Deutsche Hochdruckliga e.V. DHL®
Deutsche Gesellschaft für
Hypertonie und Prävention

High blood pressure: A guide for patients

Dear Reader,

The purpose of this brochure is to present the most frequently asked questions on the subject of high blood pressure.

High blood pressure (the technical term is hypertension) is much more widespread and dangerous than most people think. In Germany it affects some 20-30 million people, including as many as one in two of those over the age of 60. Many, though, are not even aware of their disease and the possible consequences. Yet high blood pressure is usually easy to treat, so even secondary diseases such as strokes, heart attacks and chronic kidney disease are often avoidable.

That is why we would encourage you to take the subject of blood pressure seriously.

This leaflet explains what high blood pressure is, what the associated consequences are and how you can best protect yourself against it. If you have any more questions, you can find further information and support on the rear of this leaflet.

We wish you all the best for your health!

Yours,
Prof. Dr. med. Markus van der Giet
Chair of the Board of
Deutschen Hochdruckliga e.V. DHL®
Deutsche Gesellschaft für Hypertonie und Prävention

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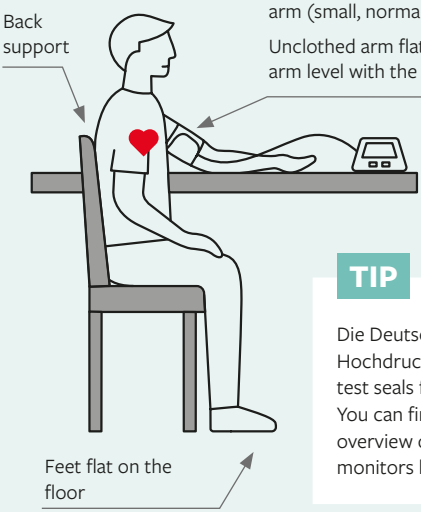
What is high blood pressure anyway?

Blood pressure is understood to be the pressure in our blood vessels, or to be more precise the arteries. Without pressure, the blood in our circulatory system would be unable to flow. The blood pressure is generated by the interaction of the heartbeat and blood vessel tone. With every heartbeat, the heart contracts (systole) and relaxes (diastole). This also changes the pressure in the arteries, producing a higher (systolic) and a lower (diastolic) pressure.

How is blood pressure measured?

Blood pressure is usually measured on the upper arm with an inflatable rubber cuff and a pressure monitor. It is indicated in *"millimetres of mercury column"* (mmHg). If the systolic pressure is 120 and the diastolic pressure is 80, we say *"120 to 80 millimetres Hg"*, written as 120/80 mmHg.

Automatic blood pressure monitors are available for measurements at home. It is important to do the measurement properly and use certified devices.



TIP

Die Deutsche Hochdruckliga awards test seals for monitors. You can find an overview of approved monitors here:

What blood pressure is normal?

When measuring blood pressure, it depends on whether the measurement was done by a doctor or at home:

If measured by a doctor, the upper limit for normal pressure in adults is	**140/90 mmHg**
If you are measuring your blood pressure yourself, the limit is	**135/85 mmHg**

The reason for this differentiation is that you are usually a little more stressed when at the doctor's, so the blood pressure readings are slightly higher.

When does someone have high blood pressure?

High blood pressure is when the blood pressure at rest is consistently above the indicated limits. Exceeding these values just once or only occasionally does not mean you have high blood pressure. It is perfectly normal, after all, for blood pressure to fluctuate during the day and when you are doing different activities. That's why a diagnosis of high blood pressure (hypertension) needs a variety of readings to be taken at different times and, of course, an assessment by the doctor.

Blood pressure is classified into one of various blood pressure categories. The figures relate to the blood pressure readings taken by a doctor.

Category	**Systolic** (mmHg)		**Diastolic** (mmHg)
Optimal	below 120	and	below 80
Normal	120–129	and/or	80–84
High-normal	130–139	and/or	85–89
High blood pressure	above 140	and/or	above 90

Other target blood pressures may apply for particular risk groups and age bands.

What causes high blood pressure?

The risk of high blood pressure can rise due to a number of factors:

Age: Vascular calcification often develops as you get older, making the vessels stiffer and causing the upper (systolic) blood pressure value in particular to rise.

