

# Preventive Medical Examination

A healthy lifestyle helps to protect you against infections and prevents diseases like obesity, cardiovascular diseases, cancer, diabetes, dementia and chronic lung and kidney diseases.

**(073) 553 38 99**

## Why undergo a Preventive Medical Examination (PME)?

The COVID-19 pandemic has made the importance of a healthy lifestyle abundantly clear. People with a lifestyle-related disorder, such as obesity, cardiovascular diseases and type 2 diabetes, appear to have a more severe clinical presentation of COVID-19 as well as have a higher risk of being admitted to intensive care and of dying from this virus. The presence of chronic mild inflammation in people with these lifestyle-related diseases seems to play a dual role in this: the normal defence against acute infections is disturbed owing to the inflammation.

Leading a healthy lifestyle increases resistance to infections and protects us against the development of lifestyle-related diseases (also termed 'diseases of affluence'): i.e. obesity, cardiovascular diseases, cancer, diabetes, dementia and chronic kidney- and lung diseases.

Globally, these diseases are on the rise, resulting in a chronic pandemic of these lifestyle-related diseases. In the Netherlands, the rise in lifestyle-related diseases is due to an ageing population, but it is also increasingly due to the increasing prevalence of risk factors for these diseases.

Among the Dutch population:

- 50% of individuals are overweight;
- 33% of individuals have high blood pressure;
- 25% of individuals have high cholesterol;
- 25% of individuals have fatty liver disease;
- 19% of individuals still smoke.

In Limburg, one out of three people suffer from type 2 diabetes or a preliminary stage of it, known as pre-diabetes. According to expectations, this will apply to all of the Netherlands in the future.

The high percentages shown above are the result of the 'obesogenic' society in which we live. This kind of society perpetuates overweight and obese individuals due to easily accessible unhealthy food — especially ultra-processed foods: foods that promote chronic mild inflammation in the body, also known as 'pro-inflammatory' foods. Besides these foods, a decline in physical activity and an increase in stress and sleep deprivation in today's society also contribute to people becoming overweight or obese.

Inadequate anti-smoking policies are to blame for the high number of smokers in the Netherlands.

Risk factors that are largely influenced by lifestyle: smoking, obesity, unhealthy diet, alcohol and insufficient exercise account for 80% of cardiovascular disease. For dementia, controllable risk factors appear to contribute to 30 – 40% of the onset of this disease.

For cancer, 30% of the cases of the disease and 40% of the deaths are attributable to leading a less healthy lifestyle (especially smoking).

Identifying risk factors (incl. an unhealthy lifestyle) is vital to preventing the occurrence of disease and mortality from these lifestyle-

related and affluence diseases and to strengthening people's overall resistance to infectious diseases.

## Objective of the PME

### Primary prevention:

Detecting risky lifestyle behaviours to prevent obesity, high cholesterol, high blood pressure, cardiovascular diseases, cancer, diabetes, dementia and chronic lung and kidney diseases.

These risky lifestyle choices include:

- smoking;
- alcohol;
- unhealthy diet;
- insufficient physical activity;
- psycho-social stress;
- poor sleep;
- risky exposure to sunlight.

### Secondary prevention:

- the early detection of conditions that increase risk in order to prevent cardiovascular diseases and (some) cancer, dementia and chronic kidney diseases:
  - overweight/obese;
  - high blood pressure;
  - high cholesterol;
  - diabetes (type 2);
  - fatty liver disease;
- early detection of (still asymptomatic) benign and malignant diseases (eg skin cancer, kidney tumours, bladder cancer and pancreatic cancer).
- identification of health complaints that may be related to work.

### Tertiary prevention:

The treatment of lifestyle-related diseases through lifestyle modification: Lifestyle medicine.

Prevention entails individuals taking responsibility for their own health. Prevention, by its very nature, becomes invisible as soon as it is successful. A disease that no longer arises and has been prevented is soon forgotten.

*"Approximately 60-80% of chronic diseases are preventable through lifestyle changes."*

(Hanno Pijl, internist-endocrinologist at Leiden University Medical Center)

## Overweight/obese

What are the methods of measurement for determining whether an individual is overweight?

**Body Mass Index (BMI)** =  $\text{weight}/\text{height}^2$ : This is the most commonly used measurement to determine whether a person is at a healthy weight.

<b>Class:</b>	<b>BMI*; kg/m<sup>2</sup></b>
Normal weight	18.5 - 24.9
Overweight	25.0 - 29.9
Obese	30.0 - 39.9
Morbidly obese	> 40.0

\*The BMI (body mass index) is calculated by taking a person's body weight in kilogrammes divided by their height in squared metres.

