

What you need to know about High Blood Pressure

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Scope of the Problem

It is estimated that nearly 60 million Americans have high blood pressure. High blood pressure or "hypertension," as it is also known, is one of the most dangerous diseases in our country. High blood pressure killed approximately 43,000 Americans in 1999 and contributed to the death of 227,000. If left untreated, it can increase the risk of heart attacks, strokes and heart failure. In most cases, we don't know what causes high blood pressure. But the good news is that it can be treated, and there are things that you can do to reduce your chances of getting high blood pressure.

What is blood pressure and why is it harmful?

Arteries carry blood from the heart to all parts of the body. The force of blood pushing against the walls of the arteries is blood pressure. Each time the heart beats, it pumps blood into the arteries. Blood pressure is highest when the heart contracts and is pumping

blood; this is systolic pressure. Between beats, when the heart is at rest, the blood pressure falls; this is the diastolic pressure.

High blood pressure causes the blood vessels to get stiff and narrow. This makes the heart have to work harder to get the blood through your vessels. High blood pressure can also weaken the lining of the arteries and veins so that it is more susceptible to cholesterol deposits. This narrowing of the blood vessels throughout the body can lead to problems with the heart, kidneys, brain and eyes.

Measuring Your Blood Pressure

A blood pressure measurement is given as two numbers. When written, for example, the numbers might be 120/80; this blood pressure, when spoken, is "120 over 80." The higher (top) number (120) is the systolic pressure, while the lower (bottom) number (80) is the diastolic pressure. These numbers are measurements of millimeters (mm) of mercury (Hg). A blood pressure reading of less than

130/85 for adults is considered normal (including high normal); a reading below 120/80 is even better (see chart below). The goal or target blood pressure for African Americans is 120/80 mmHg. High blood pressure is grouped by stages, and the higher the number, the more serious the problem. Persons with diabetes require the lowest levels of blood pressure in order to achieve protection from heart attacks and stroke. It is most important that blood pressure is aggressively treated in diabetics.

Are there certain ethnic groups at increased risk?

African Americans in the United States have the highest rate of hypertension in the world. Thirty percent (30%) of all deaths in African American men and twenty percent (20%) of all deaths in African American women are due to high blood pressure. African Americans are four times more likely to have hypertension than Caucasians. (Graph 1) Hypertension runs in families. If you

Categories for Blood Pressure Levels in Adults*

CATEGORY	SYSTOLIC	and	DIASTOLIC
OPTIMAL+	<120	and	<80
NORMAL	<130	and	<85
HIGH NORMAL	130-139	or	85-89
HIGH BLOOD PRESSURE			
STAGE 1	140-159	or	90-99
STAGE 2	160-179	or	100-109
STAGE 3	≥180	or	≥110

*For those not taking medicine for high blood pressure and not having a short-term serious illness. These categories are from the National High Blood Pressure Education Program (< means less than; ≥ means greater than or equal to) +Optimal blood pressure with respect to cardiovascular risk is below 120/80 mm Hg. However, unusually low readings should be evaluated for clinical significance.

have a family history of hypertension, make sure that everyone in your immediate and extended family gets his or her blood pressure checked. The hypertension that you see in African Americans is more severe and occurs at an earlier age. According to the latest statistics from the American Heart Association (www.heart.org), 71,000 African American die each year from high blood pressure. High blood pressure causes damage to the heart and blood vessels that can lead to heart disease and stroke. African Americans die 1.5 times more frequently from heart disease and 1.8 times more frequently from strokes. Twenty-six percent (26%) of all new cases of kidney failure each year is due to high blood pressure. There are a number of factors that contribute to the high blood pressure seen in African Americans:

- Eat a diet high in salt content
- Do not eat enough potassium and calcium in their diet
- Overweight, obesity and sedentary lifestyle
- Fewer physician visits
- Do not take their medications as prescribed
- Genetic factors

What are the signs and symptoms of high blood pressure?

You could have high blood pressure and not even know it—that's why it's often called the "silent killer." Approximately 32% of people with high blood pressure don't know they have it. There are usually no warning signs for high blood pressure. Many people don't find out they have high blood pressure until they have trouble with their heart, brain or kidneys.

Some of the symptoms of high blood pressure include:

- Dizziness
- Headaches
- Blurred Vision
- Rapid Heart Beat

Treatment of High Blood Pressure

When you find out that you have high blood pressure, it is important that you understand that it can be controlled but not cured. You must make the decision to take control of your condition and make the changes in your lifestyle that will be necessary to control your blood pressure. It is not going to be easy, but there are a few simple steps that you can take.