Family factors: High blood pressure occurs more frequently in some families. One reason is a hereditary predisposition, another is a similar lifestyle within families, e.g. with little exercise and an unhealthy diet.

Excess weight and obesity: Excess weight affects blood pressure in a number of ways, such as increasing resistance in the vessels. Body weight is usually measured using the BodyMass Index (BMI), but how body fat is distributed also plays a role: belly fat in particular is considered dangerous. In men, there is an increased risk if the circumference of the stomach is 102 cm or more. For women, the figure is 88 cm.

Diabetes mellitus: High blood pressure and type 2 diabetes often occur together. This is because they have common risk factors such as excess weight or lack of exercise, which facilitate the development of both diseases.

Lack of exercise: A predominantly sedentary lifestyle with a lack of exercise to compensate helps cause high blood pressure.

Other risk factors for high blood pressure include:

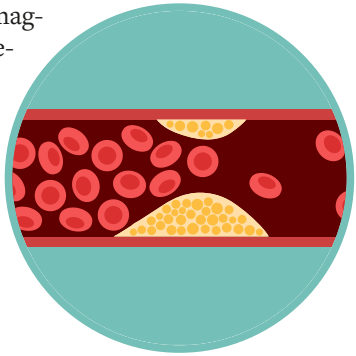
- metabolicdisorders (high cholesterol)
- dangerous levels of alcohol consumption
- tobacco consumption
- stress



Why is high blood pressure dangerous?

People affected by high blood pressure don't usually notice anything. Complaints such as headaches, dizziness or nosebleeds can occur, but don't necessarily do so.

If blood pressure stays too high for a long time, however, this damages the blood vessels: they become stiffer and fat and calcium build up in the walls, which can lead to vascular constriction. As a result, organs can no longer be properly supplied with blood and diseases develop. These include the following, for instance:





Heart
Thickening of the heart muscle (cardiac hypertrophy), coronary heart disease (CHD), heart attack, heart failure (cardiac insufficiency)



Kidneys
Kidney failure (kidney insufficiency)



Eyes
Damage to the retina, possibly even blindness



Brain
Stroke, dementia



Vessels
Peripheral arterial disease, carotid artery stenosis, renal artery stenosis, erectile dysfunction, vasodilation (aneurysms)

How can I prevent high blood pressure?

You yourself can do a lot to achieve a healthy blood pressure. By the way, the same is true if your blood pressure is already high.

- ✓ **Healthy body weight:** If you are overweight, chat to your doctor about how to bring your body weight back to normal over the long term, or at least reduce it.
- ✓ **Healthy diet:** A healthy diet includes food that is low in salt (approx. 5–6 g of salt per day) and contains as little animal fat as possible and plenty of wholemeal products. The low-salt Mediterranean diet especially has a positive impact on blood pressure.
- ✓ **Little alcohol:** Alcohol can lead to high blood pressure, while it also contains a lot of calories, so ideally you should only drink a little alcohol. Women, for instance, should not drink more than 100 ml of wine a day, men no more than 200 ml of wine a day. You should also put in two alcohol-free days a week.
- ✓ **Physical activity:** Regular exercise not only promotes a healthy blood pressure, but also improves your wellbeing. Walking, cycling, swimming or hiking are suitable ways to exercise.
- ✓ **Stop smoking:** If you stop smoking, you are eliminating one of the key risk factors for vascular damage and other diseases as well. That's why experts recommend giving up tobacco completely and permanently. The same applies for passive smoking.
- ✓ **Relaxation:** Try to reduce stress and tension as much as possible.

The general rule is that you should check your blood pressure at home at regular intervals and have it measured by your doctor at least once a year.

Deutsche Hochdruckliga offers a wealth of information and lots of tips around high blood pressure on its website **www.hochdruckliga.de**

A doctor and high blood pressure specialist (DHL® hypertensiologist) are ready to answer any questions you may have on the subject of high blood pressure in an **open expert telephone consultation** held once a month between 6 pm and 8 pm. It is available on telephone number 0 62 21 / 5 88 55 55.

What's more, as a member of Deutsche Hochdruckliga you enjoy many other benefits!

Contact for questions and further information:

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