#### **Skin-fold measurement:**

The Body Mass Index does not correct for muscle mass. Therefore, for athletes, measuring the skinfold provides a better estimation of the body's total fat mass.

Table 2: Waist circumference classification in adults		
<b>Class</b>	<b>Waist circumference in cm</b>	
	<b>Men</b>	<b>Women</b>
Normal waist circumference	<94 cm	<80 cm
Enlarged waist circumference	>94 <102 cm	>80 <88 cm
Greatly enlarged waist circumference	>102	>88

#### **Waist circumference**

Body fat distribution is another important way to assess health risks: being 'pear shaped' (excess body fat around the hips) is preferable to being 'apple shaped' (excess abdominal fat). Abdominal fat increases a person's risk of developing type 2 diabetes and cardiovascular diseases. An objective measure for this is waist circumference (table 2, June 2020).

The body composition, the amount of fat and the amount of lean mass (especially muscle mass) is a stronger predictor of illness and death than body weight!

### **What are the potential consequences to being overweight or obese?**

Being overweight or obese may lead to high blood pressure, high cholesterol, fatty liver disease and type 2 diabetes. These increase the risk of cardiovascular diseases: heart attacks, brain infarctions and abdominal, pelvic and leg vascular disorders.

There is also a higher risk of many forms of cancer, such as breast, uterine, colon, pancreas, ovary and kidney.

Furthermore, individuals who are overweight or obese more frequently suffer from arthrosis of their joints, gallstones, sleep apnoea, decreased fertility and depression.

### **When are you at an increased risk of becoming overweight or obese?**

In today's 'obesogenic' society, overeating and/or an unhealthy diet combined with insufficient exercise is often the cause of being

overweight or obese.

However, sleep deprivation, night or shift work, sleep apnoea, too much stress and psychological complaints also contribute to the development of obesity. The stress hormone cortisol (the 'hunger hormone') also plays a role in this, as it causes snackcravings and the accumulation of abdominal fat.

The same applies to the frequently used medicinal form of cortisol: corticosteroids, administered in the form of puffs, injections, ointments or pills. These are often the unwitting cause of the weight gain, as well as commonly used antacids and drugs prescribed for psychiatric disorders.

An unfavourable composition of our intestinal flora (the microbiome) also plays a role in the development of obesity. Many factors influence this (eg nutrition, antibiotics).

Less common causes of obesity include certain hormonal diseases and genetic disorders.

## What can you do to 'treat' or prevent yourself from becoming overweight and/ or developing obesity?

To develop a healthy lifestyle:

1. Change your diet: healthy foods (see the 'Nutrition' section);
2. Exercise more (see the 'Physical activity' section);
3. Get an adequate night's rest (see the 'Sleep' section);
4. Ensure sufficient relaxation;



Bron: Het leefstijlroer, Leefstijlroer | Vereniging Arts en Leefstijl (<https://www.artsenleefstijl.nl/leefstijlroer>)

If necessary, under the guidance of a dietician, lifestyle coach and/or a physiotherapist: 'Combined Lifestyle Intervention' (CLI). Since 01 January 2019, the CLI is reimbursed from the basic insurance.

If applicable, have underlying diseases treated and discuss with your doctor any indication for medications that cause weight gain.

Another way to lose weight is to stimulate the production of brown fat. Brown fat is found around the clavicles, along the spine, above the kidneys and near the thyroid.

In brown fat cells, calories (glucose and triglycerides) are converted into heat. The production of brown fat can be stimulated by cold: such as, taking a cold shower each day or rinsing in cold water after showering, setting the thermostat at 17 °C for at least two hours each day, exercising outside and cycling to work. The exposure to cold causes the metabolism to rise, resulting in a decrease in the ('white') fat mass (the ordinary fat). Physical activity and certain foods, such as red capsicum (capsaicin), green tea and coffee, also stimulate the production of brown fat.

*"Obesity is related to multiple forms of cancer: including post-menopausal breast cancer, uterine cancer and intestinal cancer."*

*"Health gains can already be achieved just with a weight loss of 5 - 10%: lower blood pressure and cholesterol and a decrease in fatty liver disease and the risk of type 2 diabetes and cardiovascular diseases."*

## High blood pressure (hypertension)

What is considered high blood pressure and what are the consequences?

*"High blood pressure is a 'silent killer': 1 out of 3 Dutch people has high blood pressure; and, for 1 out of 3 of these individuals, it is not (yet) diagnosed."*

High blood pressure is defined by (through repeat measurements):

- the peak pressure (systolic pressure) > 140 mm Hg
- the lowest pressure (diastolic pressure) > 90 mm Hg

The high pressure in the blood vessels damages the vascular wall. This damage allows atherosclerosis (hardening of the arteries) to develop more quickly. The elasticity of the vessels also decreases, which causes the blood pressure to rise even higher.

