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Cardiovascular Disease Risk Factors

Part VI: Hypertension

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Your Life Your Health

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Question: If you are 55 years of age and do not have high blood pressure, what is your life-time risk of developing hypertension?

Answer: 90%!

Why? The Western Lifestyle – high fat, high salt, low activity, overweight, high stress.

At least 600 million adults across the world suffer from persistent high blood pressure (hypertension). In recent years doctors defined a new level of risk, prehypertension, as a warning of potential problems. During the course of our lives, as few as 1 in 10 of us will avoid a blood pressure problem, with half of us dying from hypertension's frequent outcome - either a stroke or heart disease.

"The Stealth Killer" is a title often given to hypertension as it does most of its damage without alerting the individual. Yet put on a pressure cuff for a few painless seconds and you can identify hypertension. Adopt a few changes to your lifestyle and the condition can be simply treated.

So you may wonder how the problem has been allowed to grow to this extent. After all it's no big secret, for every day of our lives we are faced with commercials, billboard ads, magazine and newspaper articles that stress the importance of living a healthy life. Yet most of us tend to turn off what we hear and head to the "closest pacifier" we can locate. For most, all of the things we're warned not to indulge in - smoking, drinking alcohol, and high fat snacks - are the most satisfying.

Are You At Risk?

You've probably heard a blood pressure reading referred to as two numbers, 120/80 or 140/90 for example. The first number represents the systolic pressure – the pressure against the walls of the blood vessels during a heartbeat. The second number is the diastolic pressure - taken when the heart relaxes between beats and the pressure eases slightly.

Below are the American Heart Association's recommended blood pressure levels. Blood pressure is expressed in millimeters of mercury, which relates to the pressure in your arteries ability to raise a column of mercury. "Millimeters of mercury" is commonly designated as "mmHg," with "mm" being the abbreviation for "millimeters" and "Hg" being the chemical symbol for "mercury."

1. Normal: 120 or less / 80 or less
2. Prehypertension: 120-139 (systolic) or 80-89 (diastolic)
3. Stage 1 Hypertension: 140-159 or 90-99
4. Stage 2 Hypertension: 160 and above or 100 and above

Facts about treating Hypertension

1. You need one drug for every 10 mm Hg of systolic blood pressure reduction
2. The vast majority of patients will need two, three or possibly four medications.
3. Drugs that confer an additional cardiovascular benefit beyond direct blood pressure effects are particularly attractive options.
4. Data from seven landmark trials found that between 2.5 and 4.0 antihypertensive agents were required to bring blood pressure to target.

The goal of blood pressure treatment is to have a systolic pressure less than 140 and a diastolic pressure less than 90. But in patients with diabetes and/or kidney disease the goal is 110/70

The cardiovascular disease risk associated with hypertension increases as the stage of your blood pressure increases. Active treatment of high blood pressure has been shown to decrease all of the following:

1. Total mortality
2. Cardiovascular mortality
3. Fatal or nonfatal cardiovascular events
4. Fatal or nonfatal stroke.

Blood pressure control is particularly important for the elderly. Here are some important facts.

1. In older patients with hypertension, morning blood pressure is the best predictor for stroke.
2. Hypertension in the morning hours is a strong, independent predictor of future stroke events.
3. Each 10 mm Hg increase in morning blood pressure is associated with a 44% increase in the risk of stroke.
4. The difference between morning and evening blood pressure is also independently associated with stroke risk, with each 10 mm Hg increase associated with a 24% increase in risk.
5. Sustained Hypertension defined: -- Average morning-to-evening blood pressure of 135 mm Hg or greater and a difference between morning and evening of less than 20 mm Hg

Isolated Systolic Hypertension

Systolic hypertension is a particular problem in the elderly and contributes significantly to cardiovascular and cerebrovascular risk. Systolic Hypertension is defined as a sustained systolic pressure above 140 mmHg with normal diastolic blood pressure of less than 90 mm Hg). Hypertension occurs in 50% of those over 60 years of age regardless of race. The majority of these have what is termed isolated systolic hypertension.. In primitive societies, the elderly, who maintain lean body mass and who are physically active never have high blood pressure.

Not surprisingly, the following are the contributing causes to systolic hypertension in the elderly:

1. Increased body fat
2. Sedentary lifestyle
3. Increased sodium intake
4. Loss of elasticity of aorta and peripheral vessels compensatory for maintaining oxygen delivery

Isolated systolic hypertension in the elderly contributes to the following cardiovascular and cerebrovascular risk:

1. Three-fold increase of stroke
2. Increased risk of overall mortality
3. Increased risk of cardiovascular mortality
4. Increased risk of congestive heart failure

Factors We Cannot Change

It is unclear why African Americans and Native Americans have a much higher risk. Some believe it is either due to genetics or the environment.

High blood pressure has no mercy on the sexes. Men are more likely than women to have hypertension before the age of 55. Women are generally more aware of their health and take preventative measures to ward off hypertension, but they are still susceptible to the disease.

