let's talk about

High Blood Pressure and Stroke

High blood pressure means that the force of the blood pushing against the blood vessel walls is consistently in the high range. Uncontrolled HBP can lead to stroke, heart attack, heart failure or kidney failure.

Two numbers represent blood pressure. The higher (systolic) number is the pressure in your arteries when your heart beats. The lower (diastolic) number is the pressure while your heart rests between beats. The systolic number is always listed first. Blood pressure is measured in millimeters of mercury (mm Hg).

Normal blood pressure is below 120/80 mm Hg. If you're an adult and your systolic pressure is 120 to 129, and your diastolic pressure is less than 80, you have elevated blood pressure. High blood pressure is a systolic pressure of 130 or higher or a diastolic pressure of 80 or higher that stays high over time.

BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120-129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130-139	or	80-89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/ or	HIGHER THAN 120

How does high blood pressure increase stroke risk?

High blood pressure is a major risk factor for stroke.

HBP adds to your heart's workload and damages your arteries and organs over time. Compared to people whose blood pressure is normal, people with HBP are more likely to have a stroke.

About 87% of strokes are caused by narrowed or clogged blood vessels in the brain that cut off the blood flow to brain cells. This is an **ischemic stroke**. High blood pressure causes damage to the inner lining of the blood vessels. This will narrow an artery.

About 13% of strokes occur when a blood vessel ruptures in or near the brain. This is a **hemorrhagic stroke**. Chronic HBP or aging blood vessels are the main causes of this type of stroke. HBP strains blood vessels. Over time, they no longer hold up to the pressure and rupture.

Am I at higher risk for HBP?

There are risk factors that increase your chances of developing HBP. Some you can improve or treat, and some you can't.

Those that can be improved or treated are:

- Cigarette smoking and exposure to secondhand smoke
- Diabetes
- Being overweight or obese
- High cholesterol
- Physical inactivity
- Poor diet (high in sodium, low in potassium, and drinking too much alcohol)

Factors that can't be changed or are difficult to control are:

- Family history of high blood pressure
- Race/ethnicity

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Let's Talk About High Blood Pressure and Stroke

- Increasing age
- Gender (males)
- Chronic kidney disease
- Obstructive sleep apnea

Socioeconomic status and psychosocial stress are also risk factors for HBP. These can affect access to basic living necessities, medication, health care providers, and the ability to make healthy lifestyle changes.

How can I control high blood pressure?

Even if you have had a prior stroke or heart attack, controlling high blood pressure can help prevent another one. Take these steps:

- Don't smoke and avoid secondhand smoke.
- Reach and maintain a healthy weight.
- Eat a healthy diet low in sodium and saturated and trans fat. Limit sweets and red and processed meats.
- Eat fruits and vegetables, whole grains, low-fat dairy products, poultry, fish and nuts. Include foods rich in potassium.
- Be physically active. Aim for at least 150 minutes of moderate-intensity physical activity per week.

- Limit alcohol to no more than two drinks a day if you're a man and one drink a day if you're a woman.
- Take all medicines as prescribed to control your blood pressure.
- Know what your blood pressure should be and try to keep it at that level.

HOW CAN I LEARN MORE?

1. Call **1-888-4-STROKE** (1-888-478-7653) or visit **stroke.org** to learn more about stroke or find local support groups.
2. Sign up for our monthly *Stroke Connection e-news* for stroke survivors and caregivers at **StrokeConnection.org**.
3. Connect with others who have also had an experience with stroke by joining our Support Network at **stroke.org/SupportNetwork**.

Do you have questions for your doctor or nurse?

Take a few minutes to write down your questions for the next time you see your health care provider.

For example:

What should my blood pressure be?