And this leads to a greater risk of cardiovascular diseases: TIAs (Transient Ischemic Attacks), heart attacks, heart failure, aneurysms (dilated blood vessels, eg of the abdominal artery) and abdominal, pelvic and leg vascular disorders. Vessels in the eyes and kidneys may also be damaged.

## When are you at a higher risk of developing high blood pressure?

Risks for developing high blood pressure are:

- being overweight;
- stress;
- excessive salt or liquorice consumption;
- excessive alcohol consumption;

- insufficient physical activity;
- smoking;
- sleep apnoea;
- diabetes;
- underlying diseases (eg in the kidney vessels, adrenal glands, thyroid gland);
- genetic predisposition.

## What can you do to lower or prevent high blood pressure?

What can you do to lower or prevent high blood pressure?

- lose weight (if overweight);
- ensure adequate relaxation;
- eat a healthy diet, low in salt and liquorice;
- limit alcohol intake (no alcohol or a maximum of one glass daily);
- increase physical activity (the dosage of medication to lower blood pressure could go down!);
- quit smoking;
- drink black or green tea (at least three cups per day).

Drinking black and green tea lowers your blood pressure and decreases your risk of a stroke due to the theine found in the tea. Herbal tea does not contain theine nor does it come from the tea plant. These tea varieties may even be harmful to one's health. Herbal tea that contains liquorice (e.g. star mix tea) raises blood pressure.

## High cholesterol

### What is cholesterol?

Cholesterol is a fatty substance that the body requires as nutrients for body cells and hormones. Without cholesterol, the body cannot function properly. Some of the required cholesterol is produced by the body (in the liver) itself, and the remaining portion comes from food.

### What types of fat are found in the blood?

The following types of cholesterol are present in blood:

- total cholesterol
- HDL cholesterol: 'good' cholesterol
- Non-HDL cholesterol = total cholesterol - HDL
- LDL cholesterol: 'bad' cholesterol
- cholesterol-ratio: total cholesterol/HDL cholesterol

Triglycerides are another type of fat present in the body. Triglycerides come from food and, like cholesterol, are produced in the liver.

### What are the potential consequences of high cholesterol (total, LDL, cholesterol-ratio) and triglycerides?

Elevated total cholesterol, LDL cholesterol, a higher cholesterol ratio and elevated triglycerides are unfavourable due to an increased risk of atherosclerosis (hardening of the arteries), which increases the risk of developing vascular diseases: heart attacks, TIAs, cerebral infarctions and abdominal, pelvic and leg vascular disorders.

High blood pressure and smoking further increase the risk of atherosclerosis and cardiovascular diseases. By contrast, HDL cholesterol protects against cardiovascular diseases.

## When are you at a higher risk of high cholesterol and/or triglycerides?

- eating processed foods rich in saturated fats;
- being overweight;
- insufficient physical activity (raises LDL cholesterol, lowers HDL cholesterol),
- smoking (lowers HDL cholesterol);
- diabetes;
- slow-acting thyroid gland;
- genetic predisposition.

## Which foods increase and which lower LDL cholesterol?

LDL cholesterol boosting: (processed, saturated fats, in particular)

- fatty meats (meat products);
- baked goods;
- cakes;
- snacks;
- solid cooking fats and spreadable fats;

Foods that reduce LDL cholesterol: (unsaturated fats, in particular)

- fibre in vegetables, fruit, whole-wheat products and oatmeal;
- legumes;
- nuts, seeds
- (fatty) fish;
- liquid cooking and frying products, olive oil
- spreadable fats.

The adverse effect high-cholesterol foods (egg yolks, organ meat, shrimp, eel and shellfish) is much lower than that of saturated fat.

Eggs are part of a healthy diet: only one- third of the fats found of the egg yolk contain unhealthy saturated fats, the remaining two-thirds consist of unsaturated fats, so it is healthy. Two to three eggs weekly, even four to five for vegetarians, are not dangerous.

A handful of unsalted nuts each day is recommended as part of a healthy diet. Roasted nuts contain slightly less vitamin B and E and minerals due to the roasting process, but they are comparable to unroasted nuts in terms of their health benefits.

Seeds (eg sunflower seeds, pumpkin seeds, poppy seeds and sesame seeds) are similar in nutritional value to nuts. These represent a good alternative for people who suffer from nut allergies.

