

The Patient with Hypertension

FACTS ABOUT HYPERTENSION

What Is Hypertension?

Hypertension is the medical term for high blood pressure. Blood pressure is the force of blood against the walls of arteries when the heart beats (systolic pressure) and when the heart is at rest (diastolic pressure). Blood pressure rises and falls during the day. It's measured in millimeters of mercury (mm Hg). High blood pressure is defined in an adult as a blood pressure greater than or equal to 140 mm Hg systolic pressure or greater than or equal to 90 mm Hg diastolic pressure. When blood pressure stays elevated over time, it is called high blood pressure.

High blood pressure affects 65 million Americans, or about one in four. High blood pressure is more common among people over age 35. It's particularly prevalent in African Americans, middle-aged and elderly people, obese people, and heavy drinkers. It may run in families, but many people with a family history of high blood pressure never have it. People with diabetes mellitus, gout, or kidney disease are more likely to have high blood pressure.

Having high blood pressure doesn't mean you're tense, nervous, or hyperactive. You can be a calm, relaxed person and still have hypertension. The only way to find out if you have this disease is to have your blood pressure checked. Blood pressure is checked using a sphygmomanometer, commonly known as a blood pressure cuff.

High blood pressure is dangerous because it makes the heart work too hard and contributes to atherosclerosis, or hardening of the arteries. It increases the risk of heart disease and stroke. High blood pressure also can result in other conditions, such as congestive heart failure, kidney disease, and blindness.

SYSTOLIC BLOOD PRESSURE

Both numbers, systolic and diastolic, in a blood pressure test are important, but for people who are 50 or older, systolic pressure gives the most accurate diagnosis of high blood pressure. Systolic pressure is the force of blood in the arteries as the heart beats. It is the top number in a blood pressure reading. High blood pressure is 140 mm Hg and higher for systolic pressure. Often times, a patient can have an elevated systolic pressure and a normal or even low diastolic pressure. This condition is called "isolated systolic hypertension," or ISH.

ISH is the most common form of high blood pressure for older Americans. For most Americans, systolic blood pressure increases with age, while diastolic increases until about age 55 and then declines. About 65% of hypertensive patients over age 60 have ISH. As with other types of high blood pressure, ISH often causes no symptoms. A patient can have ISH and feel fine. A patient must have his or her blood pressure checked by a professional, over a period of time and in varying circumstances, to test for ISH.

If not controlled, high systolic pressure can lead to stroke, heart attack, congestive heart failure, kidney damage, blindness (hypertensive retinopathy), or other conditions. A 2001 survey indicated a poor level of awareness, treatment, and control of high blood pressure in all age groups. About 48% of individuals with high blood pressure are not being treated for the condition, while 29% are inadequately treated. The current study shows that of those who received either no treatment or inadequate treatment, 65% had systolic hypertension; 21% had systolic/diastolic hypertension (meaning both numbers were high); and 14% had diastolic hypertension.

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Treatment options for ISH are the same as for other types of high blood pressure, in which both systolic and diastolic pressures are high. ISH is treated with lifestyle changes and/or medications.

DIASTOLIC BLOOD PRESSURE

Diastolic pressure is the force of blood in the arteries as the heart relaxes between beats. It's the bottom number in a blood pressure reading. The higher the diastolic blood pressure, the greater the risk for heart attacks, strokes, and kidney failure. As people become older, the diastolic pressure will begin to decrease.

American Heart Association recommended blood pressure levels

Blood Pressure Category	Systolic (mm Hg)		Diastolic (mm Hg)
Normal	less than 120	and	less than 80
Prehypertension	120-139	or	80-89
High			
Stage 1	140-159	or	90-99
Stage 2	160 or higher	or	100 or higher

CAUSES OF HIGH BLOOD PRESSURE

In 90 to 95% of high blood pressure cases, what causes high blood pressure is unknown. Many people have high blood pressure for years without knowing it. That's why it's often called the "silent killer."

The heart pumps blood through the body's arteries. The large arteries that leave the heart taper into smaller arteries called arterioles. The arterioles then taper into smaller vessels called capillaries, which supply oxygen and nutrients to all the organs of your body. The blood then returns to the heart through the veins.

Certain nerve impulses cause the arteries to become larger (dilate) or become smaller (contract). If these vessels are wide open, blood can flow through easily. If they're narrow, it's harder for the blood to flow, and the pressure inside the vessels increases. As a result, high blood pressure may occur. When this happens, your heart becomes strained and blood vessels may become damaged.

The heart, brain, and kidneys can handle increased pressure for a long time. That's why a person can live for years without any symptoms or negative effects. However, high blood pressure makes the heart and arteries work harder. The heart must pump harder, and the arteries carry blood that's moving under greater pressure. If high blood pressure continues for a long time, the heart and arteries may not work as well as they should. Other body organs may also be affected. There is increased risk of stroke, congestive heart failure, kidney failure, and heart attack.

