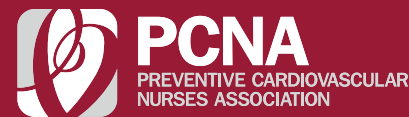


Blood Pressure:

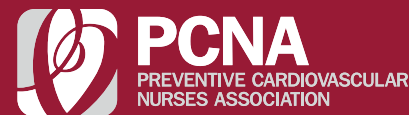
How Do You Measure Up?



Understanding Blood Pressure

This booklet will help you find ways to prevent and treat high blood pressure, also known as hypertension. You will learn how to check your blood pressure (BP), live a healthy life, and understand your medicines.

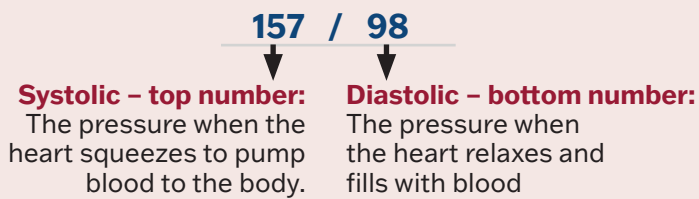
Table of Contents






Understanding Blood Pressure.....	3
Monitoring Your Blood Pressure.....	6
Get Moving	7
Healthy Diet	8
Common Medicines	12
Make a Change	14
Make a Plan.....	15

Understanding Blood Pressure

What do your blood pressure numbers mean?



	Blood Pressure	Systolic (top #)	Diastolic (bottom #)
	Normal	<120	<80
	Elevated blood pressure	120-129	
	High blood pressure	130+	80+



What is blood pressure?

Your blood pressure is the force of blood flowing through your blood vessels. Blood pressure refers to how powerfully your blood travels throughout your body.

Your blood pressure reading has two numbers. The top number is called systolic blood pressure. It is the pressure when the heart squeezes to pump blood to the rest of the body. The bottom number is known as diastolic blood pressure. It occurs when the heart relaxes.

Ask your healthcare professional if there is a tool in your electronic medical record to track your blood pressure.

What is high blood pressure?

When the force of blood flowing through your vessels is regularly too high, it is called high blood pressure.

Nearly *half* of adult Americans have high blood pressure. Checking your blood pressure is the best way to know if you have high blood pressure.

High blood pressure is known as the **“silent” killer** because you may not feel any symptoms, but it is affecting your entire body.

Understanding Blood Pressure

How does high blood pressure affect your body?



Your Blood Vessels

High blood pressure may damage your blood vessels, causing them to tear. This allows cholesterol to build up and clog the vessels. This makes it harder for blood and oxygen to get to your body.



Your Brain

High blood pressure hurts your brain and increases your risk for stroke (brain attack).



Your Heart

High blood pressure hurts your heart and blood vessels and increases your risk for heart attack. High blood pressure causes your heart to work harder, making it bigger and can fail at delivering blood to the body (heart failure).



Your Kidneys

High blood pressure hurts your kidneys, and increases your risk for kidney failure.



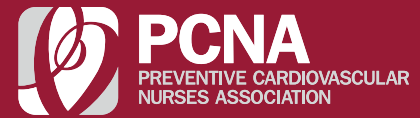
Your Vision

High blood pressure can damage the blood vessels in your eyes, which can make your vision worse.

Visit to learn more: pcna.net/heart-disease-risk



Blood Pressure: Know Your Numbers



Check your blood pressure at home

Checking your blood pressure at home will help your healthcare professional know if your numbers are normal or high.

Important Note: Blood pressure numbers are often lower at home than in the clinic. The goal for blood pressure at home is less than 120 (systolic) and less than 80 (diastolic).

Choose a blood pressure device

- Choose a good home blood pressure device by asking your healthcare professional for advice.
- Blood pressure devices can be purchased at convenience stores and local pharmacies.
- Bring your device to your next appointment so your healthcare professional can check the measurement.
- Visit <https://www.validatebp.org/> to find approved devices.
- To find the cuff size that is right for you, measure the size of your upper arm with a tape measure.
- If you do not have a tape measure, you can use a piece of string or ribbon to measure around your arm, then compare the length of the string or ribbon to a ruler to see what size cuff you need.



