



Cardiovascular
diseases

To your health!

You are the boss of your own body. And that's a good thing, but of course it also brings a certain responsibility with it. Everything that you eat and drink has an influence on the mechanism. The saying 'you are what you eat' is as true as ever today.

To be effective, a boss needs to be a good listener – in this case, to your body – and needs to have access to the right information to take decisions. But the media often sends mixed messages when it comes to food and its influence on the body. Our health charter 'tastes good, good for you' not only guides us in offering a healthy and balanced diet, but also serves to inform our consumers on this subject.

Sodexo informs you through posters about the composition of the meals, and about nutrition, Body Mass Index (BMI) and exercise tips. We also provide a Vitality corner on-site at your company cafeteria: an info stand manned by a dietician who can answer any food related questions. The brochure 'Cardiovascular disease' is part of a series of handy booklets, each covering a nutrition-related topic. Written in plain language, with figures that speak for themselves, and packed with handy tips and advice that you can put into practice immediately.

Cardiovascular disease is often caused by an unhealthy lifestyle; in other words, it is a nutritional disease. The major culprits are the excessive use of salt and the consumption of the wrong kinds of fat which can lead to high blood pressure and increased cholesterol levels. In this brochure you can find out how to protect yourself from these dangers. The heart is your body's engine. It deserves proper care.



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A. INTRODUCTION

Healthy food is essential, everyone knows that. In fact an unhealthy diet is one of the main risk factors for cardiovascular diseases.

Did you know that?

The main cause of death in Belgium is still cardiovascular disease. For women, cardiovascular disease is the biggest cause of death and for men it is the second biggest cause of death (after cancer). One in three people in Belgium dies of cardiovascular disease.

Women might be better protected against cardiovascular disease than men up to the menopause thanks to a protective hormone but after the menopause the risk for women also increases.

The good news is that cardiovascular disease can be largely prevented. No less than 80% of the risk of cardiovascular disease can be prevented and this applies to both men and women.

What is atherosclerosis?

Healthy blood vessels have smooth even walls. However, high blood pressure or smoking can damage the walls. In the damaged places cholesterol is able to attach itself, thus narrowing the blood vessel. This is also known as atherosclerosis. It causes the heart or the brains to receive too little blood or too little oxygen. The shortage of oxygen can cause heart attacks, strokes or other vascular diseases.



Did you know that?

- ❖ The heart pumps approximately 100,000 times a day, 35 million times a year and 2.5 billion times over an average lifetime. Every day it pumps 10,000 litres of blood around the body.
- ❖ The heart is the centre of a huge system of arteries, veins and capillaries. The total blood vessel network is about 96,000 kilometres long (long enough to go around the earth twice), but it only takes 20 seconds to pump blood through the entire vascular system.
- ❖ The heart is as big as a clenched fist and weighs about 250 grammes.

Your heart is the centre of everything. It pumps the blood through the arteries to deliver oxygen and nutrients to all your cells. In other words, it is powerful and vulnerable at the same time.

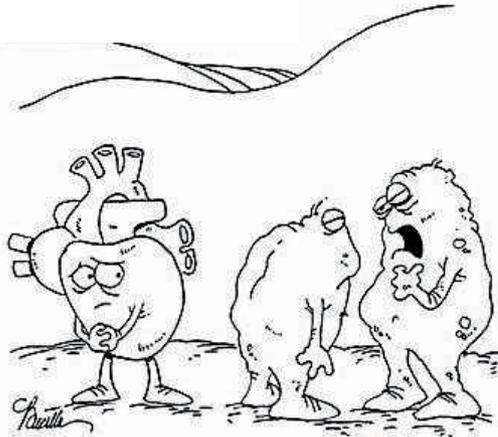
B. WHAT ARE THE RISK FACTORS?

- cholesterol
- high blood pressure
- obesity
- smoking
- a lack of physical exercise
- stress

1. Cholesterol

One of the main risk factors for atherosclerosis is the cholesterol level in the blood, besides high blood pressure and smoking. Apart from hereditary factors, the cholesterol level is determined, among others, by your diet. Our typical 'Western' diet, rich in fats and cholesterol, is a major risk factor for cardiovascular disease.

Cholesterol is a fatty substance in the blood, and is an essential component of cells and hormones. Your body absorbs cholesterol from food, but also produces it in the liver. Your body should produce exactly the right amount of cholesterol to function.



"Now, remember the routine. You're good cholesterol and I'm bad cholesterol."

