



Blood Pressure Basics



BLOOD PRESSURE BASICS

WHAT IS BLOOD PRESSURE?

Blood pressure is defined as the pressure of the blood against the walls of the arteries. Blood pressure results from two forces. One is created by the heart as it pumps blood into the arteries and through the circulatory system. The other is the force of the arteries as they resist the blood flow.¹

WHAT DO BLOOD PRESSURE NUMBERS INDICATE?

- The higher (systolic) number represents the pressure while the heart contracts to pump blood to the body.
- The lower (diastolic) number represents the pressure when the heart relaxes between beats.

The systolic pressure is always stated first. For example: 118/76 (118 over 76); systolic = 118, diastolic = 76. Blood pressure below 120 over 80 mmHg (millimeters of mercury) is considered optimal for adults. A systolic pressure of 120 to 139 mmHg or a diastolic pressure of 80 to 89 mmHg is considered "prehypertension" and needs to be watched carefully. A blood pressure reading of 140 over 90 or higher is considered elevated (high).¹

WHY IS BLOOD PRESSURE MEASUREMENT IMPORTANT?

Throughout the world, 1 in every 4 adults suffers from hypertension, a disease that contributes to 49% of ischemic heart disease and 62% of strokes worldwide. Inadequately controlled hypertension is currently the number one attributable risk for death across the globe.²

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As noted in the American Heart Association (AHA) Scientific Abstract (2005), "blood pressure determination continues to be one of the most important measurements in all of clinical medicine and is still one of the most inaccurately performed. Hypertension is a major risk factor for coronary heart disease, stroke, and renal failure, and affects approximately one-third of the American population.

The latest version of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC) recommendations has drawn attention to the condition of "prehypertension," that is, people with blood pressures at the high end of the normal range, which applies to another one-quarter of the adult population. The target blood pressure for patients using antihypertensive treatment has recently been lowered for those with diabetes or renal disease. Thus, it is becoming increasingly important to be able to detect small differences in blood pressure."³

1. **American Heart Association.** *American Heart Association.* [Online] [Cited: January 26, 2010.] <http://www.americanheart.org/presenter.jhtml?identifier=4473>.

2. *Ambulatory Blood Pressure Monitoring in Children and Adolescents: Recommendations for Standard Assessment. A Scientific Statement From the American Heart Association.* **Elaine Urbina, MD et al.** Dallas, TX : Hypertension: Journal of the American Heart Association, August 4, 2008, 52 Vol. 2008. 433-451.

3. *Recommendations for Blood Pressure Measurement in Humans and Experimental Animals. A Scientific Statement From the American Heart Association.* **Thomas G. Pickering, MD et al.** Dallas, TX : Hypertension: Journal of the American Heart Association, 2005, 45:45:142.