You can also print out a paper measuring tape at pcna.net/bp

Blood Pressure Cuff Sizing

Distance Around Upper Arm	8.5"-10" (22-26 cm)	10.5"-13" (27-34 cm)	13.5"-17" (35-44 cm)	17.5" -20" (45-52 cm)
Cuff Size	Small Adult	Adult	Large Adult	Adult Thigh Cuff

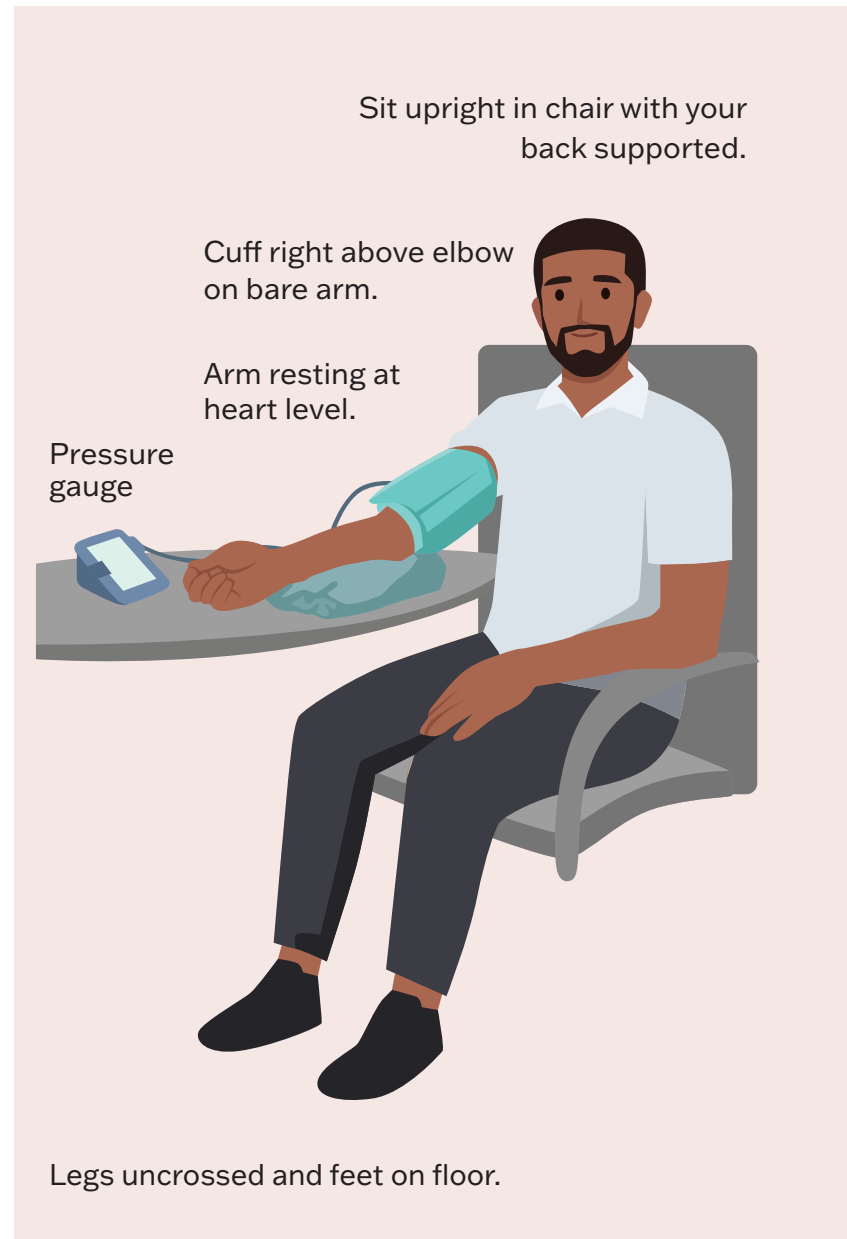
Monitoring Your Blood Pressure

Before taking a reading:

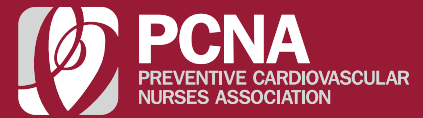
- Wait for 30 minutes after exercising, smoking, or drinking caffeine or alcohol.
- Go to the bathroom.
- Rest for at least 5 minutes.

