Topic Page: Blood pressure

Definition: **blood pressure** from *Philip's Encyclopedia*

Force exerted by circulating blood on the walls of blood vessels due to the pumping action of the heart. This is measured, using a gauge known as a sphygmomanometer. It is greatest when the heart contracts and lowest when it relaxes. High blood pressure is associated with an increased risk of heart attacks and strokes; abnormally low blood pressure is mostly seen in people in shock or following excessive loss of fluid or blood.

Image from: **The occurrence of low blood pressure is often an...** in *Encyclopedia of Global Health*

Summary Article: **blood pressure**
From *The Columbia Encyclopedia*

force exerted by the blood upon the walls of the arteries. The pressure in the arteries originates in the pumping action of the heart, and pressure waves can be felt at the wrist and at other points where arteries lie near the surface of the body (see pulse). Since the heart can pump blood into the large arteries more quickly than it can be absorbed and released by the tiny arterioles and capillaries, considerable inner pressure always exists in the arteries. The contraction of the heart (systole) causes the blood pressure to rise to its highest point, and relaxation of the heart (diastole) brings the pressure down to its lowest point.

Blood pressure is strongest in the aorta, where the blood leaves the heart. It diminishes progressively in the smaller blood vessels and reaches its lowest point in the veins (see circulatory system). Blood pressure manifests itself dramatically when an artery is severed or pierced and the blood (under pressure) ejects in spurts.

Since blood pressure varies in different arteries, the pressure in the brachial artery of the forearm serves as a standard. A sphygmomanometer measures blood pressure in millimeters of mercury; blood pressure gauges that do not use mercury also produce readings that are expressed in terms of millimeters of mercury. Normal blood pressure readings for healthy young people should be below 120 mm for systolic pressure and 80 mm for diastolic pressure, commonly written as 120/80 and read as “one-twenty over eighty.” With age, and the constriction of the small arteries and then the larger ones, blood pressure increases, so that at 50 years, a person may typically have a systolic pressure between 140 and 150, and a diastolic pressure of about 90.

Factors other than heart action and the condition of the arteries also influence blood pressure. Temporary high blood pressure usually occurs during or following physical activity, nervous strain, and periods of rage or fear. Therapy for persistent high blood pressure, sometimes called hypertension, consists of sufficient rest, a diet low in salt and alcohol, reduction in weight where there is obesity, and increased exercise. Drug therapy may include diuretics, beta-blockers, calcium-channel blockers, or ACE inhibitors. Low blood pressure (hypotension) has not been studied as extensively as high blood pressure. If not caused by disease or injury, it is generally considered to be a benign or even advantageous condition; however, studies have linked hypotension with feelings of tiredness or faintness and minor psychiatric conditions in some people.

See N. H. Naqvi; M. D. Blaufox, Blood Pressure Measurement: An Illustrated History (1998).

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blood pressure. (2018). In P. Lagasse, & Columbia University, *The Columbia encyclopedia* (8th ed.). New York, NY: Columbia University Press. Retrieved from https://search.credoreference.com/content/topic/blood_pressure

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