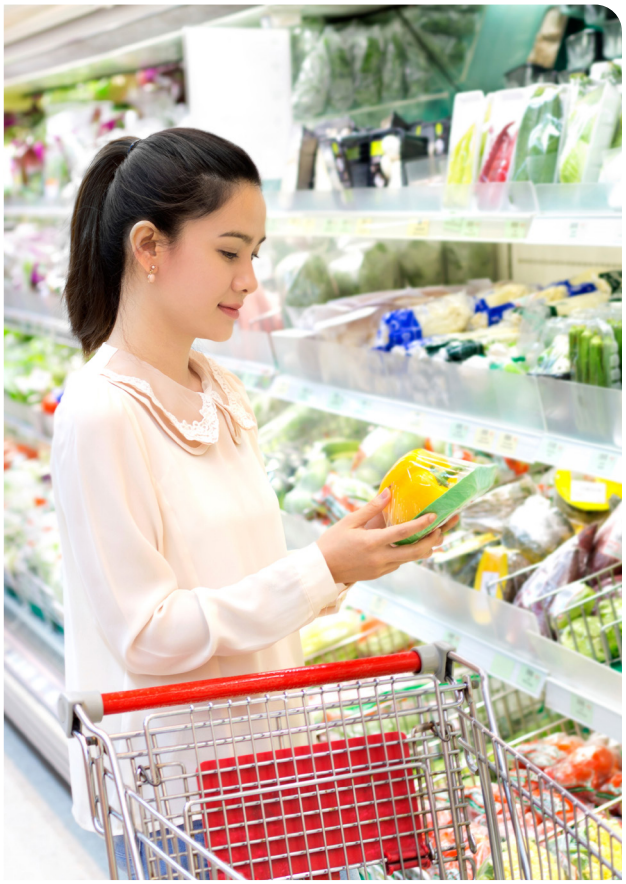
How often should my blood pressure be checked?

MY QUESTIONS:

We have many other fact sheets to help you make healthier choices, manage your condition or care for a loved one. Visit stroke.org/LetsTalkAboutStroke to learn more.

How Can I Reduce High Blood Pressure?

By treating high blood pressure, you can help reduce your risk for a stroke, heart attack, heart failure and kidney failure.



These are steps you can take now:

- Reach and maintain a healthy weight.
- Eat a heart-healthy diet that includes vegetables, fruits, whole grains, low-fat dairy products, poultry, fish, legumes, non-tropical vegetable oils and nuts. It should also limit sodium, sweets, saturated fats, sugar sweetened beverages and red meats.
- Be more physically active.
- Don't smoke and avoid secondhand smoke.
- Limit alcohol to no more than one drink per day for women or two drinks a day for men.
- Take your medication as prescribed.
- Know what your blood pressure should be and work to keep it at that level.

How can I lose weight?

In order to lose weight, you need to use up more calories than you eat and drink every day. Talk with your health care professional about a healthy eating and physical activity plan that will help you reach your weight loss goals. When you lose weight, your blood pressure often goes down! An initial weight loss goal of at least 5% will help reduce your blood pressure.

How do I limit sodium?

Aim for an ideal limit of less than 1,500 milligrams (mg) per day of sodium. Even cutting back by 1,000 mg a day can help improve your blood pressure and heart health.

You can reduce your sodium intake by:

- Reading the Nutrition Facts label on foods so you know how much sodium is in food products. Foods with 140 mg or less sodium per serving are considered low in sodium.
- Avoiding prepackaged, processed and prepared foods, which tend to be higher in sodium.
- Reducing salt in cooking and at the table. Learn to use herbs and salt-free spices instead.

How do I limit alcohol?

Ask your health care professional if you're allowed to drink alcohol, and if so, how much.

If you drink more than two drinks a day if you're male or more than one drink a day if you're female, it may add to high blood pressure. One drink is equal to 12 ounces of beer, 5 ounces of wine, 1.5 ounces of 80-proof distilled spirits or 1 ounce of 100-proof spirits.

If cutting back on alcohol is hard for you to do on your own, ask about groups that can help.

How can I be more active?

Regular physical activity helps to reduce blood pressure, control weight and reduce stress. It's best to start slowly

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and do something you enjoy, like taking brisk walks or riding a bicycle.

Aim for at least 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity aerobic physical activity (or a combination of both) per week. Talk to your health care professional about a good plan for you.

What should I know about medication?

Depending on your risk and blood pressure levels, you may need one or more types of medication to keep your blood pressure at a healthy level. You may need a trial period before your doctor finds the best medication, or combination of medications, for you.

What's most important is that you take your medication exactly as prescribed. Never stop treatment on your own. If you have problems or side effects from your medication, talk to your health care professional.

HOW CAN I LEARN MORE?

1. Call **1-800-AHA-USA1** (1-800-242-8721), or visit **heart.org** to learn more about heart disease and stroke.
2. Sign up for our monthly *Heart Insight* e-news for heart patients and their families at **HeartInsight.org**.
3. Connect with others sharing similar journeys with heart disease and stroke by joining our Support Network at **heart.org/SupportNetwork**.

Do you have questions for your doctor or nurse?