Taking your blood pressure:

- Take your blood pressure before you take any medicines.
- Measure your blood pressure 2 times a day for 7 days:
 - Take 2-3 readings in the morning and 2-3 readings in the evening.
 - Each reading should be 2 minutes apart.
 - Measure in both arms the first time you use your device. Use the arm with the highest reading moving forward.
- Write down your readings, or print the numbers stored in your device.
 - Ask your health care professional if there is a way to link to your electronic medical record.
- Bring your readings, or your device, to each health care visit.



Get Moving!



Always talk to your healthcare professional before starting or changing your exercise routine to find out what exercises are safe for you. You can also ask about a good pulse rate range and how to take your pulse. This is called your “Target Heart Range.”



Why is movement good for you?

Any movement helps prevent heart attack and stroke by:

- Lowering your blood pressure
- Improving your cholesterol: lowering LDL, increasing HDL, lowering triglycerides.
- Controlling your blood sugar
- Helping you stay at a healthy weight and build muscle
- Lowering stress, depression and anxiety
- Improving muscle strength, balance and fitness



Movement Tips

- Aim for 150 minutes of movement per week. It is good goal to move at least 30 minutes per day at a moderate intensity (such as brisk walking). You can start slow and build up your time and speed.
- It is important to warm up before exercising and cool down afterward. Stretching and/or walking at a slow pace for 5 minutes will allow your heart rate and blood pressure to adjust safely.
- Add stretching, flexibility, and balance exercises to your routine. Yoga and Tai Chi are good examples.
- Consider joining a group exercise class at your local fitness club or gym where you can socialize and find a supportive environment.
- Resistive exercise is important as well. Using light weights and resistive bands help to build muscle and improve strength.
- Consider moving with a friend, neighbor, or significant other. Having someone to encourage your efforts and help with motivation will help both of you, and will be more interesting and fun!
- Most importantly, find a routine that you will enjoy. You are more likely to continue with a form of physical activity that is enjoyable.

Eat less salt

Minimizing the amount of salt (sodium) you eat can help lower your blood pressure. The recommended amount of sodium you should eat each day should be 1,500 milligrams (mg) or less.

Most people consume 50% more salt than the recommended daily limit. It is important to know where the hidden sources of salt are found, such as in pre-packaged and restaurant food.

The top 10 sources of salt in American diets are:



Bread and rolls



Cold cuts and cured meats (such as bacon and sausage)



Pizza



Poultry (processed)



Canned soups, vegetables, fish (such as tuna and sardines)



Sandwiches such as hot dogs, hamburgers and submarine sandwiches that contain prepared meats



Cheese (especially hard cheeses)