Measuring the cholesterol level

The cholesterol level is measured by a blood test but can fluctuate strongly. That is why it is recommended to have two or three blood tests with at least a week in between. The blood test can also make a distinction between the LDL level (low-density lipoprotein) and the HDL level (high-density lipoprotein). HDL is '**good**' cholesterol which transports the surplus of cholesterol back to the liver where it is broken down and removed, and LDL is '**bad**' cholesterol, because it transports cholesterol from the liver to the cells. When too much cholesterol circulates, there is a risk that it will damage the walls of your blood vessels.

When your GP examines your blood test, he will also consider other risk factors such as heredity, age, gender, lifestyle (sport) and smoking. In other words it is possible that you and your colleague have exactly the same cholesterol level, and that one is termed as 'good', and the other as 'too high'.



Saturated and unsaturated fat

We already mentioned that you can reduce the risk of cardiovascular disease through a balanced diet and a healthy body weight.

The relationship between fats in food and cardiovascular disease is probably the main and most studied cause of cardiovascular disease. Primarily, the total amount of fat in your diet is important. In Belgium the total amount of fats in people's diets is high: approximately 38% of the total energy, whereas the recommended amount in food is max. 30%. In addition to the total fat content in one's diet the type of fat is also important, i.e. saturated and unsaturated fat.

Saturated fat increases the cholesterol level in the blood, whereas unsaturated fats have a positive effect.

Saturated fat is found chiefly in meat such as beef and pork and dairy products such as milk, butter and cheese. Prepared and ready-made food such as cakes, biscuits and pastry also contain high levels of saturated fat.

Unsaturated fat lowers the cholesterol level in the blood. Both polyunsaturated fats and monounsaturated fats have a positive effect. In other words, unsaturated fat is better than saturated fat. It is important you eat enough of the different types of unsaturated fats so ensure you have a balanced and varied diet. Polyunsaturated fats can be found in sunflower, corn, soya, safflower oil, margarines and minarines with a high linolic acid content, nuts (chiefly Brazil nuts, walnuts) and fatty fish. Monounsaturated fats can be found in olive oil, peanut oil , nuts (chiefly almonds, cashew nuts, hazelnuts, peanuts) and avocados.

Triglycerides

What we call body fat is in fact nothing more than an accumulation of triglycerides. Triglycerides don't only occur as fat, they are also found in your blood. In conjunction with high blood pressure they can be very harmful for your body and particularly your heart.

Keeping your triglyceride level under control is a major step in protecting yourself against cardiovascular disease. For people with diabetes, a high triglyceride level implies an even greater risk.

But triglycerides also play an important part in your body. Triglycerides are essential for:

- * making fatty tissue
- * producing cholesterol
- * the energy supply

Omega-3 and 6

Everyone talks about the health benefits of Omega-3 and Omega 6. From a healthy heart to smooth skin! But what are these fats, what do they do and in what products do you find them? Omega-3 and Omega-6 are polyunsaturated fats (good fats). They are also known as essential fatty acids because our body is unable to produce them and we therefore need to get them out of our food. Omega-3 fats help keep your heart healthy, whereas Omega-6 fats keep your cholesterol level under control.

Omega-3 can be found in the following products: it occurs naturally in vegetable oils such as canola oil, linseed oil and rapeseed oil, as well as in fatty fish, such as herring, mackerel and salmon. Both vegetable and animal Omega-3 fats each work in their own way. Our diet must therefore contain the 2 types of Omega-3 fatty acids.

Omega-6 can be found in sunflower oil, for instance, and in products made with this oil.

Cholesterol rich food

Cholesterol rich food such as eggs, shellfish (mussels hardly contain any cholesterol!), kidneys and liver used to be ill-advised food. This is not completely true because cholesterol in food has much less effect on the cholesterol level of the blood than saturated fat.

Fibres

Fibres can also have an effect on the cholesterol level. More specifically, soluble fibres, which can be found in oatmeal, vegetables and fruit, have a cholesterol reducing effect.

Soya products

Different elements influence the cholesterol reducing effects of soya:

- soya is 100% vegetable and therefore naturally cholesterol free,
- soya has a good fatty acid composition: few saturated and a lot of good unsaturated fatty acids,
- soya proteins have cholesterol reducing properties.

With regard to the cholesterol reducing effect of soya proteins, the Food and Drug Administration (US) and the Joint Health Claims Initiative (UK) approved a health-cure claim which shows the relationship between soya proteins and the reduced risk of cardiovascular disease.

