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What Is Blood Pressure-And What Happens When It is High?

Since blood is carried from the heart to all of your body's tissue and organs in vessels called arteries, blood pressure is the force of the blood pushing against the walls of those arteries. In fact, each time the heart beats (about 60-70 times a minute at rest), it pumps out blood into the arteries. Your blood pressure is at its greatest when the heart contracts and is pumping the blood. This is called systolic pressure. When the heart is at rest, in between beats, your blood pressure falls. This is the diastolic pressure.

Blood pressure is always given as these two numbers, systolic and diastolic pressures. Both are important. Usually they are written one above or before the other, such as 120/80 mm Hg, with the top number the systolic, and the bottom the diastolic.

Different actions make your blood pressure go up or down. For example, if you run for a bus, your blood pressure goes up. When you sleep at night, your blood pressure goes down. These changes in blood pressure are normal.

Some people have blood pressure that stays up all or most of the time. Their blood pushes against the walls of their arteries with higher-than-normal force. If untreated this can lead to serious medical problems like these:

- **Arteriosclerosis ("hardening of the arteries").** High blood pressure harms the arteries by making them thick and stiff. This speeds the build up of cholesterol and fats in the blood vessels like rust in a pipe, which prevents the blood from flowing through the body, and in time can lead to a heart attack or stroke.
- **Heart Attack.** Blood carries oxygen to the body. When the arteries that bring blood to the heart muscle become blocked, the heart cannot get enough oxygen. Reduced blood flow can cause chest pain (angina). Eventually, the flow may be stopped completely, causing a heart attack.
- **Enlarged heart.** High blood pressure causes the heart to work harder. Over time, this causes the heart to thicken and stretch. Eventually the heart fails to function normally causing fluids to back up into the lungs. Controlling high blood pressure can prevent this from happening.
- **Kidney Damage.** The kidney acts as a filter to rid the body of wastes. Over a number of years, high blood pressure can narrow and thicken the blood vessels of the kidney. The kidney filters less fluid, and waste builds up in the blood. The kidneys may fail altogether. When this happens, medical treatment (dialysis) or a kidney transplant may be needed.
- **Stroke.** High blood pressure can harm the arteries, causing them to narrow faster. So,

less blood can get to the brain. If a blood clot blocks one of the narrowed arteries, a stroke (thrombotic stroke) may occur. A stroke can also occur when very high pressure causes a break in a weakened blood vessel in the brain (hemorrhagic stroke).