Take a few minutes to write down your questions for the next time you see your health care professional.

For example:

Can I drink any alcohol?

How often should I check my blood pressure?

MY QUESTIONS:

We have many other fact sheets to help you make healthier choices to reduce your risk for heart disease, manage your condition or care for a loved one. Visit **heart.org/AnswersByHeart** to learn more.

American Heart Association.

My Blood Pressure Log

Name: _____

My Blood Pressure Goal: _____ mm Hg

Instructions:

- Measure your blood pressure twice a day—morning and late afternoon—at about the same times every day.
- For best results, sit comfortably with both feet on the floor for at least two minutes before taking a measurement.
- When you measure your blood pressure, rest your arm on a table so the blood pressure cuff is at about the same height as your heart.
- Record your blood pressure on this sheet and show it to your doctor at every visit.

DATE	AM	PM

DATE	AM	PM

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Secondary Stroke Prevention Checklist

Taking Steps to Prevent Another Stroke

QUESTIONS	YES	RISK / RECOMMENDATION
1. Has the patient had a **stroke** or **TIA**?	☐	Approximately 23% of strokes each year are recurrent. Risk of recurrent stroke or TIA is high (5% at 1 year) but can be mitigated with appropriate prevention strategies.
2. Does the patient need to undergo **diagnostic evaluation** to determine the etiology of the stroke?	☐	Given the relatively high risk of recurrent stroke, a diagnostic evaluation is recommended for gaining insights into the etiology and planning optimal prevention strategies, with testing completed or underway within 48 hours of stroke symptom onset.
3. Does the patient have **blood pressure** greater than 130/80 mm Hg?	☐	Treatment of hypertension is possibly the most important intervention for secondary prevention of ischemic stroke. An office blood pressure goal of <130/80 mm Hg is recommended for most patients. Antihypertensive medication is useful.
4. Has the patient been screened for **diabetes mellitus** (DM)?	☐	DM is an independent risk factor for stroke recurrence. After a TIA or ischemic stroke, all patients should be screened for DM. New cases of Type 2 DM have been detected in about 11.5% of patients presenting with acute ischemic stroke and prediabetes in 36.2%. For most patients, achieving a goal of hemoglobin A1c ≤7% is recommended.
5. Does the patient's **cholesterol level** need to be lowered?	☐	Patients with ischemic stroke and no known coronary heart disease, no major cardiac sources of embolism, and LDL-C >100 mg/dL, should be treated with atorvastatin 80 mg daily to reduce risk of stroke recurrence. Patients with ischemic stroke or TIA and atherosclerotic disease should be treated with a statin and also ezetimibe, if needed, to a goal LDL-C of <70 mg/dL.
6. Is the patient **physically inactive**?	☐	Regular physical activity reduces stroke risk, positively impacts stroke risk factors and aids in recovery. Patients who are able should engage in at least moderate-intensity aerobic activity for a minimum of 10 minutes 4 times a week or vigorous-intensity aerobic activity for a minimum of 20 minutes twice a week. For patients with deficits that impair their ability to exercise, a supervised exercise program can be beneficial.
7. Does the patient **smoke**?	☐	Smoking approximately doubles the risk of stroke. Counseling with or without drug therapy should be recommended to help patients quit smoking.
8. Does the patient need to make **dietary changes**?	☐	It is reasonable to recommend that patients follow a diet emphasizing vegetables, fruits, whole grains, low-fat dairy products, fish, legumes and nuts, and limits sodium, sweets and red meats.
9. Does the patient drink large amounts of **alcohol**?	☐	Patients who are heavy drinkers should be counseled to eliminate or reduce their consumption of alcohol. Light to moderate amounts of alcohol consumption (up to 2 drinks per day for men and up to 1 drink per day for nonpregnant women) may be reasonable.
10. Has the patient been screened for or diagnosed with **atrial fibrillation** (AF)?	☐	AF is a powerful risk factor for ischemic stroke, increasing the risk 4- to 5-fold. In patients with non-valvular AF or atrial flutter and stroke or TIA, oral anticoagulation is recommended.
11. Is this an **ischemic stroke** or **TIA** patient who should be on aspirin or other antiplatelet therapy?	☐	In patients with noncardioembolic ischemic stroke or TIA, antiplatelet therapy is indicated in preference to oral anticoagulation. More specifically, Guidelines recommend aspirin 50-325mg daily, or clopidogrel 75mg, or the combination of aspirin 25mg and extended release dipyridamole 200mg twice daily. Dual antiplatelet therapy is only recommended short-term and in very specific patients.
12. Does the patient have **sleep apnea**?	☐	Sleep apnea affects about 38%-40% of patients with stroke. Treatment with positive airway pressure can be beneficial.

