

MassMedLink to Health

Information on Hypertension

Hypertension is defined as a sustained elevated blood pressure that is greater than 140/90 mmHg. Hypertension is called a “silent killer,” since most patients with hypertension usually do not show any signs or symptoms. Therefore, it is important to have your blood pressure checked during routine doctor office visits. Some of the signs and symptoms of hypertension include headache, fatigue, and dizziness. There are several factors that can put patients at risk for developing hypertension. These risk factors include lack of exercise, poor diet, obesity, smoking, family history of hypertension, chronic kidney disease, sleep apnea, and thyroid disorders.

Hypertension is classified into four categories – normal blood pressure, pre-hypertension, stage 1 hypertension, and stage 2 hypertension. Normal blood pressure is less than 120/80 mmHg. Pre-hypertension is blood pressure that is greater than 120/80 mmHg but is less than 139/89 mmHg. Pre-hypertension is not a disease; however, a patient with pre-hypertension is at greater risk of developing hypertension in the future. Stage 1 hypertension is defined as blood pressure greater than 140/90 mmHg. Stage 2 hypertension is blood pressure greater than 160/100 mmHg.

There are many lifestyle changes that may help keep blood pressure in control. The following is a review of these beneficial changes. Exercise regularly. Aerobic exercise such as brisk walking at least 30 minutes per day for most days of the week may help reduce your blood pressure by 4-9 mmHg. Exercise also helps manage your weight and lowers your blood cholesterol, prevents bone loss, and reduces stress.

Adopt the DASH eating plan. DASH stands for Dietary Approaches to Stop Hypertension. Adopting the DASH eating plan can help lower blood pressure by 8-14 mmHg. DASH eating plan includes a diet rich in fruits, vegetables, whole grains, fish, nuts, and low fat dairy products. Fish contains omega-3 which is proven to decrease heart disease. Eating properly will not only help lower your blood pressure, but may also help you loss weight. Losing as little as 10lbs can reduce blood pressure by 5-20 mmHg.

Reduce daily dietary sodium intake to less than 2400mg. Too much sodium causes the body to retain water causing the heart to work harder and blood pressure to increase. Suggestions to help reduce sodium intake include: stop using the salt shaker on food and when cooking, eat fewer processed foods, and read the dietary labels, they include the amount of sodium per serving.

Limit your alcohol intake. Follow the guidelines set by the American Heart Association to no more than two drinks per day for men and to no more than one drink per day for women.

Smoking also raises your blood pressure and increases your risk for heart disease. Cigarettes contain nicotine that cause blood vessels to constrict, raises your blood pressure and causes the heart to beat faster. Quitting smoking can significantly lower your risk of heart disease and heart attack, as well as lower your blood pressure.

There are many different classes of medications that can be used to treat high blood pressure. They include diuretics, beta-blockers, ACE inhibitors, angiotensin receptor blockers, and calcium channel blockers. The goal of treatment is blood pressure less than 140/90mmHg or less than 130/80mmHg for those with diabetes or chronic kidney disease. The various classes of medications and how they work are as follows.

Diuretics are also known as water pills. Diuretics rid the body of sodium and water. This decreases the amount of fluid in the blood vessels therefore, reducing blood pressure. There are three types of diuretics. Thiazides which include hydrochlorothiazide, loop diuretics which include furosemide, and potassium-sparing diuretics which include spironolactone. Diuretics are often used as first line therapy. A diuretic may cause more frequent urination. It is best to take this medication earlier in the day to prevent having to urinate during the night. Other side effects that can occur especially when diuretics are just started or the dose has been increased, are dizziness and orthostatic hypotension, or low blood pressure that occurs when changing positions, such as from a lying position to a standing position. You may lessen these side effects by moving slowly from a lying or sitting position to a standing position. Diuretics can also affect your potassium and sodium levels. Your physician will check your levels through a simple blood test.