There does not appear to be a relationship between total dairy consumption and cardiovascular diseases, despite the saturated fats found in dairy products. For the time being, the Nutrition Centre (Voedingscentrum) recommends low-fat options. However, there are indications that full-fat options have a protective effect against the development of type 2 diabetes. Dairy products have also been described as having a protective effect against colon cancer. In any event, a few portions of dairy each day are part of a healthy diet. Dairy products are the most important source of calcium, an important mineral in the prevention of osteoporosis (bone decalcification).

## What can you do to lower or to prevent high cholesterol?

- a healthy diet (see the 'Nutrition' section) can lead to a 10 - 20% reduction in cholesterol!
- lose weight, if overweight;
- exercise more;
- stop smoking;
- consume moderate amounts of coffee (a maximum two to five cups, depending on the brewing method, see the 'Coffee' section for more information);
- treat underlying illnesses.

# Type 2 diabetes (“old age diabetes”)

## How common is type 2 diabetes?

Because of our ‘obesogenic’ society, the number of people with type 2 diabetes is rapidly increasing: 1.2 million Dutch people has been diagnosed with type 2 diabetes. Each day, 166 new diabetes patients join their ranks. According to projections, 1 out of 3 Dutch people will develop type 2 diabetes within their lifetime.

## When are you at a higher risk of developing type 2 diabetes?

The onset of type 2 diabetes is also happening at an increasingly younger age (53 years, on average), so the designation ‘old age diabetes’ is no longer appropriate. One can better refer to it as ‘lifestyle diabetes’ because type 2 diabetes is mainly a lifestyle-related disease, which arises in people with a genetic predisposition for it, from being overweight or obese, frequently as a consequence of an unhealthy lifestyle: an unhealthy diet combined with too little exercise, chronic stress and sleep deprivation.

A higher risk of type 2 diabetes is present with:

- smokers;
- use of specific medication (incl. corticosteroids);
- people with high blood pressure;
- people with high cholesterol;
- unfavourable intestinal flora composition (the microbiome, due to nutrition and antibiotics, for example);
- women who have had gestational diabetes;
- people who suffer from sleep apnoea.

## What are the potential consequences of type 2 diabetes?

When the body becomes insensitive to insulin, this causes the body’s glucose level to rise. Eventually, this will damage multiple organs, resulting in a sharply increased risk of cardiovascular diseases, risk of nerve damage, kidney failure, eye disorders, dementia (double the risk!), depression, poor wound healing, infections and some types of cancer (eg intestinal, liver, pancreatic cancer).

Therefore, early detection of type 2 diabetes is vital.

## What can you do to prevent or ‘treat’ type 2 diabetes?

As type 2 diabetes is primarily a lifestyle-related disease, observing a healthy lifestyle remains the most effective treatment. And this has been demonstrated in several scientific studies. After all, this will allow you to tackle the root cause, which is not the case for medication. With a healthy lifestyle, diabetes can be entirely or partially reversed (normal blood sugars), so that less or even no medication is required!

This involves:

- losing weight, by adjusting your diet: eating differently: healthy food (see the ‘Nutrition’ section) with fewer ‘fast’ carbohydrates (sugary drinks, white bread or pasta and rice, sweet snacks, baked goods, sweets) and a greater emphasis on vegetables, whole wheat products, full-fat dairy (yoghurt) and three filling meals per day with as little snacking as possible.
- moderate coffee consumption protects against type 2 diabetes!
- more physical activity;
- an adequate night’s rest;
- sufficient relaxation;
- stop smoking.

By living a healthy life you can prevent type 2 diabetes.



*"Type 2 diabetes can usually be fully addressed through nutrition and exercise."*

*Hanno Pijl, internist-endocrinologist at Leiden University Medical Centre*

*"A healthy lifestyle can prevent the onset of type 2 diabetes:*

*Up to 91% of the onset of type 2 diabetes is due to lifestyle factors."*

*Jaap Seidell, professor of Nutrition and Health at the Free University of Amsterdam*

## Fatty liver disease

### What is a fatty liver?

Approximately 25% of the Dutch population has a fatty liver: the accumulation of fat in the liver cells, also referred to as liver steatosis. Between 50 - 100% of obese people individuals develop a fatty liver. Even 5 - 10% of healthy, slim people develop a fatty liver.

People who have a fatty liver are usually asymptomatic, so this condition is typically accidentally discovered during an abdominal ultrasound or in case of abnormal blood values.