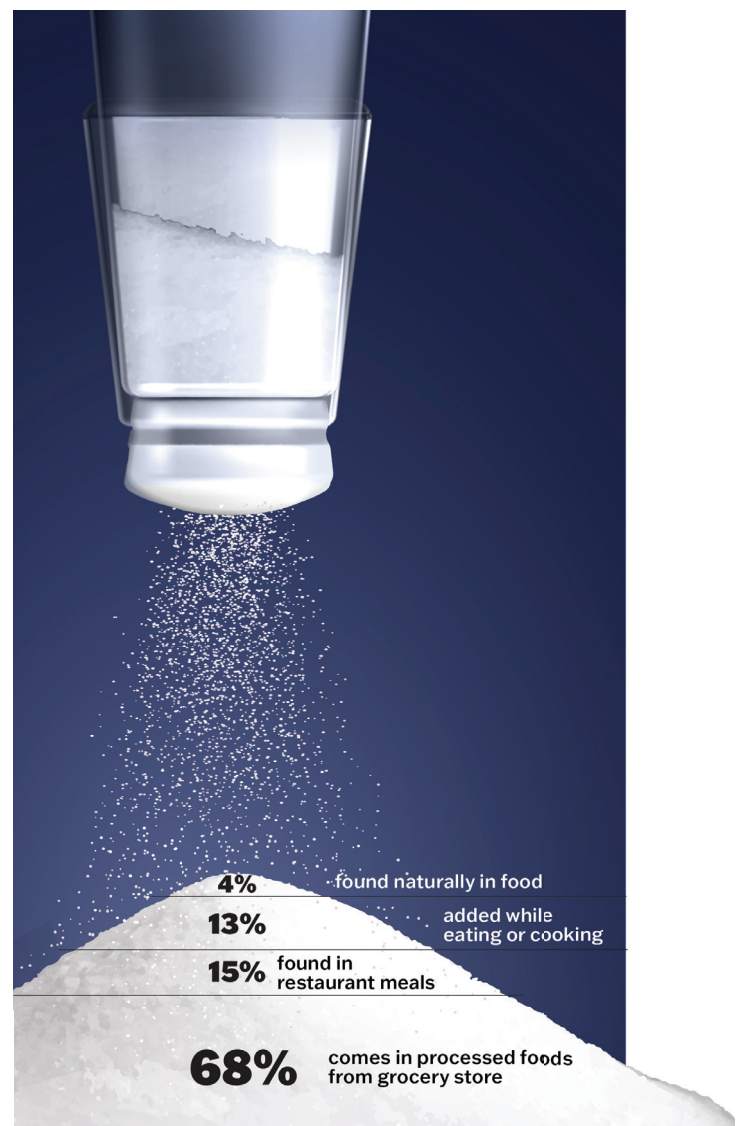
Pasta dishes such as lasagna, spaghetti and pasta salad



Meat dishes including meatloaf, chili and stew



Snacks such as chips, pretzels, popcorn and crackers



The DASH (Dietary Approaches to Stop Hypertension) diet helps you reduce salt, increase potassium and improve your blood pressure.

Visit

nhlbi.nih.gov/education/dash-eating-plan to learn more.

Easy steps for cutting sodium:

1. Read nutrition labels for serving size and mg of sodium. Choose foods with lower sodium.
2. Cook your own food when you can. Don't salt foods before or during cooking or eating.
3. Add flavor without salt. Use herbs and spices.
4. Choose fresh or frozen meats instead of processed meats. Check to see if salt water (saline) has been added.
5. Use fresh, frozen, low sodium or no-salt-added canned vegetables.
6. Rinse canned foods such as tuna, vegetables and beans to reduce salt.
7. Choose fat-free or low-fat milk and milk products in place of processed cheese products and spreads.
8. Choose unsalted or low-sodium nuts, seeds, chips and pretzels.
9. Choose light or reduced-sodium ketchup, soy sauce, salad dressings, and seasonings. Try using olive oil and vinegar instead.
10. At restaurants, ask for your meal to be prepared without salt and with sauces and dressings served 'on the side.' Smaller serving sizes also mean less salt.
11. Take home half of your meal instead by filling up the "take out box" before you start eating!

Eat foods that are high in potassium

Eating foods that are high in potassium is important for managing high blood pressure. This is because potassium help reduce sodium in your body through your urine.

However, eating a diet high in potassium may not be suitable for everyone, especially if you have kidney disease or are taking certain medicines. Check with your health care professional before you decide to increase potassium in your diet.

The recommended amount of potassium for men is 3,400 milligrams, and for women is 2,600 milligrams.



