have much higher mortality from heart disease (Russia).

In the over 80s high cholesterol is definitely good news and associated with a lower mortality.

Women have, on average, higher cholesterol than men but this is not a significant risk factor.

However the lipid profile does give useful information on the risk of heart disease (see below).

Low Cholesterol is more of a concern than High Cholesterol

Low cholesterol is dangerous but this gets little publicity.

A British study in 1995 found those with a cholesterol below 4.8 had the highest all-cause mortality.

18 studies have linked **raised cholesterol with longevity in the elderly**.

The Honolulu Heart Program followed 3572 elderly Japanese /American men for 20 years and found those with low cholesterol on two occasions measured 20 years apart had the highest mortality.

An Austrian study of 150,00 people found **low cholesterol was associated with a higher mortality in all groups** apart from young men.

Cholesterol went up 20% in Japan between 1958 and 1999: strokes went down 600% and heart disease went down 30%.

Of 137,000 patients admitted to hospital in the USA the majority had low cholesterol. The average was 4.8 (low).

And Some History

In the mid-twentieth century two of the major figures in the search for the cause of heart disease were Ancel Keys (who believed, wrongly as it turned out, that saturated fat was the cause of heart disease) and Dr John Yudkin (who believed sugar was the cause).

They strongly disagreed on almost everything **but only thing they did agree on was low cholesterol was dangerous.**

Ancel Keys:
"At levels below 5.2, decreasing cholesterol concentrations tends to be associated with increasing rates of non-coronary deaths."

John Yudkin:

"If you wish to increase the number of people dying from accidents, violence, cancer and strokes then give them a diet low in cholesterol and fat."

LIPID PROFILES (usually measure HDL and LDL)

As mentioned above, cholesterol itself doesn't help much in determining the risk of heart disease.

So what does give us useful information?

THE BAD

The lipid profile usually gives you the LDL level or in some laboratories they use the non-HDL cholesterol level. Both of these are often called **bad cholesterol**. Non-HDL includes other fractions of harmful lipids besides LDL and some think it is a better measure.

However, there is a **major snag with either of these**. There are two types of LDL: large particle LDL is benign and often the most numerous part of LDL; it is only the small particle LDL which is dangerous. A raised LDL doesn't tell us whether it is the harmless or harmful fraction that is raised.

So, if your LDL is raised, how can you tell if it is the dangerous form? The clue is in your triglyceride level which goes up with small particle LDL but not with the large particle LDL. This means the most important marker of bad cholesterol risk is triglycerides. However, this can vary with what you have eaten on the day of the test so is best to done fasting.

A level of LDL below 2.6 means you are at low risk. Non-HDL should ideally be less than 3.37.

THE GOOD

HDL is sometimes labelled good cholesterol. Generally speaking if the level is above 1.55 then the risk of heart disease is low.

However the **triglyceride/HDL ratio is considered by some to be the most accurate measure of heart risk** as it takes into account good and bad cholesterol. The standard advice is that the ratio should be less than 2 and that a ratio of 6 indicates a higher risk. However it is possible to have metabolic syndrome (one of the biggest risk factors for heart disease) and have a ratio of 2 so the nearer the ratio is to 1 the better.

In addition, it is generally better to have a lower LDL/HDL ratio (<2).

People often ask how they can change these.

Firstly, cut out the trans fats (see above). **Trans fats reduce HDL and increase LDL.**

Sugar and refined carbohydrates increase triglycerides (harmful), cholesterol and reduce HDL.

It is sugar and refined carbohydrates not fat that raise cholesterol.

HDL

Some nutrients increase HDL. These include: Vitamin C, niacin (a form of vitamin B3), Vitamin E (see Food, Lifestyle and the Heart), zinc, taurine, carnitine and DHA (from oily fish). Beta blockers lower HDL.

Triglycerides

Reduced by Omega 3 fats, including DHA, magnesium and zinc.

Other Important Nutrients

Magnesium lowers LDL and raises HDL. It also lowers triglycerides. Zinc lowers cholesterol, triglycerides and LDL whilst increasing HDL.

Vitamin D lowers cholesterol, LDL and triglycerides but doesn't affect HDL.