

Ratgeber Bluthochdruck – Englisch

High blood pressure

Simply explained

The Guide



A Sandoz Brand

Simply explained

High blood pressure

About one-third of adults in Germany live with high blood pressure. Often, however, the condition remains unnoticed - with dangerous consequences. But it doesn't have to come to this. We explain how high blood pressure can be detected and treated.



1

Symptoms

Symptoms of mild high blood pressure can be:

- Headaches
- Dizziness
- Nose bleeds
- Exhaustion

2

Monitoring

High blood pressure can be detected with blood-pressure measurements. Important:

- Relax for 3-5 minutes before taking the measurement
- Position the arms at heart level
- Take several measurements on different days at different times
- Normal blood pressure: 120/80 mmHg
- High blood pressure: numbers consistently above 140/90 mmHg

3

What can I do myself?

Speak to your doctor. He or she will usually first try to rectify the causes:

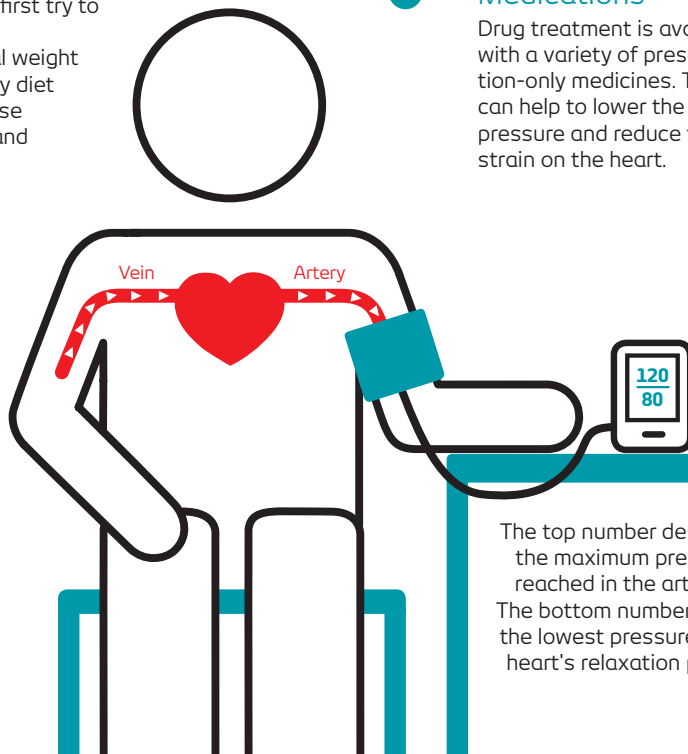
- Aim to be of normal weight and follow a healthy diet
- Take regular exercise
- Drink less alcohol and do not smoke
- Reduce stress

4



Medications

Drug treatment is available with a variety of prescription-only medicines. These can help to lower the blood pressure and reduce the strain on the heart.



The top number describes the maximum pressure reached in the arteries. The bottom number shows the lowest pressure in the heart's relaxation phase.

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Important note for readers

The content-related and scientific information in this guide is up to date at the time of editing (see back page). This guide is intended to provide an initial overview of the topic. It is, however, not a substitute for advice from a doctor. Please always read the package leaflet that comes with your medicine carefully. For the reasons mentioned, 1 A Pharma GmbH cannot guarantee or accept liability for the contents of or information in this guide.

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What is high blood pressure?

Dear Reader,

According to the Robert Koch Institute, about one-third of all adults in Germany live with high blood pressure. The condition is often underestimated but in many patients it causes no symptoms at first.

This is why high blood pressure often goes undetected for a long time. This is the challenge facing doctors and patients in diagnosis and treatment. If left untreated, the condition can become dangerous and, in the worst-case scenario, lead to a stroke or heart attack. Things don't have to get this far. There are treatments available.

This guide is intended to provide you with information at an early stage. It gives you tips for preventing high blood pressure yourself and shows you what you, with the assistance of your doctor, can do about it.

We wish you a speedy recovery.

Best wishes
The 1 A Pharma Team

"High blood pressure", a common complaint. According to the Robert Koch Institute, about one-third of all adults in Germany live with high blood pressure. That means around 30 million people. What happens in the body of someone with high blood pressure, known as "hypertension"?