Prediabetes Risk Test

NATIONAL DIABETES PREVENTION PROGRAM

1. How old are you?

Write your score in the boxes below

Younger than 40 years (0 points)
40–49 years (1 point)
50–59 years (2 points)
60 years or older (3 points)

2. Are you a man or a woman?

Man (1 point) Woman (0 points)

3. If you are a woman, have you ever been diagnosed with gestational diabetes?

Yes (1 point) No (0 points)

4. Do you have a mother, father, sister, or brother with diabetes?

Yes (1 point) No (0 points)

5. Have you ever been diagnosed with high blood pressure?

Yes (1 point) No (0 points)

6. Are you physically active?

Yes (0 points) No (1 point)

7. What is your weight category?

(See chart at right)

Total score:

Height	Weight (lbs.)		
4'10"	119-142	143-190	191+
4'11"	124-147	148-197	198+
5'0"	128-152	153-203	204+
5'1"	132-157	158-210	211+
5'2"	136-163	164-217	218+
5'3"	141-168	169-224	225+
5'4"	145-173	174-231	232+
5'5"	150-179	180-239	240+
5'6"	155-185	186-246	247+
5'7"	159-190	191-254	255+
5'8"	164-196	197-261	262+
5'9"	169-202	203-269	270+
5'10"	174-208	209-277	278+
5'11"	179-214	215-285	286+
6'0"	184-220	221-293	294+
6'1"	189-226	227-301	302+
6'2"	194-232	233-310	311+
6'3"	200-239	240-318	319+
6'4"	205-245	246-327	328+
	1 Point	2 Points	3 Points
	You weigh less than the 1 Point column (0 points)		

Adapted from Bang et al., Ann Intern Med 151:775-783, 2009. Original algorithm was validated without gestational diabetes as part of the model.

If you scored 5 or higher

You are at increased risk for having prediabetes and are at high risk for type 2 diabetes. However, only your doctor can tell for sure if you have type 2 diabetes or prediabetes, a condition in which blood sugar levels are higher than normal but not high enough yet to be diagnosed as type 2 diabetes. **Talk to your doctor to see if additional testing is needed.**

If you are African American, Hispanic/Latino American, American Indian/Alaska Native, Asian American, or Pacific Islander, you are at higher risk for prediabetes and type 2 diabetes. Also, if you are Asian American, you are at increased risk for type 2 diabetes at a lower weight (about 15 pounds lower than weights in the 1 Point column). Talk to your doctor to see if you should have your blood sugar tested.

You can reduce your risk for type 2 diabetes

Find out how you can reverse prediabetes and prevent or delay type 2 diabetes through a **CDC-recognized lifestyle change program** at https://www.cdc.gov/diabetes/prevention/lifestyle-program.

Risk Test provided by the American Diabetes Association and the Centers for Disease Control and Prevention.

American Diabetes Association.

CDC Centers for Disease Control and Prevention

CS300699-A

American Red Cross

Be **Red Cross** Ready
Prepare so you can protect.

Extreme Heat

Preparedness Checklist

An extreme heat event is a series of hot days, much hotter than average for a particular time and place. Extreme heat is deadly and kills more people than any other weather event. Climate change is making extreme heat events more frequent, more severe and last longer. But we can take action to prepare. Prepare now to protect yourself and your loved ones.

What to Do: Before

Learn How to Stay Hydrated

You need to drink enough water to prevent heat illness. An average person needs to drink about 3/4 of a gallon of water daily. Everyone's needs may vary.

- You can check that you are getting enough water by noting your urine color. Dark yellow may indicate you are not drinking enough.
- Avoid sugary, caffeinated and alcoholic drinks.
- If you are sweating a lot, combine water with snacks or a sports drink to replace the salt and minerals you lose in sweat.
- Talk to your doctor about how to prepare if you have a medical condition or are taking medicines.

Gather Emergency Supplies

Gather food, water and medicine. Stores might be closed. Organize supplies into a Go-Kit and a Stay-at-Home Kit. In the event of a power outage, you may lose access to clean drinking water. Set aside at least one gallon of drinking water per person per day. Consider adding drinks with electrolytes. Include sunscreen and wide-brimmed hats.