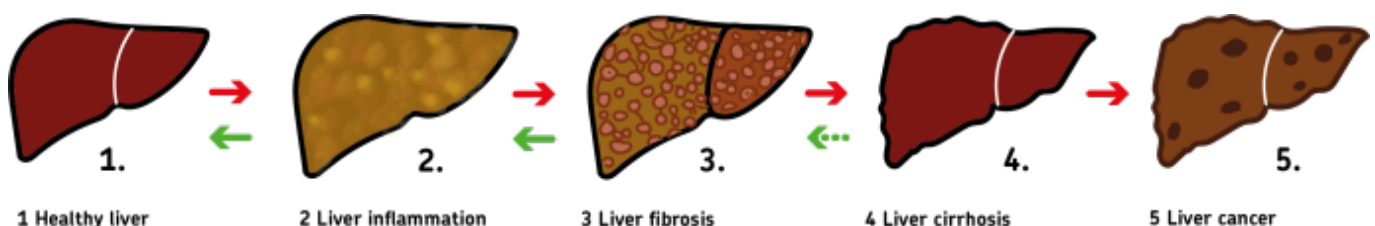
### When are you at a higher risk of developing fatty liver disease?

The main causes of a fatty liver are an unhealthy lifestyle coupled with being overweight or obese ('non-alcoholic fatty liver disease') and chronic alcohol consumption ('alcoholic fatty liver disease').

### What are the potential consequences of developing fatty liver disease?

People with fatty liver disease are at an increased risk of developing cardiovascular diseases and type 2 diabetes as well as experiencing a loss of kidney function.

Furthermore, a fatty liver can develop into liver inflammation (hepatitis), which in turn can develop into liver fibrosis (scarring) and, ultimately, liver cirrhosis. Fortunately, a fatty liver and the resultant liver inflammation are usually entirely reversible. Liver fibrosis and cirrhosis, however, involve irreversible damage to the liver, which may ultimately lead to liver failure and liver cancer.



### What can you do to 'treat' or prevent a fatty liver?

Through lifestyle modifications, a fatty liver is, in most cases, entirely reversible: attain a healthy weight, exercise, eat a healthy diet and consume little to no alcohol. Losing less than 10% of one's weight can already halve the amount of liver fat! Coffee appears to

have protective effects against the development of a fatty liver.

## Dementia

### What are the types of dementia?

There are over fifty different types of dementia. The most common being Alzheimer's disease (70%) and vascular dementia (15 - 20%).

### How often does dementia occur?

The incidence of dementia is increasing, partly due to an ageing population, but also to the increasing prevalence of controllable risk factors for this disease. Currently, more than 280,000 people in the Netherlands suffer from dementia. Every day, on average, 120 people are diagnosed with dementia. The number of patients with dementia is expected to double to more than half a million by the year 2040.

### When are you at a higher risk of developing dementia?

Age is the main significant risk factor for developing dementia: between the ages of 60 and 65, 1% of people have dementia; above 90 years of age, this rises to 40%.

Dementia is seldom hereditary. When people develop dementia at a young age, there is a greater chance that heredity plays a role. Leading an unhealthy lifestyle increases one's risk of developing dementia. It has been described that (partially) avoidable risk factors contribute to 30 - 40% of the cases of dementia. Many of the risk factors are similar to those for cardiovascular disease: what is bad for the heart is also bad for the brain.

### The following are risk factors for dementia:

- smoking;
- an unhealthy diet;
- insufficient exercise;
- inadequate sleep;
- stress;
- being overweight;
- high blood pressure;
- diabetes;
- depression;
- impaired hearing;
- social isolation;
- low educational level;
- insufficient cognitive activity.

### What can you do to 'treat' or prevent dementia?

Addressing existing risk factors, as described above, may aid in the prevention of dementia, and this appears to slow down an already existing dementia disease process. For more information on how to address these risk factors, see elsewhere in this information. Combined Lifestyle Intervention can also play an important role in addressing risk factors.

## Healthy lifestyle

## Nutrition

A healthy diet does not emphasise eating less, but rather eating differently: with an emphasis on minimally processed, natural 'anti-inflammatory' products.

- three filling meals with as many fresh, unprocessed products as possible:
  - vegetables (at least 250 g/day);
  - fruit (two pieces/ day);
  - whole wheat products;
  - legumes;
  - nuts (a handful/day);
  - full-fat(!) dairy products;
  - eggs;
  - (fatty) fish;
  - poultry and/or meat substitutes;
  - and as few snacks as possible (excepting fruit, nuts, etc.),
- no solid cooking products or spreadable fats, but easily spreadable fats and liquid (frying) fats and (olive) oil, butter in moderation
- red meat (beef, pork or lamb) in moderation
- minimally processed food: processed meat (meat products), fast food, snacks, sweets, baked goods, cake, snack packets containing (too) much added salt, sugar and (unhealthy) fat: these are all proinflammatory foods!
- each day, 1.5 – 2 litres of water, tea and coffee (without sugar)
- as few sugary drinks as possible: soft drinks, (fresh) juices and (fruit-flavoured) dairy drinks
- preferably no alcohol or one glass per day, maximum

