

Hypertension

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Hypertension (HTN) or high blood pressure, sometimes called arterial hypertension, is a chronic medical condition in which the blood pressure in the arteries is elevated.[1] This requires the heart to work harder than normal to circulate blood through the blood vessels. Blood pressure is summarised by two measurements, systolic and diastolic, which depend on whether the heart muscle is contracting (systole) or relaxed between beats (diastole). Normal blood pressure at rest is within the range of 100-140mmHg systolic (top reading) and 60-90mmHg diastolic (bottom reading). High blood pressure is said to be present if it is persistently at or above 140/90 mmHg. Signs and symptoms Hypertension is rarely accompanied by any symptoms, and its identification is usually through screening, or when seeking healthcare for an unrelated problem. A proportion of people with high blood pressure report headaches (particularly at the back of the head and in the morning), as well as lightheadedness, vertigo, tinnitus (buzzing or hissing in the ears), altered vision or fainting episodes. These symptoms however are more likely to be related to associated anxiety than the high blood pressure itself. On physical examination, hypertension may be suspected on the basis of the presence of hypertensive retinopathy detected by examination of the optic fundus found in the back of the eye using ophthalmoscopy. Classically, the severity of the hypertensive retinopathy changes is graded from grade I—IV, although the milder types may be difficult to distinguish from each other. Ophthalmoscopy findings may also give some indication as to how long a person has been hypertensive. Cause Primary hypertension Primary (essential) hypertension is the most common form of hypertension, accounting for 90—95% of all cases of hypertension.

[2] In almost all contemporary societies, blood pressure rises with aging and the risk of becoming hypertensive in later life is considerable.[12]

Hypertension results from a complex interaction of genes and environmental factors. Numerous common genetic variants with small effects on blood pressure have been identified[13] as well as some rare genetic variants with large effects on blood pressure[14] but the genetic basis of hypertension is still poorly understood. Several environmental factors influence blood pressure. Lifestyle factors that lower blood pressure include reduced dietary salt intake,[15] increased consumption of fruits and low fat products (Dietary Approaches to Stop Hypertension (DASH diet)), exercise,[16] weight loss[17] and reduced alcohol intake.[18] Stress appears to play a minor role[4] with specific relaxation techniques not supported by the evidence.[19] The possible role of other factors such as caffeine consumption,[20] and vitamin D deficiency[21] are less clear cut. Insulin resistance, which is common in obesity and is a component of syndrome X (or the metabolic syndrome), is also thought to contribute to hypertension.[22] Recent studies have also implicated events in early life (for example low birth weight, maternal smoking and lack of breast feeding) as risk factors for adult essential hypertension,[23] although the mechanisms linking these exposures to adult hypertension remain obscure.[23] Secondary hypertension Secondary hypertension results from an identifiable cause. Renal disease is the most common secondary cause of hypertension.[6] Hypertension can also be caused by endocrine conditions, such as Cushing's syndrome, hyperthyroidism, hypothyroidism, acromegaly, Conn's syndrome or hyperaldosteronism, hyperparathyroidism and pheochromocytoma.[6][24]

Other causes of secondary hypertension include obesity, sleep apnea, pregnancy, coarctation of the aorta, excessive liquorice consumption and certain prescription medicines, herbal remedies and illegal drugs.[6][25]

Prevention Much of the disease burden of high blood pressure is experienced by people who are not labelled as hypertensive.[50] Consequently, population strategies are required to reduce the consequences of high blood pressure and reduce the need for antihypertensive drug therapy. Lifestyle changes are recommended to lower blood pressure, before starting drug therapy. The 2004 British Hypertension Society guidelines[50] proposed the following lifestyle changes consistent with those outlined by the US National High BP Education Program in 2002[53] for the primary prevention of hypertension: 1. maintain normal body weight for adults (e. g. body mass index 20–25 kg/m²) 2. reduce dietary sodium intake to <100 mmol/ day (<6 g of sodium chloride or <2.4 g of sodium per day) 3. engage in regular aerobic physical activity such as brisk walking (≈30 min per day, most days of the week) 4. limit alcohol consumption to no more than 3 units/day in men and no more than 2 units/day in women 5. consume a diet rich in fruit and vegetables (e. g. at least five portions per day); Effective lifestyle modification may lower blood pressure as much an individual antihypertensive drug. Combinations of two or more lifestyle modifications can achieve even better results.[50]

Treatment The goal of treatment is to reduce blood pressure so that you have a lower risk of complications. You and your health care provider should set a blood pressure goal for you. If you have pre-hypertension, your health care provider will recommend lifestyle changes to bring your blood pressure down to a normal range. Medicines are

rarely used for pre-hypertension. You can do many things to help control your blood pressure, including:

1. Eat a heart-healthy diet, including potassium and fiber, and drink plenty of water.
2. Exercise regularly -- at least 30 minutes of aerobic exercise a day.
3. If you smoke, quit -- find a program that will help you stop.
4. Limit how much alcohol you drink -- one drink a day for women, two a day for men.
5. Limit the amount of sodium (salt) you eat -- aim for less than 1, 500 mg per day.
6. Reduce stress -- try to avoid things that cause you stress. You can also try meditation or yoga.
7. Stay at a healthy body weight -- find a weight-loss program to help you, if you need it.

Often, a single blood pressure drug may not be enough to control your blood pressure, and you may need to take two or more drugs. It is very important that you take the medications prescribed to you. If you have side effects, your health care provider can substitute a different medication.