- Go-Kit: at least three days of supplies that you can carry with you. Include backup batteries and chargers for your devices (cell phone, CPAP, wheelchair, etc.)
- Stay-at-Home Kit: at least two weeks of supplies.
- Have a 1-month supply of medication in a child-proof container and medical supplies or equipment.
- Keep personal, financial and medical records safe and easy to access (hard copies or securely backed up)
- Consider keeping a list of your medications and dosages on a small card to carry with you.

Make a Plan to Stay Cool

Do not rely only on electric fans during extreme heat. When temperatures are in the high 90s, fans may not prevent heat-related illness. Taking a cool shower or bath or moving to an air-conditioned place is a much better way to cool off.

- Spending a few hours each day in air conditioning can help prevent heat illness.
  - If you have air conditioning, be sure that it is in working order.
  - If you do not have air conditioning or if there is a power outage, find locations where you can stay cool. For example, a public library, shopping mall or a public cooling center. Plan how you will get there.
  - Additional resources may be available from local government or community groups.
- Make sure you have plenty of lightweight, loose clothing to wear.
- Create a support team of people you may assist and who can assist you. Check in with them often to make sure that everyone is safe.

Learn Emergency Skills

- Learn how to recognize and respond to heat illness.
- Learn First Aid and CPR.
- Be ready to live without power. Utilities may be offline. Be ready to live without power, gas and water. Plan for your electrical needs, including cell phones and medical equipment. Talk to your doctor. Plan for backup power

Plan to Stay Connected

- Sign up for free emergency alerts from your local government.
- Plan to monitor local weather and news.
- Have a backup battery or a way to charge your cell phone.
- Have a battery-powered radio during a power outage.
- Understand the types of alerts you may receive and plan to respond when you receive them.
- A WATCH means **Be Prepared!** A WARNING means **Take Action!**

What to Do: During

Stay Hydrated

- Drink plenty of fluids. Encourage others to drink plenty of fluids, too.
- Replace salt and minerals with snacks or a sports drink.

Stay Cool

- Stay in an air-conditioned place as much as possible.
- If your home does not have air conditioning, go to your predesignated cool location.
- Wear lightweight, loose clothing and take cool showers or baths.
- Limit your outdoor activity. If you must work outdoors, schedule tasks earlier or later in the day.

Prevent Heat Illness

Check on your friends, family and neighbors. Help them prevent heat illness. Act fast if you notice someone with symptoms.

Anyone can develop heat illness. But, people at greater risk are:

- Older adults
- Infants, children and pregnant women
- People with medical conditions
- Outdoor workers
- People with limited personal resources
- People living in places that lack green spaces

Heat Illness	What to Look For	What to Do
Heat Cramps are muscle spasms caused by a large loss of salt and water in the body.	Heavy sweating with muscle pain or spasms	▪ Move to a cool place. ▪ Drink water or a sports drink ▪ Get medical help right away if: - Cramps last longer than 1 hour - Person affected has heart problems
Heat Exhaustion is severe and may require emergency medical treatment.	▪ Heavy sweating ▪ Cold, pale and clammy skin ▪ Fast, weak pulse ▪ Nausea or vomiting ▪ Muscle cramps ▪ Tiredness or weakness ▪ Dizziness-Headache-Passing out	▪ Move to a cool place ▪ Loosen tight clothing ▪ Cool the body using wet cloths, misting, fanning or a cool bath ▪ Sip water slowly Get medical help right away if: - Vomiting occurs - Symptoms last longer than 1 hour or get worse - Confusion develops
Heat Stroke is deadly and requires immediate emergency treatment.	▪ High body temperature (104°F or higher) ▪ Hot, red, dry or damp skin ▪ Fast, strong pulse ▪ Headache-Dizziness ▪ Nausea-Confusion-Passing out	**Call 911 right away, then:** ▪ Move to a cool place ▪ Cool the body using wet cloths, misting, fanning or a cool bath ▪ Do NOT give the person anything to drink

What to Do: After

Take Care of Yourself

It's normal to have a lot of bad feelings, stress or anxiety. Eat healthy food and get enough sleep to help you deal with stress.

You can contact the Disaster Distress Helpline for free if you need to talk to someone. Call or text **1-800-985-5990.**

Prepare so you can protect. | For more information, visit redcross.org/prepare | Download the Emergency App