## Foods that repress inflammation .....



**Tomatos**



**Fruits**

Strawberries,  
blueberries, oranges  
and cherries



**Nuts**

Almonds, walnuts  
and other nuts



**Olive oil**



**Green vegetables**

Spinach, kale,  
types of cabbage and more



**Fatty fish**

Salmon, mackerel,  
tuna and sardines

## Foods that cause inflammation .....



**Fried  
foods**



**Soda**



**Refined  
carbohydrates**



**Fat**



**Processed meat**

When someone is overweight, strict diets (especially crash diets) generally do not help over the long term because the fat burning rate remains lower afterward while the change in the levels of hunger and satiety hormones remains the same. This commonly results in weight gain.

Gradually adjusting your diet is effective over the long term, with no difference shown between the various known healthy diets (i.e. carbohydrate-restricted, fat-limited, Mediterranean, the Paleo diet, vegetarian and vegan) because they all revolve around minimally processed foods.

The number of calories is less important than the type of food: unprocessed foods that contain as many calories as ultraprocessed

foods are much healthier for the body due to their beneficial effect on hunger and satiation hormones, with subsequent weight loss! Periodic fasting (eating very little food several days per week or eating only during a limited number of hours each day) may help one lose weight. In this case, the quality of the food is especially important to ensure that you consume sufficient proteins, minerals and vitamins.

Using a smaller plate to eat smaller portions during the meal or only serving yourself once, may also aid in weight loss. Having a glass of water (preferably cold!) or eating a low-calorie soup before meals is more likely to make you feel satiated. Also, eating consciously (watching the food) and eating slowly while using smaller cutlery and a lot of chewing movements stimulates the production of satiation hormones faster, which slows down the appetite sooner.

*"Fruit and vegetables protect against type 2 diabetes, cardiovascular diseases and various forms of cancer (including colon cancer)."*

*"Processed foods increase the risk of obesity, hypertension and cardiovascular disease. Red meat increases the risk of stroke, type 2 diabetes and colon cancer."*

## Coffee

### What are the health benefits of drinking coffee?

*"Moderate coffee consumption (3-5 cups daily) reduces the risk of cardiovascular disease.*

*(Ding, Circulation, 2015)"*

*"Drinking coffee lowers the risk of type 2 diabetes.*

*(Ding, Diabetes Care, 2014)"*

### What is moderate coffee consumption?

In 'moderate' amounts, coffee protects against cardiovascular diseases. Coffee beans contain 'cafestol', a fatty substance that slightly elevates LDL cholesterol. The amount of cafestol in the coffee depends on the brewing method: the more the coffee is filtered, the lower the concentration of cafestol.

The Health Council of the Netherlands (Gezondheidsraad) advises: drinking two to five cups of coffee per day:

- a maximum of one cup of percolated coffee, French press coffee, Greek or Turkish coffee;
- up to two to three cups of Nespresso, coffee from freshly ground beans, espresso, cappuccino;
- and further: filtered coffee (coffee pads, soluble coffee and coffee made with a paper filter).

## Coffee: fact or fiction

- Caffeine withdrawal can trigger headaches in heavy coffee drinkers.
- People do not become dehydrated from coffee or caffeine. However, caffeine does stimulate the kidneys, which causes the fluid present in the body to leave faster.
- The amount of caffeine per cup of coffee depends on the type of coffee, the brewing method and the chosen brewing strength

## Alcohol

### What is the recommended alcohol consumption?

The Health Council of the Netherlands (2015) recommends the following: Preferably no alcohol, otherwise no more than one glass of alcohol per day.

The reason for this updated, stricter advice is that consuming even a small amount of alcohol increases your risk of cancer: one glass of alcohol per day increases the risk of breast cancer.

### What are the potential consequences of (excessive) alcohol consumption?

In addition to breast cancer, excessive alcohol consumption also increases the risk of oral, throat, larynx, oesophagus, stomach, large intestine and liver cancer.

Among others, there is also a higher risk of:

- obesity;
- high blood pressure, brain infarctions, heart failure and arrhythmia;
- fatty liver disease and liver cirrhosis;
- inflammation in the oesophagus, stomach and pancreas;
- brain and nerve damage;
- erection disorders and decreased fertility.

"Alcohol has no protective effect against cardiovascular diseases!"