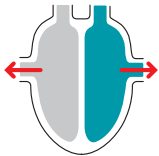
The heart, blood vessels and blood together make up the cardiovascular system. The heart pumps blood through the blood vessels to the various organs and tissues. In this way, it delivers oxygen and nutrients to them. It also removes metabolic products. These are produced when foods, medicines and products in the respiratory chain are broken down. Metabolic products are excreted in the urine, for example.

Blood flows in two directions: towards the heart and away from the heart. Blood vessels that carry blood towards the heart are called veins. Blood vessels that carry blood away from the heart are called arteries. The heart has to generate pressure to enable the blood to overcome the resistance to flow that exists. To do this, it first relaxes at regular intervals and then

contracts again. The relaxation phase is called diastole and its counterpart, the contraction phase, is called systole. So, in general terms, blood pressure means the pressure present in the arteries when the heart is at work.

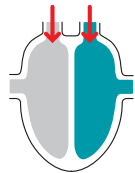
Two numbers are always given when blood pressure is measured, for example "120 over 80". The unit is mmHg or "millimetres of mercury" in words. When the heart muscle contracts, the pressure in the arteries rises. The blood pressure measured in this phase is called the "systolic blood pressure". This is the first (top) number given. During the relaxation phase, the chambers in the heart fill with blood again. The heart relaxes and then stops pumping blood into the arteries. This is the "diastolic blood pressure" – given as the second (bottom) number.

Systolic pressure



Systole: the heart pumps blood into the arteries

Diastolic pressure



Diastole: the chambers in the heart fill with blood

But beware: each blood pressure measurement is only a snapshot. The blood pressure fluctuates during the course of the day. This is completely normal. It is also influenced by other factors, such as mental or physical stress. It generally rises under high stress. For a definitive diagnosis, the blood pressure needs to be measured regularly, ideally

- several times on different days,
- at different times of day,
- or over 24 hours.

It is best for this to be done by a doctor or trained pharmacist.

A one-off rise in blood pressure is not a cause for concern. Only permanently raised blood pressure levels require treatment. This applies to adults as well as to children and adolescents. Pregnant women should measure their blood pressure at regular intervals. In this case, treatment, where appropriate, should be carried out very cautiously to protect the mother and child.

Adults should check their blood pressure at least once a year. This is the only way to detect and treat high blood pressure at an early stage. Adolescents whose family members have hypertension should also have their blood pressure checked regularly.

What are the causes of high blood pressure?

High blood pressure can have numerous causes. These include factors that cannot be influenced, such as:

- Predisposition
- Gender
- Age – it is particularly common in middle-aged adults and the elderly.



Predisposition



Gender



Age

Many people have an inherited predisposition. In conjunction with other negative risk factors, this can trigger high blood pressure.

These risk factors include:

- Smoking
- Excess weight
- An unhealthy diet

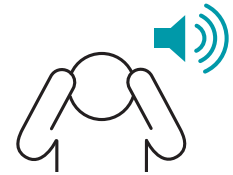
- Lack of exercise
- A high alcohol intake
- Stress
- Male gender

In addition, people with diabetes and kidney disease are particularly susceptible to high blood pressure.

Negative environmental conditions, such as a constant noise nuisance, can – together with other factors – also cause high blood pressure.



Environmental factors



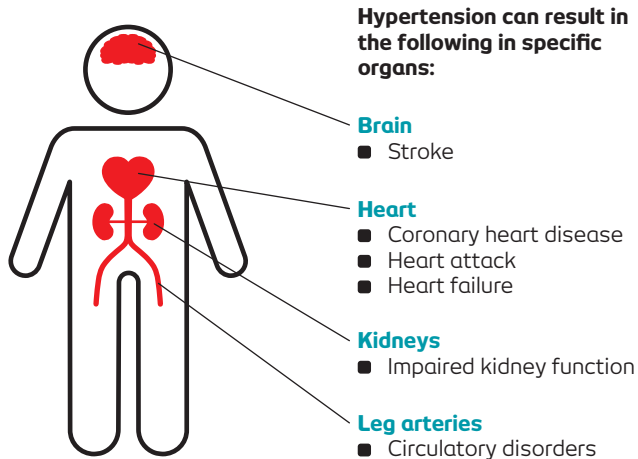
Noise nuisance

When it comes to the causes, a distinction is made between two types of high blood pressure:

- Essential or primary hypertension – high blood pressure resulting from a combination of different causes
- Secondary hypertension – high blood pressure as a result of another condition, for example kidney or heart disease

Why is high blood pressure so dangerous?