Stop smoking—Even 1-3 cigarettes per day can increase your risk for heart attacks and stroke, so you must quit altogether.

Limit your alcohol intake—No more than one glass of alcohol per day (1 glass = 4 oz. of wine, 12 oz. of beer, or 1 oz. of 80 proof spirits).

Cut down on salt—The average American diet contains 25 grams of sodium. If you have high blood pressure, you should eat no more than 2 grams (2000 mg) of sodium per day. Avoid foods that are high in salt (potato chips, deli meats, canned soups). Use herbs and spices to season your food instead of seasoning salt. Read the nutrition labels of the foods that you eat and count every mg.

Lose weight—Currently 60% of the US population is overweight and 33% are obese. African Americans have more obesity than Caucasians. We are now seeing an epidemic of obesity in our children, especially teenagers. Being overweight can place an increased burden on the heart and can make your hypertension worse. It is important that we begin taking off the excess weight by combining regular exercise with a well-balanced, low-fat diet.

Medications

Currently, there are multiple medications that can be used to treat high blood pressure. In order to achieve a goal blood pressure of 120/80 mmHg, many African American patients may require 2-3 different medications taken at the same time. The different classes of medications have specific mechanisms of action. Most African Americans will require a diuretic (water pill) to reach their goal blood pressure. Table 1 provides the information regarding some of the common medications used in the treatment of high blood pressure. It is important that you take your medications as prescribed.

Medication Compliance

Two-thirds of all Americans fail to take any or all of their prescription medications. Almost 29% of Americans stop taking their medications before they run out. Twelve percent (12%) of Americans do not take their medications after they buy the prescription. Here are some helpful hints to improve your compliance with your medication regimen.

1. Always get your medication filled on time and from the same pharmacy so that they can have a complete record of your medication history.
2. Don't stop taking a prescribed medication because your symptoms have gone away or you feel better. High blood pressure is a chronic condition that will require long-term treatment.
3. Always check with your doctor before you stop taking a medication.
4. If you are experiencing side effects from your medications, mention it to your doctor so

that he can change or modify your medication regimen.

5. If you miss taking a medication, do not double up.
6. If you see multiple physicians, make sure they all know what medicines you are taking.
7. Keep a written record of the medications that you are tak-

ing. Write down the names, strength and directions for use. Keep this record with you at all times.

8. Do not share or borrow medications from anyone else.
9. Store your medications in a cool, dry place. Always check the expiration date to make

sure your medications are not expired.

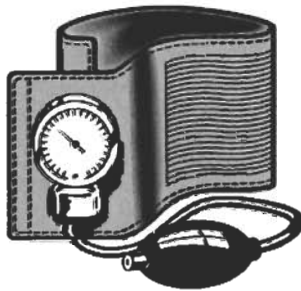
10. If you have high blood pressure, check with your pharmacist before you buy over-the-counter medications. Some of these medications can increase your blood pressure. ❖