Examples of potassium-rich foods



Bananas



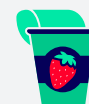
Potatoes



Greens



Avocados



Fat-free yogurt



Mushrooms



Apricots

The Healthy Eating Plate Plan

Healthy Eating Plate should include:

- Healthy oils, like Olive Oil and Canola, for cooking. Use Olive Oil on salads and vegetables. Limit butter and margarines. Avoid Trans fat.
- More fruit and vegetables. Half of your plate should be a wide variety of fruit and vegetables, especially berries. Remember, potatoes don't count as a vegetable.
- Drink water, tea, or coffee (with little or no sugar).
- Limit milk/dairy (1-2 servings/day). Avoid sugary drinks.
- Plain yogurt with fresh fruit such as berries is a good choice for one of your dairy servings.
- Eat a variety of whole grains. Use whole wheat bread and pasta. Brown rice instead of white rice.
- Choose fish, poultry, beans, and nuts. Limit red meat and cheese. Avoid bacon, cold cuts, and other processed meats.
- Avoid canned soups. Make your own homemade soups with low sodium chicken or vegetable stock. Load up on fresh vegetables and beans to put in the soup.
- Be mindful of portion size. Eat the healthy foods you enjoy but don't over indulge.



Foods to Increase:

- Half your plate should contain fruits and vegetables.
- Make at least half your grains whole grains.
- Switch to fat-free or low-fat (1%) milk.



Foods to Limit:

- Compare sodium in foods like soup, bread and frozen meals and choose the foods with the lower amounts of sodium.
- Drink water instead of sugary drinks.
- Avoid alcoholic beverages

Blood Pressure: Healthy Eating Plan

Reach a healthy weight

When you choose healthy foods, you can help lower your blood pressure and also reach, and stay at, a healthy weight.

- Choose your foods wisely and read food labels.
- Be mindful of portion sizes and keep a food diary to stay focused and aware of what you are eating.
- Limit the amount of alcohol you drink. No more than 1 drink a day for women, and 2 drinks a day for men. Drinking no alcohol at all is even better.
- Try not to shop when you are hungry – we tend to over buy unhealthy foods when we are hungry.
- Make a grocery list, and then stick to it when shopping.

Tips for reaching a healthy weight

- Count your calories, then eat 100 less calories a day.
- Walk 30-60 minutes per day. Gradually work up to 10,000 steps per day by using a pedometer or other step tracking device.
- Eat smaller portions.
 - Portion size for starch and protein meat should not be larger than a deck of cards.
- Fill up on salads, vegetables, or low sodium soups.
- Drink a large glass of water before your meal.
- Limit processed foods as they contain added salt, sugar, and trans fats.
- Do not eat snacks directly from the bag. Measure out the portion into a bowl to avoid overeating

A healthy plate = A healthy weight

Balancing Calories

- Enjoy your food, but eat less.
- Avoid oversized portions



Ways to save 100 calories:

- Eat 1 cup of whole grain cereal instead of 2.
- Add lettuce and tomato (instead of cheese) to your sandwich.
- Use fat-free salad dressing or olive oil and spices
- Use mustard instead of mayo on sandwiches.
- Order thin or vegetable crust instead of thick crust pizza.
- Eat fresh fruit instead of fruit juice.
- Use smaller bowls and plates for your food.



Learn about your medicines

Most people with high blood pressure need at least 2 medicines to lower their blood pressure and keep it under control.

It is important to take all of your prescribed medicines, as each works in a different way.

Drug Class	What it does to treat high blood pressure	Common brand names
Angiotensin-converting enzyme (ACE) Inhibitors	Decreases an enzyme which helps your blood vessels relax, so blood has more room to flow through arteries and veins	Lisinopril, Enalapril, Zestril, Ramipril
Angiotensin Receptor Blocker (ARB)	Blocks a chemical called angiotensin that tightens your blood vessels, so vessels can widen and lower blood pressure	Losartan (Cozaar), Olmesartan (Benicar), Valsartan (Diovan)
Beta Blocker	Blocks the effects of the hormone epinephrine (adrenaline) to slow your heart rate and lower your blood pressure	Metoprolol (Toprol), Atenolol (Tenormin), Bisoprolol (Zibeta)
Calcium Channel Blocker	Stops calcium from entering cells which relaxes and opens the blood vessels to lower blood pressure	Amlodipine (Norvasc), Cardizem, Procardia
Vasodilator	Relaxes the blood vessels by dilating (widening) them so the heart can pump blood more easily	Hydralazine, Minoxidil
Thiazide Diuretic (water pill)	Stops the body from absorbing too much salt and water which will lower blood pressure	Hydrochlorothiazide (HCTZ), Chlorothiazide (Diuril)
Central-acting Agent	Block signals from the brain that increase how fast the heart beats and tighten blood vessels which allows the heart to beat easier	Clonidine

