



PATIENT & CAREGIVER EDUCATION

About Hypertension (High Blood Pressure)

This information explains what hypertension is and how to treat it.

About Your Blood Pressure

Blood pressure is the pressure that your blood applies to the inner walls of your arteries. An artery is a blood vessel (tube) that carries blood from your heart to the rest of your body.

Measuring blood pressure

Blood pressure (BP) readings are given as 2 numbers, measured in millimeters of mercury (mm Hg, see Figure 1).

$$\frac{118}{77} \text{ mm Hg}$$

Figure 1. Blood pressure reading

- **Systolic blood pressure** (the top number): Your systolic blood pressure measures how much pressure your blood puts on your artery walls when your heart beats.
- **Diastolic blood pressure** (the bottom number): Your diastolic blood pressure measures how much pressure your blood is putting on your artery walls when your heart rests between beats.

One or both of these numbers can be too high. If they're too high, you may have hypertension.

About Hypertension

Hypertension is when the force of your blood pressing against your artery walls is too high. This makes your heart work harder than it needs to and can cause

damage to your artery walls.

Untreated high blood pressure can cause problems such as:

- Damage to your heart
- Heart attacks
- Heart failure
- Kidney failure
- Stroke

The table below shows the ranges for healthy blood pressure, prehypertension, and hypertension.

	Systolic BP		Diastolic BP
Normal BP	Less than 120 mm Hg	and	Less than 80 mm Hg
Prehypertension	120 to 129 mm Hg	and	Less than 80 mm Hg
Hypertension Stage 1	130 to 139 mm Hg	or	80 to 89 mm Hg
Hypertension Stage 2	140 mm Hg or higher	or	90 mm Hg or higher

Treating Hypertension

Treating high blood pressure starts with lifestyle changes followed by medications, if necessary. Your doctor will discuss what treatment options are right for you.

Lifestyle changes to lower your blood pressure

- Lose weight, if you're overweight. Ask your doctor for a referral to a clinical dietitian nutritionist.

- Eat a healthy diet. Include lots of fruits and vegetables, low-fat dairy products, and fiber.
- Avoid foods high in fat and lower the amount of caffeine you eat and drink. For more information, ask your nurse for the resource *Eat Your Way to Better Health* (www.mskcc.org/pe/eat_better_health).
- Lower the amount of sodium (salt) you eat. Most people should eat no more than 2 grams of sodium per day but talk with your doctor about the amount that's right for you. For more information, read the resource *2-Gram Sodium Diet* (www.mskcc.org/cancer-care/patient-education/2-gram-sodium-diet).
- Don't drink more than 1 alcoholic drink per day if you're a female and 2 drinks per day if you're a male.
- If you smoke, reduce the amount that you smoke. For help, call our Tobacco Treatment Program at 212-610-0507. You can also ask your nurse about the program.
- Do something active (such as walking, biking, or gardening) for at least 30 minutes each day if you're able. Talk with your doctor if you would like a referral to a physical therapist.

Medication

There are many types of medications you can use to treat hypertension that work in different ways. The following are some examples, but there are others. Your doctor will tell you which is best for you.

- Diuretics (water pills) help your body remove extra salt and fluid to improve shortness of breath and swelling. Some examples are hydrochlorothiazide (also known as HCTZ) Microzide[®], Esidrix[®], Furosemide (Lasix[®]), and chlorthalidone (Thalitone[®]).
- Angiotensin converting enzyme inhibitors (ACE inhibitors) block the angiotensin I hormone in your blood that can raise your blood pressure. One example is lisinopril (Prinivil[®]).
- Angiotensin II receptor blockers (ARBs) block the same hormone as ACE inhibitors. Losartan (Cozaar[®]) is an example.

- Calcium channel blockers lower the amount of calcium that enters your heart. This causes the muscle cells in your heart to relax and widen, which lowers blood pressure. Some examples are amlodipine (Norvasc®) and nifedipine (Cardene®).
- Beta blockers slow your heart rate and lower your blood pressure. This helps to reduce the amount of work your heart has to do. Examples are atenolol (Tenormin®) and metoprolol (Lopressor®).
- Alpha blockers work by relaxing the smooth muscles in the walls of your blood vessels to improve your blood flow. One example is doxazosin (Cardura®).

If you have any questions, contact a member of your healthcare team directly. If you're a patient at MSK and you need to reach a provider after 5:00 PM, during the weekend, or on a holiday, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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