'25 grammes of soya proteins a day, integrated in a diet low in saturated fat, can reduce the cholesterol level'.

Why must you pay attention to your cholesterol level?

Little activity, smoking, a poor diet, obesity and hereditary factors contribute to high cholesterol levels. An increased cholesterol level in the blood gradually narrows the blood vessels and will ultimately result in a blockage. This cholesterol accumulation can occur very gradually. The narrowing of the blood vessels slows the blood supply to the heart and causes chest pain (angina pectoris). If the blood supply is seriously affected, it can result in a heart attack.

Recommended cholesterol level

Total cholesterol < 190 mg/dl

LDL-cholesterol < 115 mg/dl

HDL-cholesterol > 40 mg/dl

To chol/HDL < 4

Triglyceride < 180

How do I know whether my cholesterol levels are too high?

Unfortunately, high cholesterol levels are a widespread problem. Approximately two thirds of the population's cholesterol levels are too high (>190 mg/dl). There are no obvious symptoms for high cholesterol levels. Regularly having your cholesterol level tested by your GP is the best way to find out whether your cholesterol is too high. The risk increases with age and diabetics run a higher risk.

USEFUL TIPS:

Keeping your cholesterol under control is really not difficult. Here are some tips to help you:

- Choose the right types of fat: don't eat too much saturated fat.
- Use skimmed and semi-skimmed milk and dairy products, eat low-fat cheese and meat, but not more than the recommended amounts (half a litre of dairy (products), 1 or 2 slices of cheese and 100 grammes of meat a day. Examples of lean meat (<10% fat) include veal, beef, such as steak, roast beef, lean minced beef, lean meat for soup, braising steaks, beef tongue, lean pork such as pork fillet, cooked ham, pork tenderloin, pork mignon, poultry: chicken, turkey, horse meat, game: rabbit.
- Use unsaturated fats on your sandwiches and oil or diet fat to prepare cooked food.
How must you choose the right fats?
 - Saturated fat: should amount to maximum 1/3 of the total fat content
 - Oil = 100% fat (1 big spoon of oil = +/- 100 kcal)
 - Margarine = 65% to 98% fat
 - Minarine = < or = 40% fat

Example

- Fats total: 75 g
 - Polyunsaturated fats: 42 g
 - Monounsaturated fats: 16 g
 - Saturated fats: 16 g
- 75 g : 3 = 25 g
Saturated fat 16 g = 16 g
16 g is less than 25 g, in other words, this fat is good

- Eat plenty of vegetables and fruit. 300 grammes of vegetables and two to three pieces of fruit are recommended.
- Make sure your diet is varied and eat small portions.
- Have grain products, potatoes or rice with every meal. Eat food that is high in fibre.
- Fibre also helps to reduce cholesterol levels
- Eat more fish. Fish, especially fatty fish contains the good type of fat. Eat fish once or twice a week, and fatty fish at least once a week (e.g. salmon, herring, mackerel).
- Curb the amount of cholesterol in your diet. Don't eat more than two eggs a week and only eat offal once every two weeks.
- Deep-fried food: weekly/two-weekly
- Don't have more than one (for women) or two (for men) alcoholic drinks a day.
- Make sure you are not overweight. Losing weight is recommended in case of a Body Mass Index higher than 25 ($BMI = G./L.^2$ (in m)). Too much fat around the abdomen (♀ <80 cm and ♂ <94 cm) increases the risk of cardiovascular disease.
- Don't eat too many products containing a lot of sugar.
- Don't use too much salt.
- Quit smoking!
- Try to move 30 minutes a day.
- Avoid stress and learn how to deal with it. Take time to relax.
- If the cholesterol has not dropped (enough) in spite of the aforementioned measures, products with sterols or stanols can be useful (products for bread, yoghurt, drinks). Plant sterols, phytosterols or stanol esters are very similar to cholesterol, but contrary to cholesterol are not absorbed by your body in big quantities from food. In fact, they curb the absorption of cholesterol in the intestines and increase the amount of cholesterol that is excreted. Margarines and milk drinks (such as Benecol, Becel Pro-Activ and Danacol) and other products containing so-called plant sterols or stanol esters can bring down the (bad) LDL and total cholesterol level by 10% on average. The effect is already measureable after 3 weeks.