Table 1: Commonly Used High Blood Pressure Medications

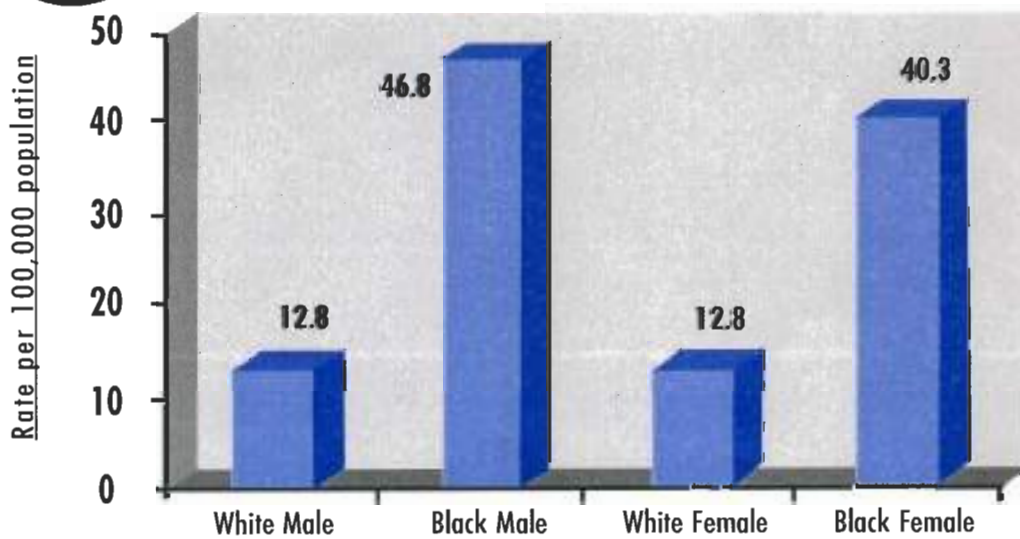
Name of Medication	Mechanism of Action	Possible Side Effects	Comments
Diuretics ("water pills") Chlorthalidone (Hygroton) Furosemide (Lasix) Hydrochlorothiazide (Esidrix) Indapamide (Lozol) Metolazone (Zaroxilyn) Potassium Sparing Diuretics Spironolactone (Aldactone) Triamterone (Dyrenium) Triamterene plus hydrochlorothiazide (Dyazide, Maxzide)	Decrease blood pressure by eliminating excess fluid and salt (sodium)	Frequent urination, may decrease potassium levels (Note: potassium is a chemical in the body that regulates your heart beat). Some people may have gout attacks since diuretics can increase uric acid levels. May increase blood sugar in people with diabetes	Certain foods may help to decrease potassium loss. Potassium rich foods include: bananas, tomatoes, fish. May have positive effect on cholesterol levels.
Beta Blockers Acebutolol (Sectral) atenolol (Tenormin), metoprolol (Lopressor), propranolol (Inderal), timolol (Blocadren), carteolol (Cartrol), bisoprolol (Zebeta)	Decrease blood pressure by reducing the heart rate and output of blood from the heart	Insomnia, cold hands and feet, tiredness or depression, slow heartbeat, worsen symptoms of asthma, impotence	Are considered the drug of choice in patients that have had a previous heart attack
ACE Inhibitors Captopril (Capoten), enalapril (Vasotec), Lisinopril (Zestril or Prinivil), fosinopril (Monopril), quinapril (Accupril), ramipril (Altace), trandolapril (Mevik)	Interfere with the body's production of Angiotensin II. Angiotensin II is a chemical in the body that causes the arteries to constrict (tightening) By inhibiting this chemical, the ACE inhibitors relax and dilate (widen) the blood vessels.	Many patients get a dry, hacking cough after they have been taking the medication. If cough occurs, you may need to switch to a different class of medication. Skin rash and loss of taste. Rarely these medications can cause problems with the kidney.	Are considered the drug of choice of patients that have both diabetes and high blood pressure. May need to use higher doses in African Americans to achieve blood pressure goals.
Angiotensin II Receptor Blockers Candesartan (Atacand), irbesartan (Avapro), losartan (Cozaar), valsartan (Diovan)	Blocks the effects of Angiotensin II. Decreases blood pressure by relaxing the blood vessels so there is less constriction (tightening)	May cause occasional dizziness.	Can be used in patients that experience a cough from ACE inhibitors.
Calcium Channel Blockers Amlodipine (Norvasc), diltiazem (Cardizem), felodipine (Plendil), isradipine (DynaCirc), nifedipine (Procardia), nisoldipine (Sular), verapamil (Calan)	Decreases blood pressure by decreasing the heart rate and relaxing the blood vessels	May cause palpitations, swollen ankles, constipation, headache or dizziness.	

Table 1: Commonly Used High Blood Pressure Medications, continued

<p>Alpha Blockers Doxazosin (Cardura), prazosin (Minipress), terazosin (Hytrin)</p>	Decreases blood pressure by relaxing the blood vessel causing dilation (widening)	May cause increased heart rate, dizziness or a drop in blood pressure when you stand up.	May not be as effective in African Americans. May be useful in men that have enlarged prostates.
<p>Central Agonists Alpha methyl dopa (Aldomet), clonidine (Catapres), guanabenz (Wytensin), guanfacine (Tenex)</p>	Decrease blood pressure by inhibiting the nerve signals that come from the brain to the arteries of the body	Aldomet causes many side effects including: fall in blood pressure when you stand up, weakness, fainting sensation, drowsiness, impotence. Clonidine, guanabenz and guanfacine may cause dry mouth, constipation and drowsiness.	Do not discontinue taking these drugs since your blood pressure may increase to dangerous levels.
<p>Vasodilators (dilate the blood vessels) Hydralazine (Apresoline), Minoxidil (Loniten)</p>	Decrease blood pressure by relaxing and dilating (opening up) the blood vessels	May cause headaches, rapid heartbeat, aches or pains in the joints.	Minoxidil is rarely used alone and is reserved for severe cases of high blood pressure. Can also promote hair growth.



1999 Death Rate for High Blood Pressure: Caucasians versus Blacks



Graph 1