Unlike low blood pressure, high blood pressure usually causes no symptoms at first. Nevertheless, it poses a considerable risk to health – if it is not treated. In the worst-case scenario, it can cause a stroke or heart attack.



Blood vessels

High blood pressure puts strain on the body's sensitive blood vessels. Damage to the vascular system, particularly the brain, heart and kidneys, is possible. A series of metabolic processes can cause calcium deposits to form at the damaged places on the inner lining of the blood vessels (arteriosclerosis). This leads to a thickening or hardening of the blood vessels and to a loss of their elasticity. The possible consequences are:

- Partial or complete blockage of the blood vessels affected
- Reduced blood supply to vital organs

Constant strain can tear the blood vessels. This can cause bleeding, for example in the brain (stroke) or in other vital organs.

Heart

Arteriosclerosis is especially problematic in the heart. The coronary vessels may become narrow. The possible consequences are coronary heart disease or angina attacks and therefore a reduced oxygen supply to the heart.

The circulation in the coronary vessels is very important for normal heart function: it ensures the delivery of nutrients and oxygen. If a coronary vessel is completely blocked, there is a risk of heart attack. The part of the heart muscle tissue that was previously supplied with blood by this vessel then dies.

In addition, high blood pressure places great strain on the heart. This is because it has to exert greater force to pump the blood through the arteries. This constant strain can lead to heart failure because the heart is unable to fulfil its function fully.

Kidneys

When arteriosclerosis affects the arteries in the kidneys, these are no longer able to filter the blood and remove toxic metabolic products. The consequence is impaired kidney function.

What are the symptoms of high blood pressure?

High blood pressure is most reliably detected by measuring the blood pressure. Patients often have no definitive symptoms. Moderately raised blood pressure levels often lead to:

- Headaches (particularly in bed in the morning)
- Dizziness
- Nose bleeds ("epistaxis")
- Exhaustion



Headaches



Dizziness



Nose bleeds



Exhaustion

Severely raised blood pressure can also lead to:

- Shortness of breath on physical exertion ("exertional dyspnoea")
- Angina
- Noticeable palpitations
- Nausea
- Vision problems
- Nervousness
- Anxiety
- Increased sweating, bouts of sweating ("diaphoresis")



Shortness of breath



Palpitations



Nausea



Vision problems



Anxiety



Increased sweating

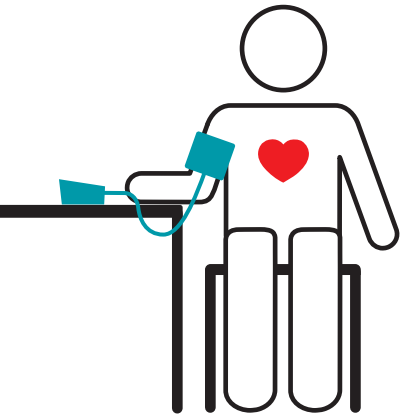
How is high blood pressure diagnosed?

Is your own blood pressure normal or raised? This can be established with a simple measurement by your doctor, in a pharmacy or at home. Two numbers show the blood pressure: the top one (systolic) and the bottom one (diastolic). But when is blood pressure considered raised and when normal? The following table will help with the first categorisation:

Classification	Systolic (mmHg) (top number)	Diastolic (mmHg) (bottom number)
Optimum	< 120	and < 80
Normal	120–129	and/or 80–84
Upper limit of normal	130–139	and/or 85–89
Mild hypertension (grade 1)	140–159	and/or 90–99
Moderate hypertension (grade 2)	160–179	and/or 100–109
Severe hypertension (grade 3)	≥ 180	and/or ≥ 110
Isolated systolic hypertension	≥ 140	and < 90

Modified in accordance with the management board of the German Cardiology Society (Deutsche Gesellschaft für Kardiologie) and the management board of the Deutsche Hochdruckliga e.V. DHL® – German Society for Hypertension and Prevention. Edited on behalf of the Commission for Clinical Cardiology. ESC Pocket Guidelines, Guidelines for the Management of Arterial Hypertension, 2018. p. 11.