## Smoking

Smoking is the most pathogenic and deadliest unhealthy lifestyle choice:

"Chronic smokers die, on average, 13 to 14 years earlier than non-smokers."

2 out of 3 smokers die as a result of smoking

1 out of 4 smokers does not reach his or her retirement

Within just 1 year of quitting smoking, your risk of a heart attack is halved"

## What are the benefits to quitting smoking?

In the short term:

Fresher breath, an improved sense of taste and smell, better physical condition and overall mood, nicer teeth and skin and better potential!

Over the long term:

- fewer cardiovascular diseases, chronic pulmonary disease, and less cancer;
- improved fertility and fewer pregnancy complications;
- a lower risk of developing type 2 diabetes, osteoporosis, rheumatoid arthritis and blindness;
- and... more money and birthdays!

## What is the most effective approach to quitting smoking?

The most effective method for quitting smoking is to use nicotine substitute medication in combination with behavioural support (individually or in a group).

## Physical activity

### What is adequate physical activity?

The Physical Activity Guidelines (Beweerichtlijn) of the Health Council of the Netherlands (August 2017) for adults states:

- Exercise is good, more exercise is even better.
- Do at least 150 minutes of moderately intensive exercise (cycling, walking, gardening, vacuuming, etcetera) throughout the week. Exercising longer, more frequently and/or more intensively provides additional health benefits. Obese individuals should perform moderately intensive exercise for at least one hour each day.
- At least twice a week, engage in muscle and bone strengthening activities (swimming, cycling, climbing stairs, dancing and running, for example).
- Avoid prolonged sitting: stand up every half hour or work while standing up (with an adjustable desk).

In addition: movement of the small muscles: 'fidgeting': e.g. tapping with a pen, chewing gum, moving your feet, tightening abdominal or pelvic muscles while seated (during work, for example), all increase fat burning.

In fact, it is possible for one to get adequate exercise outside of the gym or club! Climbing the stairs each day, cycling, walking and 'fidgeting' all contribute to weight loss and/or improved overall physical condition. Exercising outside immediately leads to additional stimulation of brown fat production.

### What are the health benefits of physical activity?

- Physical activity improves the body composition (muscle-to-fat mass ratio) by decreasing unhealthy abdominal fat and

increasing muscle mass.

- Physical activity lowers blood pressure and the bad types of cholesterol.
- Physical activity reduces the risk of developing, and dying from, cardiovascular diseases and type 2 diabetes.
- Physical activity is associated with a lower risk of colon cancer, post-menopausal breast cancer and uterine cancer.
- Physical activity is associated with a lower risk of osteoporosis, cognitive decline and dementia.
- Physical activity increases selfconfidence, overall wellbeing and promotes relaxation and sleep.

Physical activity protects against depression and relieves the symptoms of anxiety and depression that accompany chronic disease.

## Sleep

### Why is a good night's sleep so important?

Sleeping is a basic necessity of life: it is a rest period that allows the body to restore from the day's physical and mental exertions. Sleep disturbances can lead to hormonal dysregulation, which may also lead to weight gain and the eventual onset of diabetes. There is also a greater risk of depression and accidents.

In order to feel well rested during the day, the amount of energy gained while sleeping must be equal to the energy used during the day. People, on average, require seven to eight hours of sleep.

### What can you do to sleep better?

- take a hot shower or bath before bed (to lower the body temperature)
- warm your feet;
- sleep in a cool room;
- refrain from drinking coffee, black or green tea (theine), but herbal tea is allowed, and no cola and chocolate approximately 5 hours prior to bed
- refrain from alcohol just before sleeping: the quality of sleep deteriorates, and you wake up less rested
- refrain from watching a screen from one to 1,5 hours before bedtime: screens inhibit the production of melatonin; and the brain is activated by tension and emotions
- no intensive physical activity (sports) 1,5- 2 hours before bedtime
- go to sleep at set times; on weekends, do not go to bed more than 1,5 hours later than during the week
- stay in bed no longer than 8 hours, take a power nap during the day, if desired (a maximum of 30 minutes before 3:00 pm)
- if you cannot fall sleep, get up for a while.
- get sufficient relaxation throughout the day: schedule in large and efficient 'micro' breaks: take a 3-5 minutes break after one hour of mental activity (immediately physical activity!)
- breathing and relaxation exercises

## UV rays and moles

In recent decades, the incidence of malignant moles and melanomas has risen sharply. This form of skin cancer has a strong tendency to metastasize, a stage in which the possibilities for curation are more limited. Early detection and treatment is critical for the prognosis.

Melanomas usually develop from new moles. So, it is essential to pay attention to your skin. Any change to existing moles, however, is also a good reason to have your GP assess it further.