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When high blood pressure exists with obesity, smoking, high blood cholesterol, or diabetes, the risk of heart attack or stroke increases several times.

People with high blood pressure should know that taking certain cold, cough, and flu medications, known as decongestants, could be dangerous. These medications have been reported to increase blood pressure and may interfere with blood pressure medications. Many other over-the-counter drugs can have a dangerous effect on certain heart conditions and increase risk for heart disease, heart attack, and stroke.

High Blood Pressure Symptoms

Even without any symptoms, a blood pressure level in the prehypertensive range can increase the risk of stroke, heart attack, heart failure, and kidney failure. A person can have high blood pressure for years without knowing it. In fact, about one-third of the 50 million Americans with high blood pressure don't know they have it.

Symptoms such as headaches, dizziness, or nosebleeds typically don't occur until high blood pressure has advanced to a higher stage — one that may be critical to a patient's health. But many people with uncontrolled high blood pressure never have any of these symptoms.

TREATING HIGH BLOOD PRESSURE

The first step in treating high blood pressure is to make lifestyle changes. Sometimes, when lifestyle changes aren't enough, a physician will prescribe medication.

Lifestyle changes

Lose weight: Many people with high blood pressure are also overweight. Losing weight will reduce the strain on the heart, and often weight loss will cause blood pressure to drop.

Eat healthy: The American Heart Association Nutrition Committee recommends avoiding a high intake of salt and eating enough fruits, vegetables, fat-free and low-fat dairy products. Such diets are rich in potassium, calcium, magnesium and protein, and low in total fat, saturated fat, and cholesterol. Patients suffering from hypertension are usually on a low-salt diet. Aides can assist patients by reading package labels to learn about the sodium content of prepared foods, and by encouraging patients to follow their diets.

Avoid excessive alcohol: Hypertensive patients should limit alcohol consumption to no more than one to two drinks a week.

Medication

One type of commonly prescribed medication is a diuretic, which is sometimes called a "water pill" because it works in the kidney and flushes excess water and sodium from the body. Another medication is a beta-blocker, which reduces nerve impulses to the heart and blood vessels. This makes the heart beat slower and with less force causing blood pressure to drop and the heart to work less hard. Other medications lower blood pressure by preventing formation of hormones that cause blood vessels to narrow.

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Over 70% of people over the age of 80 in the United States have hypertension, but only 38% of men and 23% of women within that group control it, according to a July 2005 study. In addition, one study found an underutilization of hypertensive drug treatment in this age group. An August 2005 study suggests one reason for this underuse is the presence of noncardiovascular diagnoses, such as osteoarthritis, asthma, depression, and gastrointestinal disorders, conditions prevalent in older people.

THE AIDE'S ROLE IN CARING FOR HYPERTENSIVE PATIENTS

Accurately recording blood pressure: Taking and documenting a patient's blood pressure is the most important aspect of caring for a hypertensive patient. Your assignment sheet will provide details. Always document the date and time you took the blood pressure reading and/or observation, the patient's position, which arm you used, and of course the reading. The assignment sheet will also give parameters that warrant notification of the nurse. For example, notify the nurse or supervisor if systolic pressure is above 150 or below 90 or diastolic pressure is above 80 and below 50.

Remember that certain circumstances can affect a patient's blood pressure. Readings are usually lower during restful, calm periods. A pressure taken after a shower or other exertion could be higher than when the patient wakes from a nap. Emotional upset can adversely affect blood pressure as well. You may be assigned to take a patient's pressure more than once during a visit. Record the specifics of all readings. The patient's position also affects the reading so try to take it the same way all the time.

Observing and reporting: If the patient has nausea or vomiting, unusual redness in the face, numbness, shortness of breath, ringing in the ears, dizziness, or weakness, notify the nurse or supervisor immediately. Document whom you spoke with, time, what you reported, instructions given, actions taken, and patient response. **Example:** 10/23/06 9 a.m. Reported blood pressure 160/90 to Ted Frankle, RN. No instructions given. If the patient has chest pain, call 911.

Enforcing education: Patients need to understand what their goal blood pressure is and how to obtain it. They must adhere to dietary restrictions and take their medication. If meal preparation is one of your assigned duties, follow the patient's prescribed diet. Report any patient concerns to the nurse. Even if they "feel good," patients must understand that high blood pressure doesn't just go away and even if it goes down, it will always have to be controlled. Patients must understand the possible implications, i.e., stroke, heart attack, and renal failure, of uncontrolled high blood pressure. Explain that often there are no symptoms with high blood pressure so it's perfectly normal to feel fine while having the disease. Talk with the nurse about any concerns your patient may have.

