

Definition: **hypertension** from *Philip's Encyclopedia*

Persistent high blood pressure. It can damage blood vessels and may increase the risk of strokes or heart disease. See *also* hypotension



Image from:

[Hypertension, or high blood pressure, is one of... in Encyclopedia of Obesity](#)

Summary Article: **Hypertension**

From *Black's Medical Dictionary, 43rd Edition*

The term for high BLOOD PRESSURE (raised pressure of the circulating blood). Since there is a wide range of 'normal' blood pressure in the population, a precise level of pressure above which an individual is deemed hypertensive is arbitrary. (A healthy young adult would be expected to have a systolic pressure of around 120 mm Hg and a diastolic of 80 mm Hg, recorded as 120/80 – see below.) Hypertension is not a disease as such but simply a deviation from normal levels. A person with a pressure higher than the average for his or her age group is usually symptomless – although sometimes they may develop headaches. The identification of people with hypertension is important because it is a signal that they will be more likely to have a STROKE or MYOCARDIAL INFARCTION (cardiac thrombosis or heart attack) than someone whose pressure is in the 'normal' range. Preventive steps can be taken to lessen the likelihood of their developing these potentially life-threatening conditions.

Blood pressure is measured using two values. The systolic pressure – the greater of the two – represents the pressure when blood is pumped from the left VENTRICLE of the heart into the AORTA. The diastolic pressure is the measurement when both ventricles relax between beats. The pressures are measured in millimetres (mm) of mercury (Hg). Despite the grey area between normal and raised blood pressure, the World Health Organisation (WHO) has defined hypertension as a blood pressure consistently greater than 160 mm Hg (systolic) and 95 mm Hg (diastolic). Blood pressure rises with age and a healthy person may well live symptom-free with a systolic pressure above the WHO figure. A useful working definition of hypertension is the figure at which the benefits of treating the condition outweigh the risks and costs of the treatment.

Between 10 and 20 per cent of the adult population in the UK has hypertension, with more men than women affected. Because most people with hypertension are symptomless, the condition is often first identified during a routine medical examination, otherwise a diagnosis is usually made when complications occur. Many people's blood pressure rises when they are anxious so if it is high at the first testing, ('white coat hypertension') it should be taken again after, say, 10 minutes' rest by which time the reading should have settled to the person's regular level. BP measurements should then be taken on two subsequent occasions. If the pressure is still high, the cause needs to be determined: this is done using a combination of personal and family histories (hypertension can run in families), a physical examination and investigations, including an ECG and blood tests for renal disease.

Over 90 per cent of hypertensive people have no immediately identifiable cause for their condition, and are described as having essential hypertension. In those patients with an identifiable cause the hypertension is described as secondary. Among the causes of secondary hypertension are:

- Lifestyle factors such as smoking, alcohol, stress, excessive dietary salt and obesity.
- Diseases of the KIDNEY.
- Pregnancy (ECLAMPSIA).
- Various ENDOCRINE disorders – for example, PHAEOCHROMOCYTOMA, CUSHING'S DISEASE, ACROMEGALY, THYROTOXICOSIS.
- COARCTATION of the AORTA.
- Drugs – for example, oestrogen-containing oral CONTRACEPTIVES, ANABOLIC STEROIDS, CORTICOSTEROIDS, NON-STEROIDAL ANTI-INFLAMMATORY DRUGS.

Treatment

People with severe hypertension and dangerous signs and symptoms ('malignant hypertension') may need prompt admission to hospital for urgent investigation and treatment. Those with a mild to moderate rise in blood pressure for which no cause is identifiable should be advised to reduce risk by modifying their lifestyle: smokers should stop the habit, and those with high alcohol consumption should greatly reduce or stop their drinking. Obese people should reduce their food consumption, especially of carbohydrate and animal fats, and take more exercise. Everyone with hypertension should follow a low-salt diet and take regular exercise. Patients should also be taught how to relax and, if they have a stressful life, working patterns should be modified where possible. If these lifestyle changes do not reduce a person's blood pressure sufficiently, drugs may be recommended. A wide range of anti-hypertensive drugs are available on prescription.

Recommended first-line treatments are diuretic THIAZIDES, effective at a low dosage and especially useful in those over 55, and CALCIUM-CHANNEL BLOCKERS. ACE inhibitors (see ANGIOTENSIN-CONVERTING ENZYME (ACE) INHIBITORS) are offered if the first-line choices are not effective and often suggested for younger people. Beta blockers (see BETA-ADRENOCEPTOR-BLOCKING DRUGS (BETA BLOCKERS)), such as oxprenolol, acebutol or atenolol, are next in line for those in whom the other drugs are ineffective or not tolerated. The drug treatment of hypertension is complex, and sometimes various drugs or combinations of drugs have to be tried to find a regimen that is effective and suits the patient. Mild to moderate hypertension can usually be treated in general practice, but patients who do not respond or have complications will normally require specialist advice. Patients on anti-hypertensive treatments require regular monitoring, and, as treatment may be necessary for several years, particular attention should be paid to identifying its side-effects. Nevertheless, effective treatment of hypertension does enable affected individuals to live longer and more comfortable lives than would otherwise be the case. Older people with moderately raised blood pressure are often able to live with the condition, and treatment with anti-hypertensive drugs may produce symptoms of HYPOTENSION, such as dizziness and SYNCOPE producing injury through falling. In every case, the potential benefits of treatment have to be balanced over the disadvantages – such as the risk of unwanted effects.

Complications

Untreated, hypertension may eventually result in serious complications. People with high blood pressure have blood vessels with thickened, less flexible walls, a narrowed LUMEN and convoluted shape. Sometimes arteries become rigid. ANEURYSMS may develop and widespread ATHEROMA (fat

deposits) is apparent in the arterial linings. Such changes adversely affect the blood supply to body tissues and organs and so damage their functioning. Patients suffer STROKES (haemorrhage from or thrombosis in the arteries of the BRAIN) and heart attacks (coronary thrombosis – see HEART, DISEASES OF). Those with hypertension may suffer damage to the RETINA of the EYE and to the OPTIC DISC. Indeed, the diagnosis of hypertension is sometimes made during a routine eye test, when the doctor or optician notices changes in the retinal arteries or optic disc. Kidney function is often affected, with patients excreting protein and excessive salt in their urine. Occasionally someone with persistent hypertension may suffer an acceleration of damage to the blood vessels – a condition described as ‘malignant’ hypertension, and one requiring urgent hospital treatment.

Hypertension is a potentially dangerous disease because it develops into a cycle of self-perpetuating damage. Faulty blood vessels lead to high blood pressure which in turn aggravates the damage in the vessels and thus in the tissues and organs they supply with blood; this further raises the affected individual's blood pressure and the pathological cycle continues.

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Hypertension. (2018). In H. Marcovitch (Ed.), *Black's Medical Dictionary, 43rd edition (43rd ed.)*. London, UK: A&C Black. Retrieved from <https://search.credoreference.com/content/topic/hypertension>



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