This involves a change in:

- shape (eg no longer nicely symmetrical);
- border (eg irregular, (partial) edge that is not sharp);
- colour (especially black, blue, white, grey, pink and purple);
- size (superficial growth or growth more raised from the skin);



- itching and/or bleeding.

Skin cancer is preventable by limiting your exposure to UV rays:

- do not sunbathe between noon and 3:00 pm;
- use sun cream with at least SPF 30, re-apply your sun cream every two hours;
- regularly sit or lie down in the shade;
- wear protective clothing, sunglasses and a hat or cap;
- do not use a tanning bed.

## More information

For more information you can visit these websites

- [www.gezondheidsraad.nl](https://www.gezondheidsraad.nl/) (<https://www.gezondheidsraad.nl/>)
- [www.wkof.nl](https://www.wkof.nl/) (<https://www.wkof.nl/>)
- [www.voedingscentrum.nl](https://www.voedingscentrum.nl/) (<https://www.voedingscentrum.nl/>)
- [www.puurgezond.nl](https://www.puurgezond.nl/) (<https://www.puurgezond.nl/>)
- [www.hartstichting.nl](https://www.hartstichting.nl/) (<https://www.hartstichting.nl/>)
- [www.keerdiabetesom.nl](https://www.keerdiabetesom.nl/) (<https://www.keerdiabetesom.nl/>)
- [www.dfn.nl](https://www.dfn.nl/) (<https://www.dfn.nl/>)
- [www.hersenstichting.nl](https://www.hersenstichting.nl/) (<https://www.hersenstichting.nl/>)
- [www.dementie.nl](https://www.dementie.nl/) (<https://www.dementie.nl/>)
- [www.alzheimer.nl](https://www.alzheimer.nl/) (<https://www.alzheimer.nl/>)
- [www.trimbos.nl](https://www.trimbos.nl/) (<https://www.trimbos.nl/>)
- [www.kwf.nl/rookvrij](https://www.kwf.nl/rookvrij) (<https://www.kwf.nl/rookvrij>)
- [www.ikstopnu.nl](https://www.ikstopnu.nl/) (<https://www.ikstopnu.nl/>)
- [www.kwf.nl/zonnen](https://www.kwf.nl/zonnen) (<https://www.kwf.nl/zonnen>)
- [www.kwf.nl/vroegontdekken](https://www.kwf.nl/vroegontdekken) (<https://www.kwf.nl/vroegontdekken>)
- [www.stichtingmelanoom.nl](https://www.stichtingmelanoom.nl/) (<https://www.stichtingmelanoom.nl/>)
- [www.mijnpositievegezondheid.nl](https://www.mijnpositievegezondheid.nl/) (<https://www.mijnpositievegezondheid.nl/>)

## Sources

The sources we used to compile this information

- Boon M, van Rossum L (2019). *Vet belangrijk. Feiten en fabels over voeding, vetverbranding en verborgen dikmakers*. Amsterdam: Ambo Anthos.
- Kooij A (2012). *Handboek cardiovasculair risicomanagement. Preventie, diagnostiek en behandelstrategieën volgens nieuwe richtlijnen*. Houten: Prelum.
- Nationaal Innovatiecentrum voor Leefstijl Geneeskunde (2019). *Wetenschappelijk bewijs leefstijlgeneskunde*. Leiden: TNO.
- Nationaal Innovatiecentrum voor Leefstijl Geneeskunde (2020). *Wetenschappelijke notitie over de relaties tussen COVID-19, metabole ontregeling, weerstand en leefstijlinterventies*. Leiden: TNO.
- De Vries M, de Weijer T (2020). *Handboek leefstijlgeneskunde. De basis voor iedere praktijk*. Houten: Bohn Stafleu van Loghum.
- Maastricht UMC+ (2018). *De Maastricht Studie*.
- Van Rossum L, Freijer K (2023). *Richtlijn overgewicht en obesitas bij volwassenen. PON*
- Schouten-van Heiningen J, Den Hoed C, Bindels P en Elshout G (2021). *Echografische lever vervetting. Huisarts en Wetenschap*.

- Stens N, Bakker E, Eijssvogels T et al. (2023). *Relationship of daily step counts to all-cause mortality and cardiovascular events. Journal of American College of Cardiology*
- Pot G, Battjes-Fries M, Patijn O, Van der Zijl N, Pijl H. (2023). *Lifestyle medicine for type 2 diabetes: practice-based evidence for long-term efficacy of a multicomponent lifestyle intervention (Reverse Diabetes2 Now) BMJ Nutrition, Prevention & Health.*

Code JBB-010