Arterial Hypertension, High Blood Pressure

Arterial *hypertension* (high blood pressure) is a condition of elevated pressure in your blood vessels. Hypertension over a long period of time is a risk factor for strokes, heart attacks and heart failure. It is also the leading cause of kidney (*renal*) failure.

CAUSES

- In Adults -- Over 90% of all hypertension has no known cause. This is called essential/primary hypertension. In the other 10% of people with hypertension, the increase in blood pressure is caused by another disorder. This is called *secondary hypertension*. IMPORTANT CAUSES OF SECONDARY HYPERTENSION ARE:
  - Heavy alcohol use.
  - Obstructive sleep apnea.
  - Hyperaldosterosim (Conn's syndrome).
  - Steroid use.
  - Chronic kidney failure.
  - Hyperparathyroidism.
  - Medications.
  - Renal artery stenosis.
  - Pheochromocytoma.
  - Cushing's disease.
  - Coarcataion of the aorta.
  - Scleroderma renal crisis.
  - Licorice (in excessive amounts).
  - Drugs (cocaine, methamphetamine).

Your caregiver can explain any items above that apply to you.

- In Children -- Secondary hypertension is more common and should always be considered.

- Pregnancy -- Few women of childbearing age have high blood pressure. However, up to 10% of them develop hypertension of pregnancy. Generally, this will not harm (*benign*) the woman. It may be a sign of 3 complications of pregnancy: pre-eclampsia, HELLP syndrome, and eclampsia. Follow-up and control with medication is necessary.

SYMPTOMS

- This condition normally does not produce any noticeable symptoms. It is usually found during a routine exam.
- Malignant hypertension is a late problem of high blood pressure. It may have the following symptoms:
  - Headaches.
  - Blurred vision.
  - End-organ damage (this means your kidneys, heart, lungs and other organs are being damaged).
- Stressful situations can increase the blood pressure. If a person with normal blood pressure has their blood pressure go up while being seen by their caregiver, this is often termed "white coat hypertension." Its importance is not known. It may be related with eventually developing hypertension or complications of hypertension.
- Hypertension is often confused with mental tension, stress and anxiety.

DIAGNOSIS

The diagnosis is made by 3 separate blood pressure measurements. They are taken at least 1 week apart from each other. If there is organ damage from hypertension, the diagnosis may be made without repeat measurements.

Hypertension is usually identified by having blood pressure readings:

- Above 140/90 mmHg measured in both arms, at 3 separate times, over a couple weeks.
- Over 130/80 mmHg should be considered a risk factor and may require treatment in patients with diabetes.

Blood pressure readings over 120/80 mmHg are called "pre-hypertension" even in non-diabetic patients.

To get a true blood pressure measurement, use the following guidelines. Be aware of the factors that can alter blood pressure readings.

- Take measurements at least 1 hour after caffeine.
- Take measurements 30 minutes after smoking and without any stress. This is another reason to quit smoking – it raises your blood pressure.
- Use a proper cuff size. Ask your caregiver if you are not sure about your cuff size.
- Most home blood pressure cuffs are automatic. They will measure systolic and diastolic pressures. The systolic pressure is the pressure reading at the start of sounds. Diastolic pressure is the pressure at which the sounds disappear. If you are elderly, measure pressures in multiple postures. Try sitting, lying or standing.
- Sit at rest for a minimum of 5 minutes before taking measurements.
- You should not be on any medications like decongestants. These are found in many cold medications.
- Record your blood pressure readings and review them with your caregiver.

If you have hypertension:

- Your caregiver may do tests to be sure you do not have secondary hypertension (see "causes" above).
- Your caregiver may also look for signs of the Metabolic Syndrome. This is also called Syndrome X or Insulin Resistance Syndrome. You may have this syndrome if you have type 2 diabetes, abdominal obesity, and abnormal blood lipids in addition to hypertension.
- Your caregiver will take your medical and family history and perform a physical exam.
- Diagnostic tests may include blood tests (for glucose, cholesterol, potassium, and kidney function), a urinalysis, or an EKG. Other tests may also be necessary depending on your condition.

PREVENTION

There are important lifestyle issues that you can adopt to reduce your chance of developing hypertension:

- Maintain a normal weight.
- Limit the amount of salt (*sodium*) in your diet.
- Exercise often.
- Limit alcohol intake.
- Get enough potassium in your diet. Discuss specific advice with your caregiver.
- Follow a DASH diet (dietary approaches to stop hypertension). This diet is rich in fruits, vegetables, and low-fat dairy products, and avoids certain fats.

PROGNOSIS

Essential hypertension cannot be cured. Lifestyle changes and medical treatment can lower blood pressure and reduce complications. The prognosis of secondary hypertension depends on the underlying cause. Many people whose hypertension is controlled with medicine or lifestyle changes can live a normal, healthy life.

RISKS AND COMPLICATIONS

While high blood pressure alone is not an illness, it often requires treatment due to its short- and long-term effects on many organs. Hypertension increases your risk for:

- CVA's or strokes (*Cerebrovascular accident*).
- Heart failure due to chronically high blood pressure (*Hypertensive cardiomyopathy*).
- Heart attack (*Myocardial infarction*).
- Damage to the retina (*Hypertensive retinopathy*).
- Kidney failure (*Hypertensive nephropathy*).

Your caregiver can explain list items above that apply to you. Treatment of hypertension can significantly reduce the risk of complications.

TREATMENT

- For overweight patients, weight loss and regular exercise is recommended. Physical fitness lowers blood pressure.
- Mild hypertension is usually treated with diet and exercise. A diet rich in fruits and vegetables, fat-free dairy and foods low in fat and salt (*sodium*) can help lower blood pressure. Decreasing salt intake decreases blood pressure in a 1/3 of people.

- Stop smoking if you are a smoker.

The steps above are highly effective in reducing blood pressure. While these actions are easy to suggest, they are difficult to achieve. Most patients with moderate or severe hypertension end up requiring medications to bring their blood pressure down to a normal level. There are several classes of medications for treatment. Blood pressure pills (*anti-hypertensives*) will lower blood pressure by their different actions. Lowering the blood pressure by 10 mmHg may decrease the risk of complications by as much as 25%.

The goal of treatment is effective blood pressure control. This will reduce your risk for complications. Your caregiver will help you determine the best treatment for you according to your lifestyle. What is excellent treatment for one person, may not be for you.

HOME CARE INSTRUCTIONS

- **DO NOT** smoke.
- Follow the lifestyle changes outlined in the "Prevention" section.
- If you are on medications, follow the directions carefully. Blood pressure medications must be taken as prescribed. Skipping doses reduces their benefit. It also puts you at risk for problems.
- Follow up with your caregiver, as directed.
- If you are asked to monitor your blood pressure at home, follow the guidelines in the "Diagnosis" section above.

SEEK MEDICAL CARE IF:

- You think you are having medication side effects.
- You have recurrent headaches or lightheadedness.
- You have swelling in your ankles.
- You have trouble with your vision.

SEEK IMMEDIATE MEDICAL CARE IF:

- You have sudden onset of chest pain or pressure, difficulty breathing, or other symptoms of a heart attack.
- You have a severe headache.
- You have symptoms of a stroke (sudden weakness, difficulty speaking, difficulty walking).

MAKE SURE YOU:

- Understand these instructions.
- Will watch your condition.
- Will get help right away if you are not doing well or get worse.

Information courtesy of the CDC & NIH.

Document Released: 12/18/2006 Document Re-Released: 11/30/2009
ExitCare® Patient Information ©2011 ExitCare, LLC.