Beta-blockers are another class of medication that is used to treat hypertension. Some of the common medications in this class include atenolol generic name for Tenormin, metoprolol generic name for Lopressor and Toprol XL, carvedilol generic name for Coreg, and propranolol generic name for Inderal. Beta-blockers block the effects of epinephrine, also known as adrenaline. This action slows the heart rate and relaxes the blood vessels, decreasing blood pressure and improving blood flow. Beta-blockers are also useful in treating other heart diseases such as myocardial infarction, angina, and heart failure. Some of the side effects with this class of medication include: tiredness, dizziness, cold hands and feet, and decreased sexual function. Patients with asthma should not take beta-blockers, since they may worsen asthma. Stopping this medication abruptly may cause a sudden rise in blood pressure. Beta-blockers in diabetic patients can mask the early warning symptoms of low blood sugar such as an increase in heart rate, agitation, and blurry vision. Diabetics on beta-blockers may have to monitor for other signs and symptoms of low blood glucose such as confusion and sweating.

Angiotensin Converting Enzyme Inhibitors, also called ACE inhibitors, are another class of medication used for hypertension. These medications include lisinopril

generic name for Zestril and Prinivil, ramipril generic name for Altace, enalapril generic name for Vasotec, quinapril generic name for Accupril, benazepril generic name for Lotensin. This medication blocks a hormone, Angiotensin I from producing Angiotensin II. Less Angiotensin II allows the blood vessels to relax, decreasing blood pressure. The most common side effects include cough, dizziness, headache, abnormal taste-metallic or salty, and rash. These medications can increase your potassium level. Your physician will check your potassium levels through a simple blood test. Call your physician immediately if you experience facial swelling.

Angiotensin Receptor Blockers, also called ARBs, are closely related to the ACE inhibitors. They include valsartan generic name for Diovan, losartan generic name for Cozaar, irbesartan generic name for Avapro, olmesartan generic name for Benicar, and candesartan generic name for Atacand. These medications block the action of Angiotensin II resulting in a widening or dilation of the blood vessels, therefore decreasing blood pressure. These medications do not cause a cough. Some common side effects with this class of medication include headache, dizziness, lightheadedness, nasal congestion, and back and leg pain. Tell your physician right away if you experience facial swelling.

Calcium Channel Blockers are also used to treat hypertension. Amlodipine generic name for Norvasc, diltiazem generic name for Cardizem, verapamil generic name for Calan, and nifedipine generic name for Procardia are all examples. This group of drugs works by blocking calcium actions in the heart and blood vessels. Normally, calcium enters the heart and blood vessels causing the heart to contract and the blood vessels to narrow. Calcium channel blockers block this action therefore decreasing the contraction of the heart and relaxing the blood vessels leading to a decrease in blood pressure. Some common side effects of calcium channel blockers include constipation, headaches and flushing. Drink plenty of water and include fruits and vegetables in your diet to help lower your risk of constipation. Grapefruit juice should be avoided with some calcium channel blockers, resulting in increased action and side effect of the medication. Call your physician if you experience swollen ankles or feet.

Taking high blood pressure medication correctly is an important part of preventing complications that may result from uncontrolled high blood pressure such as stroke, heart attack, heart failure, retinopathy (eye problems), and kidney damage. Some suggestions for safe medication use include:

- Take medication exactly as directed by your physician.
- Avoid skipping medication even if you feel better since most patients with hypertension do not experience any signs or symptoms.
- Report any allergies or serious adverse reactions to your physician immediately
- To prevent the potential for drug interactions or drug duplication, check with your physician or pharmacist prior to taking other

medications including over the counter medications, supplements, and herbals.

Many blood pressure medications are not recommended if you are pregnant, see your physician if you are pregnant or planning to become pregnant.

If you choose to monitor your blood pressure at home read the instructions carefully for your specific monitor. Refrain from smoking and from drinking caffeine for at least 30 minutes. Sit in a chair with both feet flat on the floor. If you have just walked the stairs wait 5 minutes before you begin. Keep a log of your blood pressure readings and share this information with your physician.

Managing high blood pressure is possible. Adopting lifestyle changes such as exercise, eating properly, losing weight and taking your medications appropriately may help you keep blood pressure in control.

We encourage you to speak with one of our MassMedLine pharmacists to review questions you may have about the information provided, or questions regarding your specific medications. Also if you have difficulty affording your medications, MassMedLine case managers are available to assist you.

References available upon request

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