The category into which a patient falls depends on whether the systolic or the diastolic blood pressure is higher. Isolated systolic hypertension is particularly common with increasing age: the systolic blood pressure rises continually whereas the diastolic blood pressure peaks between the ages of 55 and 60. After that, it often falls. The grade of severity which a patient comes under depends on the systolic blood pressure.



Each blood pressure measurement should take place in a relaxed atmosphere.

Measure the blood pressure several times on different days at different times on both arms. Each blood pressure measurement should take place in a relaxed atmosphere. First, sit down for three to five minutes and only then start to take the measurement. The blood pressure cuff should be positioned level with the heart. Take the measurement at least twice at one to two-minute intervals. This is the only way to tell definitively whether you have high blood pressure.

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When is a person considered to have high blood pressure? According to the World Health Organization (WHO), medical professionals speak of hypertension when the numbers are consistently equal to or above 140 over 90 (mmHg). Conversely, a number below 120 mmHg (systolic) and 80 mmHg (diastolic) is considered optimal in adults.

Please discuss the details with your doctor.

The following are also considerations in diagnosing high blood pressure:

- General medical history and habits: general symptoms, medicines, consumption of nicotine, coffee, alcohol, recreational drugs
- Family history: heart attack, stroke

- Listening to sounds from the body (auscultation): heart, carotid artery on both sides, abdomen
- Ophthalmoscopy: an examination of the back of the eye
- Laboratory test results
- Urine status
- Serum electrolytes, for example sodium, chloride, magnesium and potassium
- Creatinine clearance, a procedure for assessing kidney function
- TSH (thyroid stimulating hormone): thyroid gland
- Testing for risk factors for cardiovascular disease, for example cholesterol and blood sugar
- Electrocardiogram (ECG): a recording of electrical activity in all the heart muscle fibres
- Echocardiography: an ultrasound examination of the heart



Medical history



Laboratory test results



Electrocardiogram

How can high blood pressure be treated?

How high blood pressure is treated in a particular individual depends on the relevant causes. Secondary hypertension can be positively influenced to some extent by treating the underlying disease.

The situation is different with primary hypertension: here, the priority is to lower the blood pressure.

Non-drug-based therapies

The doctor will usually first try to eliminate the causes of high blood pressure. You as a patient can make a crucial contribution to this, thus lowering the risk of cardiovascular disease.

Normalising body weight

Reduce excess weight permanently and lower the risk of numerous cardiovascular diseases. Enter the relevant number in your blood pressure passport. Make a conscious effort to eat a healthy diet. Try to normalise your weight permanently. If necessary, ask your doctor or a dietitian for advice.

Healthy diet

There is no need for you to miss out on all your favourite foods. But be open to new culinary experiences. You'll be surprised. Eat low-fat food as much as possible. Give pride of place to foods that are high in vitamins and fibre. Eat lots of fruit, vegetables and salads. Follow a cholesterol-conscious diet. The benchmark is an intake of less than 300 mg of cholesterol per day from food. Use spreadable fats and cooking/frying fats sparingly. Be careful about saturated fats. These are present in meat and butter, for example. Instead, use plant-based oils containing polyunsaturated fats, such as rapeseed oil or soybean oil.

Sport and exercise

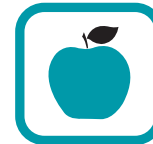
Take part in sport regularly. Start carefully and build up slowly. The important thing is for you to choose a sport you enjoy. If you are unsure, speak to your doctor. He or she is the best person to decide what type of exercise is most suitable for you.

Avoid intoxicants and stimulants

If possible, you should abstain completely from taking intoxicants such as alcohol and recreational drugs. Nicotine also places a strain on the heart and blood vessels. Ask your doctor for help with smoking cessation.

Limiting stress factors

Avoid stress, rushing around and time pressure as much as possible. Stress can have a negative impact on certain habits, such as alcohol intake and diet. Instead, make sure you get plenty of rest, sleep and leisure time. Try to change stressful circumstances.



