

DEALING WITH CARDIOVASCULAR DISEASE FROM A NUTRITIONAL PERSPECTIVE: PART THREE

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In this month's installment in this series we will look at blood pressure as a major dynamic in maintaining cardiovascular health.

High blood pressure, also called hypertension, is a killer. It affects around 65 million Americans. It is largely responsible for heart disease being the number one cause of death in America. High blood pressure creates abnormal stress on the cardiovascular system and all body tissues. Regulating blood pressure should be a primary goal in our quest to maintain cardio health.

Blood pressure is simply the pressure or force of flowing blood against the walls of the arteries and veins throughout the body. Every time the heart beats, blood is pumped through the arterial system creating pressure against the walls of the arteries. This is called the systolic blood pressure. When the heart rests between beats the pressure against the walls of the arteries is less. This is called the diastolic blood pressure. Your pulse rate reflects the number of times your heart beats per minute. The rate and strength of your heartbeat and the amount of blood that passes through the blood vessels at any one particular time against the resistance of the blood vessel walls will give you a measurement of pressure.

This is comparable to connecting a hose to a water outlet and turning on the water. The water will flow at a normal rate out the open end. If you turn up the pressure, the water will flow through the hose faster and place more pressure on the walls of the hose. If some debris gets in the hose, the pressure will increase even more due to the blockage. As a result, the water that is able to come out will flow even faster because of increased pressure.

When your blood pressure is measured, you get a reading of systolic over diastolic. A typical reading would be 120/80. Blood pressure guidelines from the National Heart, Lung and Blood Institute show normal health blood pressure to be 120/80 or less. Prehypertension is 120-139/80-90. Hypertension is 140/90 or higher. Some researchers consider healthy blood pressure to be 115/75 as they found the risk of cardiovascular disease doubles at each increment of 20/10 over baseline 115/75.

Blood pressure will vary considerably throughout the day in response to a variety of physical and psychological changes and challenges. That is why it is best to take your blood pressure when relaxed. If your relaxed blood pressure is shown to be above 120/80 on a consistent basis, there is a good chance that you have pre or full blown high blood pressure.

CAUSES AND “CURES” FOR HIGH BLOOD PRESSURE

The sodium/potassium factor;

Too much sodium in the diet increases fluid retention which leads to higher blood volume and therefore increased pressure in the arterial system. Having ample amounts of potassium in the diet helps regulate the amount of sodium in the cells by expelling excess sodium through the kidneys. Americans tend to get way too much sodium and too little potassium in the diet.

The RDA for sodium is around 2000 mg. per day. The average American consumes from six to eighteen thousand milligrams of salt per day in the form of sodium chloride where about 40% of the salt is sodium and the remaining 60% is chloride.

This means that the average American is taking in between 2,400 mg. and 7,200 mg. of pure sodium on a daily basis. Sodium is found mainly outside the cell and potassium is found primarily inside the cell. Potassium should be found in a ratio of approximately 2:1 over sodium in order to maintain proper fluid balance between the inside and outside of the cell. Many Americans have a reverse ratio of 2:1 sodium over potassium. The recommended daily intake for potassium is between 3000 and 5000 mg. per day.

Your kidneys and blood pressure:

Our kidneys have tiny ball-shaped structures called glomeruli which are composed of capillary blood vessels involved in the filtration of the blood to form urine. Over time, the glomeruli build up scar tissue which results in a decrease in the surface area available for this filtering process. This raises blood pressure as more pressure is needed to accomplish the same level of filtration in what has become a reduced surface area. This scar tissue buildup results in part from kidney damage due to overloading our bodies with toxins derived from our diet, pharmaceuticals, and the environment. Kidney disease can also increase the production of a protein called angiotensin 2. This protein causes narrowing of the small blood vessels resulting in an increase in blood pressure. This protein also stimulates the release of the hormone aldosterone from the adrenal glands which raises blood pressure. This protein is activated by an enzyme called ACE. Many people with high blood pressure take pharmaceuticals called ACE inhibitors which block the activation of angiotensin. Unfortunately, ACE inhibitors, like all pharmaceuticals, add toxins to the body which the liver and kidneys must filter out.

Making every effort to reduce toxic load and drinking plenty of water on a daily basis will help to prevent kidney disease and the loss of the kidneys filtering capacity. This will help protect against high blood pressure.

Weight control:

The risk for elevation in blood pressure increases as weight increases. As weight increases, the arterial system expands to facilitate blood flow to a greater area of body mass. The heart must work harder to facilitate blood flow to this increased area. Increase in muscle mass doesn't generally result in increased blood pressure. If increase in body mass is primarily an increase in fatty tissue, especially around the abdomen, blood pressure will tend to rise. Maintaining proper weight for your body type is important to maintaining acceptable blood pressure.

Life style considerations:

Smoking will raise blood pressure. Nicotine constricts blood vessels. Carbon monoxide in tobacco smoke replaces oxygen in the blood and reduces oxygen delivery to your cells. Undue, sustained stress can lead to elevation in resting blood pressure. Excessive consumption of alcohol will raise blood pressure. Moderate use of alcohol has been shown to reduce blood pressure. Some women who use birth control pills experience elevated resting blood pressure. It is wise to check your blood pressure more regularly if you fit into anyone of these categories.

Diet and blood pressure:

Like all other areas of health, diet is critical to maintaining normal blood pressure. The quality of our diet must be a primary consideration in maintaining normal blood pressure. Our goal should be to shift from the consumption of processed and refined foods to the eating of whole foods. Refined foods are your boxed, canned and packaged foods, along with most of your fast food restaurant offerings. Whole foods are fresh fruits and vegetables, whole grains such as rice, wheat, barley and rye berries, along with beans, nuts and seeds. Meats and dairy products should be as unprocessed as possible. We should strive to purchase organically grown food which will provide us with greater nutrition and freedom from chemical contamination.

The exercise factor:

Regular aerobic and resistive exercise will strengthen the heart muscle and the entire cardiovascular system. Exercise leads to dilation of the blood vessels and will almost immediately lower diastolic blood pressure. Exercise creates a decrease in the resting pulse rate. It increases the level of hemoglobin and therefore facilitates better oxygen carrying capacity of the blood. Exercise will increase HDL cholesterol, (good guys), and decrease LDL cholesterol (bad guys). Exercise will increase the number of capillaries carrying blood throughout the body. This is very important. **A major cause of elevated blood**

pressure is peripheral vascular resistance. This condition develops when small blood vessels (arterioles and capillaries) in the extremities of the body become plugged due to fibrin buildup resulting in channels of blood flow becoming blocked. This condition results from failure to place demands on our muscular system because of inactivity. Regular exercise helps to unblock these channels and even create additional channels which will reduce pressure.

Typical forms of aerobic exercise include walking, running, rebounding, swimming, biking and any other exercise that raises the heart rate above resting levels for an extended period of time. While exercise will raise blood pressure while you're exercising, it will lead to a lower resting systolic and diastolic pressure. Exercise is critical to normalizing blood pressure.

Next month we will conclude this series by providing information on what supplements can be helpful in maintaining cardiovascular health. Visit www.milkandhoneyhealthfoods.com for comprehensive articles on many aspects of health and nutrition.