


Keep Your Heart Healthy

a **DSM** Product



DSM Nutritional Products

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Heart Health is not just the
«Luck of the draw» - to a large extent
your health is under your control.

Help keep your heart healthy

- Eat a nutritious, balanced diet
- Take regular exercise
- Avoid lifestyle risks like smoking

Your vitamin choice guide

VITAMIN	HEART HEALTH FUNCTION	BENEFICIAL LEVEL (according to recent science)
C	Antioxidant	100 – 500 mg/d
E	Antioxidant	20 – 400 mg/d
Beta-carotene	Oxygen radical scavenger, membrane protection, provitamin A	2 – 4 mg/d
B ₆	} Synergism in risk reduction for cardiovascular events	2 – 4 mg/d
B ₁₂		2 – 5 µg/d
Folic Acid		400 – 800 µg/d
Omega-3 PUFA*	Triglyceride lowering effect, blood homeostasis, anti-arrhythmic effect	450 – 650 mg/d
Magnesium	Anti-arrhythmic effect	300 – 400 mg/d

*Omega-3 Polyunsaturated fatty acids

HEART HEALTH FACTORS	NUTRITIONAL LINKS
Blood pressure (hypertension)	potassium, magnesium, calcium (Omega-3 PUFA)
Blood fats (cholesterol / triglycerides)	Omega-3 PUFA, Vitamin B ₃ (nicotinamide, dietary fibre)
Oxidised fats (oxidised LDL)	Antioxidants: vitamins E, C (selenium, flavonoids)
Blood clotting (thrombosis)	Omega-3 PUFA, vitamin E (flavonoids)
Irregular Heart beat (arrhythmia)	Omega-3 PUFA (magnesium)
Metabolic imbalance (Homocysteine)	B-vitamins: Folic acid, vitamins B ₆ and B ₁₂

Good Nutrition and Activity for Life

Helping to maintain a healthy heart

A balanced diet and regular moderate physical activity could help to maintain your heart health.

How nutritional factors can help maintain a healthy heart:

- Protect the heart against oxidative damage
- Help reduce risk factors like high cholesterol and homocysteine
- Help maintain a healthy circulation

For heart health, a balance of vitamins, minerals and long-chain polyunsaturated fatty acids (Omega-3 PUFAs) is essential. You need to get them from food as they cannot be manufactured in your body. Fortified foods and supplements are a useful addition to the diet.

Antioxidant defence

It has long been known that people with diets rich in fruit and vegetables have lower incidence of heart disease. Since these foods are the richest sources of the antioxidant nutrients vitamin E, vitamin C and carotenoids e.g. beta-carotene, scientists have made many studies into these nutrients and the possible ways in which they help to reduce risk of cardiovascular disease.

The evidence for a protective effect is particularly strong for vitamin E. Several studies have shown that people with the highest intakes of vitamin E, above 20 mg per day, had the lowest rates of death from coronary heart disease. Obtaining this amount of vitamin E from food alone is very difficult, so intakes of this level are normally boosted by supplements or fortified foods.



It is thought that antioxidants like vitamin E work by protecting cells in the body from the potentially damaging action of free radicals.

An excess of these aggressive molecules may be produced in response to outside factors such as cigarette smoke, pollution, strong sunlight or oxidative stress. Antioxidant nutrients in the diet help to boost the body's natural defences and protect cells from damage.

In addition to its other important roles in the body, such as protecting the immune system and helping iron absorption, vitamin C works as an antioxidant with vitamin E and beta-carotene, helping to strengthen the work of vitamin E as a free radical scavenger.

B vitamins for a healthy heart

High Cholesterol and blood pressure are well-known risk indicators for cardiovascular disease.

Less familiar is the link of high blood levels of homocysteine, an amino acid, with the incidence of stroke and heart disease.

High homocysteine levels damage the lining of the blood vessels that supply the heart.

In addition, high homocysteine levels have been associated with spina bifida, miscarriage and congenital heart disease.

In summary, there is strong evidence that high homocysteine levels are comparable as risk factor to high cholesterol.



Although there appears to be a clear link between high homocysteine levels and low blood levels of B-vitamins (folic acid, vitamin B₁₂ and vitamin B₆), further investigation is needed to examine the relationship between high homocysteine level and illness such as heart disease and to establish threshold values for homocysteine.

Omega-3: the good fat

Omega-3 is the name given to a group of polyunsaturated fats (PUFA) that are essential for cell and brain development and for maintaining a healthy heart. Experts recommend that we increase the amount of these good fats in our diet while cutting down intakes of unhealthy saturated fats and trans fatty acids.

Omega-3 PUFA have been found to influence a range of factors that contribute to heart health. These include the blood clotting process, levels of lipids in the blood and blood pressure. Doctors believe they may also help to regulate arrhythmia, or irregular heart beat.



High levels of cholesterol in the blood have long been associated with heart disease risk. Now, another group of lipids called triglycerides are considered to be another important indicator of coronary risk.

Triglycerides appear to activate part of the process that causes blood to clot. Heart attacks and most strokes happen after a deposit in the blood vessel ruptures, triggering body defences to form a blood clot which blocks the blood vessel. In reducing the levels of triglycerides, Omega-3 PUFA may help to prevent the consequences of this type of blood clotting.

Since Omega-3 PUFA occur naturally in oily fish, dietary advice to increase intake is to eat at least 1-2 portions of oily fish each week.

It is also possible to obtain Omega-3 PUFA from supplements or in fortified foods.



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- Marketing data, consumer trends
- Concept development, product launch support
- Technical and product-form excellence
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