Drug-based therapies

Nowadays, a large number of active substance classes are available for drug-based therapy. The following are the most common ones used:

- Diuretics
- Calcium channel blockers
- ACE inhibitors
- Angiotensin receptor blockers

Diuretics

Diuretics stimulate salt and water excretion via the kidneys. They therefore cause more urine to be passed. The quantity of fluid in the bloodstream and the pressure in the major blood vessels is lowered. Doctors often recommend diuretics in combination with other blood pressure lowering products such as beta-blockers or ACE inhibitors. Long-acting active substances are preferable.

Calcium channel blockers

Muscles need calcium to contract. The same is also true of the muscle cells in the blood vessels and heart. Certain calcium channel blockers ("dihydropyridines") are commonly used to treat high blood pressure because, in therapeutic doses, they work only on the muscles in the blood vessels and lower blood pressure by dilating the vessels. If you have certain accompanying conditions, such as heart failure, you should talk to your doctor first.

ACE inhibitors

The body produces the hormone angiotensin II in the kidneys. This raises the blood pressure. ACE inhibitors are helpful for many people who have permanently raised blood pressure levels. By taking them, less angiotensin II is produced in most forms of hypertension. As a result, the blood pressure is lowered.

Angiotensin receptor blockers

These are also called "AT1-receptor antagonists", "angiotensin II receptor antagonists" and "sartans". Angiotensin receptor blockers work in a similar way to ACE inhibitors. They suppress the effect of angiotensin II and in this way lower the blood pressure.

In consultation with you, your doctor will decide which medicine is suitable for you. Regular blood pressure measurements will show whether it is working. If this is not the case, you can discuss an alternative with your doctor. This may mean increasing the dose or changing medicine. Sometimes, it also helps to combine several medicines.

Side effects such as tiredness, dizziness or headaches are possible at the start of drug treatment. These should disappear after a short time. Under no circumstances should you independently stop taking the prescribed medicine. You should also not take it upon yourself to reduce the dose without talking to your doctor first. This might cause damage to the blood vessels or place excessive strain on the heart.



Tip

To monitor the success of treatment, you should document your blood pressure measurement regularly. A blood pressure passport helps with this. Bring the completed passport with you each time you visit the doctor.

Where can I get help?

Deutsche Gesellschaft für Ernährung e. V. (DGE)

Godesberger Allee 18 • 53175 Bonn

Tel.: 0228 3776-600 • webmaster@dge.de • www.dge.de

The German Nutrition Society (DGE) deals with raising awareness about nutrition and with quality assurance in nutrition counselling and education. It holds a great deal of information and organises events relating to a healthy diet.

Deutsche Gesellschaft für Prävention und Rehabilitation von Herz-Kreislaufkrankungen e. V. (DGPR)

Friedrich-Ebert-Ring 38 • 56068 Koblenz

Tel.: 0261 309231 • info@dgpr.de

www.dgpr.de

The German Society for the Prevention and Rehabilitation of Cardiovascular Diseases (DGPR) is the umbrella organisation for all areas of inpatient and outpatient care of patients with cardiovascular disease and at-risk patients. It is aimed primarily at medical professionals but also holds some technical information that might be of interest to patients.

Deutsche Herzstiftung e. V.

Bockenheimer Landstraße 94–96
 60323 Frankfurt am Main
 Tel.: 069 955128-0
 info@herzstiftung.de • www.herzstiftung.de

The German Heart Foundation seeks to achieve a marked long-term reduction in the number of cardiovascular diseases in Germany and an improvement in the quality of life of heart patients. The patient organisation offers a large number of information services.

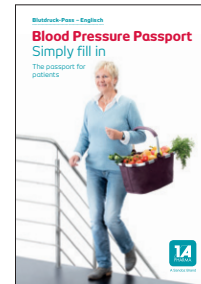
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German Hypertension League
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The DHL raises public awareness of the disease, regularly exchanges information with politicians and organisations, and promotes research projects. In addition, it supports doctors and holds up-to-date information.

Other services of 1 A Pharma

The blood pressure passport is available from 1 A Pharma free of charge (while stocks last). You can order it by fax on 089 6138825-25 or over the Internet at www.1apharma.de/service



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Einfach verstehen.