

What Is the Meaning of a Diastolic Blood Pressure Reading?

By Allen Smith, eHow User



Before discussing the meaning of [diastolic blood pressure](#), it's important to understand blood pressure's basic concepts. Blood pressure is made up of two numbers: systolic and diastolic. Both are important. Each time the heart beats, it squeezes blood through the arteries to other organs and tissues and then returns it to the lungs for re-oxygenation before it comes back to the heart. The systolic blood pressure is the amount of pressure exerted against the inside of the arterial walls as the blood is squeezed through the arteries. The diastolic blood pressure is the amount of pressure that the arterial walls must exert against the volume of blood inside the arteries as it returns to normal.

How Blood Pressure is Stated

Blood pressure is stated as millimeters of mercury (mmHg), patterned after the early measurement equipment. The first number stated is the systolic, whereas the second number is the diastolic. Thus, 120/80 mmHg is often abbreviated as 120 over 80.

Why Both Pressures are Important

It's a misnomer in the lay community that only the systolic number is important. Both the systolic and diastolic blood pressures represent [health](#) or potential disease states.

One important factor to note when discussing diastolic blood pressure is the amount of energy stored in the walls of the arteries. When circulating blood is pushed against the arterial walls, the walls store potential energy and either return it or hold onto it. If the walls of the arteries are healthy, they can return to their original diameter during diastolic pressures. If they are diseased, as with patients who have atherosclerosis, the diastolic blood pressure remains high, and the arterial walls never completely return to their healthy, original position.

Effects of Disease on Diastolic Blood Pressure

As the body ages, the arterial walls become less flexible and capable of distending, meaning that they increase their diameters. The distensibility of the arterial walls is affected by the amount of energy exerted by the heart to push blood through the arteries, the size of the internal diameter and the time it takes for the arteries to return to their normal diameters. Even people in their early 20s accumulate plaque from calcified cholesterol on the inside of their arteries. Arteries lined with plaque lose some of their flexibility, raising the diastolic pressure in between heart beats. The more plaque deposits, the smaller the internal diameter of the arteries and the harder the arteries must work to maintain diastolic blood pressure.

Factors Affecting the Diastolic Blood Pressure Reading

Other factors that affect the diastolic blood pressure are posture and baroreceptors. Nearly everyone has experienced the effects of standing up too quickly and feeling lightheaded. When this happens, the diastolic pressure has failed to squeeze an adequate amount of blood back to the brain and other parts of the body that control balance. Baroreceptors are present throughout the circulation system, and they send signals to the heart to either increase or decrease the amount of blood that the body needs. For instance, when a person feels lightheaded, baroreceptors tell the body that it needs to reduce the internal dimensions of the arteries by increasing diastolic pressure, and the heart is told to send more blood to the body through increased cardiac output and heart rate.

Disease and the Diastolic Blood Pressure.

Abnormally high systolic blood pressure can lead to stroke, heart attack, blindness, kidney damage, congestive heart failure and a number of other related cardiovascular diseases. In younger hypertensive patients, the diastolic blood pressure is one of the first indicators of heart attack, stroke and kidney failure. With age, the same individual with uncontrolled hypertension will experience moderate drops in diastolic blood pressure with gradual increases in systolic blood pressure.