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CASE STUDY

Robert is assigned to the care of Mr. Adams, 74, who is recovering from a stroke and has left-sided hemiplegia. Mr. Adams lives alone with his dog, Buddy.

Robert arrives at Mr. Adams' house at about 9 a.m. After reviewing the plan of care, Robert informs Mr. Adams that he'll first take his temperature, pulse, and blood pressure. Mr. Adams tells Robert he doesn't need his blood pressure checked anymore. It was 140/80 yesterday, so he must be cured. That explains, he says, why he's been feeling so well lately.

Robert explains to Mr. Adams that high blood pressure typically doesn't just go away and even if it does go down, it will always have to be controlled with diet and exercise or medication. Mr. Adams becomes noticeably agitated at this news. He says he was looking forward to resuming his old eating and drinking habits. He yells at Robert and demands he take his blood pressure immediately to prove he's cured.

Robert speaks calmly to Mr. Adams, reassuring him that indeed his pressure may be under control, and praises him for his diligence. Robert suggests that Mr. Adams rest a minute before taking his pressure, however. While he rests, Robert starts to gather supplies for Mr. Adams' personal care.

Robert looks in Mr. Adams' blood pressure log and sees that, due to high blood pressure, Mr. Adams is on a sodium-restricted diet and is to limit his alcohol consumption to two drinks a week. Robert sees that Mr. Adams' pressure was lower, 140/80, yesterday, but up until that time, it was around 175/85.

After 10 minutes, Robert checks Mr. Adams' blood pressure. It's 150/78. The assignment sheet says to report any systolic reading above 180 or diastolic above 100.

Robert informs Mr. Adams of the pressure reading. Mr. Adams says there must be a mistake and starts to become agitated once again. Robert calms him down by saying he'll call the nurse after his shower and clear things up. This seems to satisfy Mr. Adams.

After the shower, Robert calls the nurse as promised. While he's dialing, Mr. Adams tells Robert to ask the nurse if he can stop taking his medication. It makes him have to go to the bathroom too often. He believes this is all okay since he feels good and his pressure is down, according to the nurse. The nurse thanks Robert for the report and says she'll talk to the patient.

THINK ABOUT IT

- » What are some possible reasons for Mr. Adams' decrease in blood pressure?
- » Should Robert explain them to Mr. Adams?
- » Should Robert have called the nurse, or just believed Mr. Adams?
- » What do you think the nurse said? What guidance might she have given Robert?
- » What else should Robert talk with this patient about?

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DIRECTIONS: READ EACH QUESTION CAREFULLY. THEN, DETERMINE THE BEST ANSWER. CHECK THE CORRESPONDING BOX ON YOUR ANSWER SHEET. PLEASE DO NOT WRITE ON THIS POST-TEST.

1. What is considered normal blood pressure?

- a. Less than 140/90
- b. Between 120/80 and 140/90
- c. Less than 160/100
- d. Less than 120/80

2. High blood pressure is dangerous because:

- a. It makes the lungs work too hard and contributes to hardening of the arteries.
- b. It makes the heart work too hard and increases the risk of asthma.
- c. It makes the heart work too hard and contributes to hardening of the arteries.
- d. All of the above.

3. What of the following actions demonstrate appropriate care for a hypertensive patient?

- a. Skip taking the assigned blood pressure if the patient is upset.
- b. Report a nose bleed to the nurse.
- c. Allow the patient to skip prescribed blood pressure medication if he or she is feeling better.
- d. All of the above.

4. Systolic pressure is:

- a. The force of blood in the arteries as the heart beats.
- b. The bottom number of a blood pressure reading.
- c. The force of blood in the arteries as the heart relaxes between beats.
- d. None of the above.

5. If left uncontrolled, high blood pressure:

- a. Can lead to other conditions such as gout
- b. Can lead to other conditions such as heart failure and kidney disease
- c. Will most likely go away as a person ages
- d. None of the above

6. Patients with high blood pressure always exhibit the following signs:

- a. Shortness of breath
- b. Pale, cool skin
- c. Nervousness
- d. None of the above

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7. High blood pressure is most common:

- a. Among people over 35 and heavy consumers of alcohol
- b. Among teenagers and heavy smokers
- c. Among people over 35 with disabilities
- d. Among people from Asia

8. Even though hypertension increases with age, that population controls it well.

- a. True
- b. False

9. Since high blood pressure exhibits few symptoms, the aide's role is purely one of recording blood pressure.

- a. True
- b. False

10. In which situation might a patient's blood pressure be lowest?

- a. The patient has just taken a shower.
- b. The patient has just received bad news.
- c. The patient has been watching television with his or her feet up.
- d. The patient has just consumed an alcoholic beverage.

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