Memorial Sloan Kettering Cancer Center

PATIENT & CAREGIVER EDUCATION

About Hypertension (High Blood Pressure)

This resource explains what hypertension (HY-per-TEN-shun) is and how to treat it.

What is hypertension?

Hypertension means high blood pressure (BP). Blood pressure is the pressure that your blood puts on 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.

High blood pressure 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. This 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

About your blood pressure reading

Blood pressure readings are given as 2 numbers that look like a fraction (see Figure 1). The readings are measured in millimeters of mercury (mm Hg).

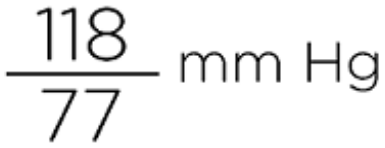


Figure 1. Blood pressure reading

Systolic blood pressure

Systolic (sis-TAH-lik) blood pressure is the top number of the reading. It measures how much pressure your blood puts on your artery walls when your heart beats.

Diastolic blood pressure

Diastolic (di-as-TAH-lik) blood pressure is the bottom number of the reading. It measures how much pressure your blood is putting on your artery walls when your heart rests between beats.

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

The following table shows the ranges for healthy blood pressure, prehypertension (elevated blood pressure), and hypertension. Your doctor will monitor your readings. They'll recommend steps to control your blood pressure.

	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

Read *How To Monitor Your Blood Pressure at Home* (www.mskcc.org/pe/monitor-bp-home) to learn more about monitoring your blood pressure.

How to treat high blood pressure

Treating high blood pressure starts with lifestyle changes. You may also get medicine, if needed. Talk with your healthcare provider about which treatment options are best for you.

Lifestyle changes to lower your blood pressure

- Keep a healthy body weight. You can 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.

- Lower the amount of caffeine you eat (such as chocolate) and drink (such as coffee and tea). ReadLower the amount of caffeine you eat (including chocolate) and drink (including coffee and tea). Read *Eat Your Way to Better Health* (www.mskcc.org/pe/eat-better-health) to learn more.
- Lower the amount of sodium (salt) you eat. Most people should eat no more than 2 grams of sodium a day. Talk with your healthcare provider about the amount that's right for you. Read *2-Gram Sodium Diet* (www.mskcc.org/pe/2-gram-sodium) to learn more.
- Limit the amount of alcohol you drink:
  - If you are a female, do not have more than 1 with alcohol a day.
  - If you are a male, do not have more than 1 with alcohol a day.
- Don't smoke. If you need help quitting, ask your nurse about MSK's Tobacco Treatment Program. Visit www.mskcc.org/experience/patient-support/tobacco-treatment, or call 212-610-0507 to learn more.
- Do something active, such as walking, biking, or gardening for at least 30 minutes each day, if you can. Talk with your doctor if you would like a referral to a physical therapist.

- Try to lower your stress. Guided meditation and breathing exercises can help. Visit www.mskcc.org/meditation to learn more.
- Get 7 to 9 hours of sleep a night.

Medicine to lower your blood pressure

There are many types of medicine that treat hypertension. Each one works in different ways. Talk to your healthcare provider about which medicine is best for you.

Diuretics (water pills)

Diuretics help your body remove extra salt and fluid. This helps improve shortness of breath and swelling. Some examples are:

- Hydrochlorothiazide (HCTZ) Microzide®
- Furosemide (Lasix®)
- Chlorthalidone (Thalitone®)

Angiotensin converting enzyme inhibitors (ACE inhibitors)

ACE inhibitors, such as lisinopril (Prinivil®), block the hormone in your blood that can raise your blood pressure.

Angiotensin II receptor blockers (ARBs)

ARBs, such as Losartan (Cozaar®), block the hormone in your blood that can raise your blood pressure.

Do not take ACE inhibitors together with ARBs. Take one or

the other, not both.

Calcium channel blockers

Calcium channel blockers lower the amount of calcium that enters your heart. This lowers your blood pressure by relaxing and widening the muscle cells in your heart. Examples include Amlodipine (Norvasc®) and Nicardipine (Cardene®).

Beta blockers

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 include Atenolol (Tenormin®) and Metoprolol (Lopressor®).

Alpha blockers

Alpha blockers, such as doxazosin (Cardura®), relax the smooth muscles in the walls of your blood vessels. This helps improve your blood flow.

When to call your healthcare provider

If you're measuring your blood pressure at home, follow your healthcare provider's instructions.

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

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

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