2. Blood pressure

Blood pressure is the force exerted by circulating blood on the walls of blood vessels. Blood pressure is caused (among others) by the elasticity of the blood vessels, the total amount of blood in the body and the strength of the heart.

When your heart beats (=contraction of the heart muscle) blood is pumped through the arteries. The arteries send the blood to the organs and the muscles where oxygen and nutrients are taken from the blood. Veins transport the blood from the tissues back to the heart.

Blood pressure is expressed in millimetres of mercury (mm Hg) and comprises 2 values: the systolic blood pressure or peak pressure and the diastolic blood pressure or minimum pressure.

The systolic blood pressure or peak pressure is the highest pressure measured in the blood vessels when the heart contracts and pushes the blood through the arteries.

The diastolic blood pressure or minimum pressure is the lowest pressure that is measured near the end of the cardiac cycle when the ventricles are filled with blood.

A normal blood pressure for a resting person is lower than 140/90. In other words, the systolic pressure is under 140 mm Hg and the diastolic pressure is lower than 90 mm Hg.

Your blood pressure can fluctuate very strongly during the day, depending on stress, physical effort and the time. At night for instance your blood pressure is lower.

Did you know ?

An estimated 1 billion people worldwide suffer from high blood pressure or hypertension!

What is 'hypertension'?

High blood pressure is also referred to as hypertension. This happens when the walls of the big blood vessels lose their elasticity and become rigid, and the smallest blood vessels become narrower. Hypertension is quite common. Your blood pressure increases with age and is often linked to food and lifestyle. It can also be hereditary though.

A person's blood pressure can vary depending on the situation. After 1 reading it's impossible to say whether a person has high blood pressure or not. The blood pressure needs to be higher than normal constantly. Your blood pressure needs to be checked regularly (by your GP) to make a proper diagnosis.



What are the symptoms of high blood pressure?

In most cases the answer is very simple indeed: none! The best way to find out if you have high blood pressure is by having it checked regularly.

Treating high blood pressure

A number of factors have an effect on high blood pressure: excessive alcohol consumption, obesity, not enough physical exercise, an unhealthy diet, side effects of certain medication or certain illnesses. Treatment usually involves a special low salt diet and little alcohol. Salt retains water: the more salt in your blood, the more water and therefore the higher the volume of blood and the blood pressure.

Salt

One risk factor we can influence through our diet is the salt content of our food. Apart from being too fatty, our diet also contains too much salt. We generally eat too much salt, compared to the recommended 6 grammes of salt a day (for information purposes: 1 gramme salt=400 mg sodium).

What to do in case of high blood pressure?

Untreated high blood pressure increases the risks of heart attacks, strokes or renal failure. The more serious the hypertension, the higher the risk. Fortunately, high blood pressure can be treated. Your GP might prescribe medication. You could also change your diet and lifestyle.

USEFUL TIPS:

- Avoid food that contains too much salt such as salty snacks, crisps and nuts, ready-made meals, ...
- Keep your weight in check! Weight loss will also lower your blood pressure.
- Drink moderate amounts of alcohol (1 to 2 drinks a day) because too much alcohol increases your blood pressure.
- Movement is important, because physical activity reduces stress and high blood pressure.
- Eat plenty of vegetables and fruit because they contain high levels of potassium, which have a hypotensive effect.
- Quit smoking. Every cigarette temporarily raises your blood pressure and smoking is bad for your blood vessels and your health.
- Avoid stress and relax.
- Don't forget to have your blood pressure checked regularly.
- Replace salt by herbs and spices and don't put salt on your food.

THINGS YOU DIDN'T KNOW ABOUT HERBS

Seafood

Prawns and shrimp: oregano, celery, fennel

Fried fish: (mustard powder), tarragon, dill, southernwood

Stewed fish: fennel, thyme, laurel, rosemary, sage

Grilled fish: thyme, coriander, fennel seed, rosemary

Fish marinades: laurel, thyme, rosemary, coriander, southernwood

Mussels and shellfish: mace, oregano, celery, thyme, parsley

Trout: parsley, chervil, laurel, southernwood

Lobster: parsley, chervil, tarragon, laurel, southernwood

Eel: southernwood, parsley, thyme, sage, sorrel

Monkfish and brill: southernwood, tarragon, (mustard powder), dill

Cod: (mustard powder), southernwood, dill, parsley, watercress

Game and poultry

Chicken: tarragon, oregano, coriander, mace.