As we increase in age, the risk of developing high blood pressure increases, as well. Adults who are between the ages of 50 and 65 are more likely to suffer from hypertension. Changes within the body have a direct impact on the heart, blood vessels and hormones. Partnered with other risk factors, these changes can increase your likelihood of developing hypertension.

Family history may be indicative of your risk level. One quarter of all adults who have a family history of heart disease or high blood pressure are in the 60% risk category for developing hypertension. Determining factors in your risk of developing high blood

pressure are genetics, environmental factors and the receipt of proper health care. While your family history may indicate a predisposition to develop the disease, it's not a given that you're destined to suffer from hypertension. It is an indicator, however, that preventive measures need to be taken in an attempt to reduce the risk of developing the disease.

Factors We Can Change

Consciousness of your risk is the primary step toward the reduction of the risk of hypertension. The following are the primary risk factors for the development of hypertension:

1. Carrying too much weight
2. no exercise
3. poor diet
4. smoking
5. drinking excessively

Lifestyle changes can have a significant impact on your health. SETMA's Hypertension Prevention Program for everyone and Hypertension Treatment Program for those who have high blood pressure recommends twelve life-style changes for controlling blood pressure. Some of these recommendations have proven and accepted indications of how significant a reduction in blood pressure you might expect. The recommendations and their potential effect on your blood pressure are:

1. Eliminate or reduce alcohol consumption to 1 drink a day. With this change in habits, you might expect a 2-4 mm Hg drop in your systolic blood pressure.
2. Eliminate or reduce caffeine intake.
3. Take measures to reduce and control stress.
4. If you are overweight, lose weight. You might expect a 5-20 mmHg drop in your systolic blood pressure for each twenty pounds of weight loss...
5. Exercise will affect your blood pressure and you might expect a 4-9 mmHg drop in your blood pressure from consistent aerobic exercise.
6. Smoking Cessation – because of smoking's effect on the arteries, it is imperative that anyone at risk of or with hypertension stop smoking completely and immediately.
7. Change Dietary habits – in addition to the losing weight, the following dietary changes should be undertaken: increase potassium intake, increase calcium intake, maintain adequate magnesium intake and increase fish oils
8. Reduce Salt intake to no more than 2.4 grams/day. You can expect a 2-8 mmHg drop in your systolic blood pressure by decreasing your salt intake. And, it is useful to note that in societies where there is no dietary (table) salt, there is no hypertension. Sensitivity to salt and the resultant fluid retention may be the reason why African Americans and Native Americans have such serious problems with hypertension. Some practical ways of decreasing your salt intake are:

- a. Don't put a salt shaker on the dining table.
 - b. Don't use canned or boxed foods.
 - c. Avoid anything which is "salted" such as pretzels, pop-corn, peanuts, etc.
9. DASH Diet – DASH stands for Dietary Approach to Stop Hypertension. SETMA's dietary education department holds classes on teaching the DASH diet and your SETMA health care provider can give you printed information on the DASH diet at every office visit. You can expect an 8-14 mmHg drop in your systolic pressure from following the DASH diet. It is useful to note that this expected drop in blood pressure due to following the DASH diet is equivalent to the expected drop in blood pressure from taking one blood pressure medication.
10. Monitor your blood pressure and keep a record
11. Be sure to keep all appointments
12. Be sure to take your medications as indicated.

Habits which affect your blood pressure

Establishing healthy eating habits is the first step toward lowering your risk. The diet recommended by heart specialists is low in fat, low in salt and high in nutrients. Your intake of salty snacks, processed foods, and cured meats should be reduced. Replace these with more fruit and vegetables. Adopt better eating habits and the numbers on the bathroom scales and the blood pressure cuff will decrease.

Sodium is one of the body's deadliest enemies. One of the most common dietary sources of sodium is salt. A high salt intake requires the body to hold more water, which is first stored in the bloodstream before loading the tissues. This fluid retention places great stress on the heart and increases the possibility of developing hypertension. Potassium is known to encourage a healthy balance of the amount of sodium within cell fluids. Fruits and vegetables are an excellent source of potassium - such as that which is found in bananas.

Physical activity, such as a short 20-minute walk or housecleaning event, can have a dramatic impact on your life. Any form of exercise assists your heart in the effort to pump blood throughout your body. Lack of exercise causes the heart to work harder, resulting in elevated blood pressure. Strive for at least 30 minutes of exercise three or four times per week.

There can be few things worse for hypertension than smoking tobacco, which increases the heart rate while hardening and constricting the blood vessels. This leads to even higher pressure, which in turn further damages the heart and blood vessels.

Alcohol consumption is harmful to your health in various ways. An infrequent glass of beer or wine won't affect your blood pressure significantly, but uncontrolled consumption can cause serious health issues. Taking three or more alcoholic beverages each day

almost doubles your chances of developing hypertension.

You can and you must do something about either preventing or treating high blood pressure. It will protect your heart and your brain from damage. Remember, it is your life and it is your health.