Learn about your medicines (cont.)

Medicine Checklist

Check off the things you do:

- ☐ Know the name of each medicine that I take.
- ☐ Carry a list of my medicines with me at all times.
- ☐ Know how and when to take my medicine.
- ☐ Know what side effects I need to report to my health care professional when I take my medicine.
- ☐ Tell my health care professional about all of the vitamins, herbs, supplements and pills I take.
- ☐ Never stop taking a medicine without calling my health care professional.

How do blood pressure medicines work?

There are many medicines that lower blood pressure. They all work in different ways.

- Relax the arteries (angiotensin converting enzyme (ACE) inhibitors, angiotensin II receptor blockers (ARBs), and calcium channel blockers (CCBs))
- Remove extra fluid (diuretics)
- Allow your heart to beat more easily (beta blockers)

Tips on taking your medicines

Use a weekly pillbox to help you remember to take your medicine, even if you only take one pill.

- Take your pills at the same time each day. Use a timer or alarm on your watch or phone to remind you to take your medicine.
- Write down on your calendar when you need to refill your medicine – at least 1-2 weeks before you run out.
- When you travel, carry your medicine list, and at least 1-2 days of extra medicine.
- Keep taking your medicines even if your blood pressure is at your goal.







Things to talk about with your healthcare team

- Ways to make your medicine schedule easier.
- If there are lower cost options for your medicines, such as generics.
- If you don't feel well after taking a medicine, call your health care professional. Don't just stop taking the medicine.

Small changes make big changes in systolic blood pressure:

These healthy changes can lower your blood pressure by several points.

		What to Do	How Much Your Systolic Pressure (Top Number) Will Go Down
Weight		Eat less and move more to reach a healthy weight.	1 mm Hg for each 1 kg weight loss
Exercise		Exercise for 30 minutes most days of the week.	2-8 mm Hg
Diet		Eat fresh fruits, vegetables, whole grains, and low-fat foods	3-11 mm Hg
Salt (Sodium)		Eat less sodium (salt) each day.	2-6 mm Hg
Alcohol		Men: No more than 2 drinks a day. Women: No more than 1 drink a day.	3-4 mm Hg
Stop Smoking		Stopping smoking and other tobacco products is important to your health. Smoking can temporarily raise your blood pressure and can damage your arteries	

Make a Plan

Make a plan

Now is time to make a plan to lower your blood pressure. Remember, even small changes can make a big difference.

Keep track of your activity here:



Check off the things you will do:

- ☐ Check food labels for sodium levels.
- ☐ I will buy a blood pressure device and check my numbers at home.
- ☐ I will eat less salt and more fresh fruits and vegetables and consult with my health care professional about adding potassium-rich foods.
- ☐ I will ask my health care professional what exercises are safe for me.
- ☐ I will get at least 150 to 300 minutes of moderate-intensity aerobic activity, like brisk walking or fast dancing, each week.
- ☐ I will carry a list of my medicines with me at all times.
- ☐ I will use a medicine calendar or app to help me remember to take my medicines
- ☐ I will talk to my health care professional before I stop taking any medicines.



© 2024 Preventive Cardiovascular Nurses Association.

While PCNA strives to provide reliable, up-to-date health information, this and other PCNA educational materials are for informational purposes only and not intended as a substitute for professional medical care. Only your healthcare provider can diagnose and treat a medical problem. PCNA9105BPE