



Heart Health

• • • Your 'at a glance' guide to staying healthy for life By Quest Vitamins • • •

The heart is a powerful muscle responsible for pumping oxygenated blood into a system of arteries, capillaries and veins. This process enables the transport of oxygen to every cell in the body, sustaining life. The heart beats approximately 70 times in a single minute.

The heart pumps blood into arteries, which carry blood away from the heart. Capillaries connect veins and arteries; oxygen and nutrients pass from capillaries into fluids surrounding the cells; cells in turn release waste products, which are absorbed and carried away by blood. Deoxygenated blood is returned to the heart via veins and released to the lungs where oxygen locks onto the iron containing compound that makes blood red, haemoglobin; the now oxygenated blood is returned to the heart, pumped into arteries and the cycle begins again. The heart itself gets its supply of blood from a network of blood vessels on the surface of the heart, called coronary arteries.

Key Nutrients For Heart Health:

- ✓ Aged Garlic
- ✓ EFA
- ✓ Antioxidants
- ✓ Magnesium
- ✓ Lecithin
- ✓ Phytosterols
- ✓ Ginkgo Biloba

So What Goes Wrong?

Cardiovascular disease is the UK's biggest killer. Cardiovascular health is profoundly affected by life-style; maintaining a healthy weight, blood pressure, homocysteine and cholesterol level can help prevent it.

Heart disease is usually caused by a build up of fatty deposits, or plaques, on the walls of coronary arteries. These deposits make the arteries narrower and restrict the flow of blood to the heart; this process is called atherosclerosis. As the arteries narrow angina (chest pain) develops; a heart attack occurs when the coronary artery becomes blocked completely.

Strokes occur when blood supply to the brain is restricted, in the majority of cases this is due to a blood clot. Blood clots typically form in areas where the arteries have been narrowed, or blocked, by plaques (thrombosis seldom occurs in a healthy artery, because the smooth inner lining prevents the clot from forming).

Cholesterol, Triglycerides, Blood Pressure & Heart Health

Cholesterol is a type of fat (lipid) made in the liver. It is essential, it is found in every cell in the body and is used to synthesise certain hormones such as active vitamin D. However, a high cholesterol level in the blood (hypercholesterolaemia) is associated with an increased risk of heart disease and stroke.

Cholesterol is transported around the body in the blood attached to a protein, called a lipoprotein. Low-density lipoprotein (LDL), often known as bad cholesterol, carries cholesterol from the liver to cells; oxidised LDL can be deposited in plaques. Current UK guidelines state that it is desirable to have a total cholesterol level under 5mmol/l, and an LDL level under 3mmol/l. **Consuming foods containing cholesterol such as eggs will not raise cholesterol levels as the body will down regulate cholesterol synthesis, high intakes of saturated and hydrogenated fats however will raise blood cholesterol.**

Triglycerides are the body's storage form for fat. Elevated levels of triglycerides in plasma (the liquid portion of blood) is associated with an increased risk

of heart disease.

Blood pressure is defined as the amount of pressure exerted on arteries as blood runs through them. **Systolic pressure** is the blood pressure when the heart beats, **diastolic pressure** is the blood pressure when the heart is resting between beats. Overtime high blood pressure (hypertension) can weaken the heart and damage the arteries, resulting in heart disease. Hypertension is usually defined as having a sustained blood pressure of 140/90 mmHg, or above.

What About Homocysteine?

Homocysteine is an intermediate in the metabolism of sulfur-containing amino acids. Healthy individuals utilize two different pathways to metabolize homocysteine. One pathway synthesizes the amino acid methionine from homocysteine and is dependent on folate and vitamin B₁₂. The other pathway converts homocysteine to another amino acid, cysteine, and requires vitamin B₆. Elevated levels are strongly associated with an increased risk of developing heart disease; supplementing with folate, vitamin B₁₂ and vitamin B₆ can reduce homocysteine levels.

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Life-Style

A heart protective diet should include five or more daily servings of fruits and vegetables, foods rich in soluble fibre (such as oatmeal and beans), 2 daily servings of high quality protein such as lean meat, soy products and oily fish, such as salmon, sardines and mackerel. The majority of carbohydrate intake should be from fresh produce and whole-grains; fat intake should be coming mostly from fish, avocados, nuts and nut products, olive oil and high quality vegetable oils in small quantities, supplemented with a sensible intake of saturated fats from yogurt and meat. Eggs are nutritious and eating up to 6 a week is harmless; boil or poach eggs rather than fry. Try to eliminate hydrogenated fats (called hydrogenated vegetable oil on food labels and commonly used in processed food). Sensible consumption of dark chocolate (70% cocoa or more) has been associated with heart health. In some studies, moderate use of alcohol (particularly red wine) has been linked with increasing levels of HDL cholesterol; no more than two glasses of red wine (125ml) in any one day should be consumed.

Smoking, heavy alcohol consumption, high sugar, high saturated fat diets and sedentary life-styles are root causes of cardiovascular disease.

Aged garlic extract

As garlic ages an array of beneficial sulphur compounds are formed that are not normally present in garlic. Aged garlic extract has a powerful ability to enhance circulation, thin the blood, reduce blood pressure, reduce free fatty acids in the blood and reduce cholesterol, particularly LDL ("bad") cholesterol, while also helping to prevent oxidation, which is damaging to heart health.

Omega-3 fatty acids

Two fatty acids, called omega-3 and omega-6 (*n-3* and *n-6*), are essential nutrients, meaning that the body cannot make them and they must be obtained from our diet. *N-3* is found in the form in which it used in the body, EPA and DHA, only in oily fish (sardines, salmon, mackerel). EPA serves as a source of eicosanoids, nutrients/components with major regulatory roles in blood pressure, blood clotting and inflammation. *N-3* consumption is strongly associated with a reduced risk of cardiovascular disease; fish oil supplements actively lower triglycerides.

Support Supplements

Antioxidants: Oxidants, also called free radicals, are products of metabolism and the inflammatory response, they are potentially very harmful and are implicated in the development of chronic diseases including heart disease. Antioxidant nutrients- principally vitamins C and E and plant substances called flavonoids- hold free radicals in check helping to prevent disease.

Magnesium: Over 300 chemical reactions in the body require magnesium; magnesium has a major regulatory role in muscle contraction, it helps maintain a normal heart rhythm.

Lecithin: Lecithin occurs in the body within the lipid portion of the membranes that surround cells (phospholipids). Lecithin is an emulsifying component of bile, which helps digest fats; it can support healthy cholesterol levels. Soy beans and egg yolks have a high lecithin content.

Phytosterols: Phytosterols are plant-derived compounds that are similar in structure to cholesterol; it is well-established that high intakes of plant sterols or stanols can lower serum total and LDL cholesterol concentrations. Phytosterols are found in all plant foods, vegetable oils, nuts and legumes are rich sources.

Ginkgo biloba: Ginkgo effectively enhances circulation to all parts of the body.

**Cardiovascular health is profoundly affected by life-style; maintaining a healthy weight, blood pressure, cholesterol and homocysteine level protects from cardiovascular disease.
Some key supplements can help.**

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