Turkey: basil, rosemary, oregano

Rabbit: juniper berry, laurel, oregano, thyme

Duck: sage, parsley, aniseed

Pheasant : oregano, thyme, celery, rosemary, cloves

Hare: juniper berry, cloves, oregano, thyme, celery, rosemary

Sauces

Cauliflower sauce: oregano, nutmeg, spearmint

(Mustard sauce: mustard powder, fennel, southernwood)

Tomato sauce: laurel, basil, (chives), tarragon, rosemary

Fish sauce: (chives), dill seed, laurel, parsley, thyme, fennel

Salad dressing: (chives), dill seed, chervil, southernwood, borage

Cheese sauce: (chives), dill seed, thyme

Mashes

Stew: savory, peppermint leaves, sage, chervil, parsley, thyme

Sauerkraut: dill seed, sage, thyme, fennel, cloves

Endive: (chives), parsley, nutmeg

Spinach: laurel, basil, tarragon, mint

Carrot: parsley, (chives), spearmint

Cheese and eggs

Cheese dishes: oregano, chervil, (chives), parsley, sage

Cottage cheese or white cheese: (chives), oregano, chervil, parsley

Omelettes: (chives), chervil, southernwood, rosemary, parsley

Scrambled eggs: (chives), chervil, parsley, thyme, rosemary

Vegetables

Endive: (chives), parsley, nutmeg

Asparagus: nutmeg, dill, marjoram, rosemary

Leeks: thyme, dill seed, laurel

Sauerkraut: juniper berry, dill, basil, savory, cloves

Carrots: parsley, (chives), spearmint

Spinach: laurel, basil, mint

Green beans: savory, borage, (chives), nutmeg, parsley

French beans: laurel, basil, tarragon, mint, parsley

Lettuce: borage, basil, (chives), southernwood, chervil, thyme, parsley

Celery: marjoram, dill, fennel seed

Cucumber: borage, chervil, dill, rosemary

Fennel: savory, mint, southernwood

Mushrooms: tarragon, chervil, parsley, marjoram, rosemary

Soups

Creamy asparagus soup: dill seed, rosemary, thyme, nutmeg

Stock: tarragon, laurel, thyme, basil, marjoram

Mushroom soup: (chives), thyme, basil, southernwood, rosemary

Vegetable soup: basil, savory, tarragon, chervil, parsley

Chicken soup: basil, mace, marjoram, thyme, chervil, parsley

Leek soup: (chives), parsley, southernwood

Tomato soup: basil, (chives), tarragon, marjoram

Fish soup: (chives), tarragon, fennel, laurel, saffron, thyme

Endive soup: tarragon, (chives), parsley

Tarragon soup: tarragon, savory, chervil, basil

Meat dishes

Steak: chervil, thyme, (mustard powder), parsley, (watercress)

Mince meat: basil, oregano, thyme, (mustard powder), mace

Veal: basil, southernwood, chervil, sage, (sweet) marjoram

Lamb: mint, basil, chervil, thyme, rosemary

Pork: (mustard powder), oregano, sage, rosemary, thyme

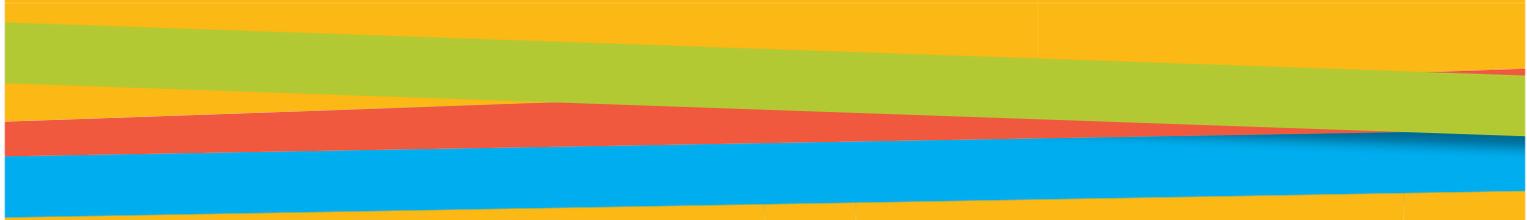
Liver: laurel, sage, thyme, parsley

Stews: cloves, laurel, oregano, thyme, rosemary, (mustard powder)

Ragout: savory, mace, laurel

The above recommendations are general recommendations.

For more useful tips, please contact a dietician (consult the website <http://www.vvvd.be/> to find a dietician near you) or consult our dietician at one of the following healthy corners.



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