



**American
Stroke
Association.**
A division of the
American Heart Association.

let's talk about
STROKE



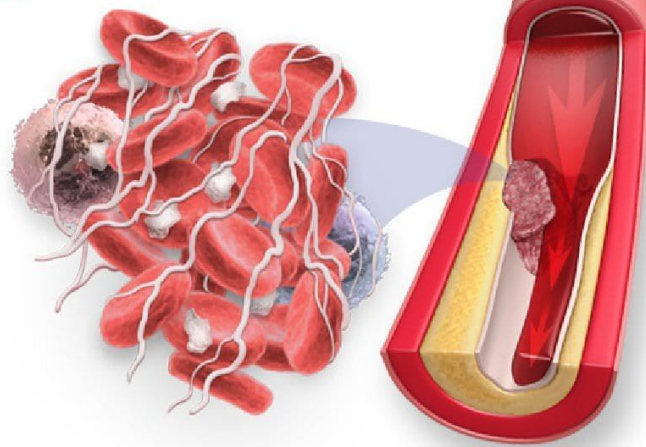
Treatment

let's talk about

Anticoagulants and Antiplatelet Agents

Anticoagulants and antiplatelets are medicines that reduce blood clotting in an artery, vein or the heart. Doctors prescribe these to help prevent heart attacks and strokes caused by blood clots. Blood clots can block blood flow to your heart or your brain causing a heart attack or stroke.

Blood clots are made up of red blood cells, platelets, fibrin, and white blood cells (shown below). Anticoagulants and antiplatelets keep these parts from sticking together and forming a clot.



What should I know about anticoagulants?

Anticoagulants (sometimes known as “blood thinners”) are medicines that delay the clotting of blood. Examples are heparin, warfarin, dabigatran, apixaban, rivoraxaban and edoxaban.

Anticoagulants make it harder for blood clots to form in your heart, veins and arteries. They also can keep existing clots from growing larger. It's important to follow these tips while on anticoagulants:

- Take your medications exactly as prescribed.
- If you take warfarin, have regular blood tests so your health care provider can tell how the medicine is working.
 - The test for people on warfarin is called a prothrombin time (PT) or International Normalized Ratio (INR) test.
- Never take aspirin with anticoagulants unless your doctor tells you to.
- Make sure all your health care providers know that you're taking anticoagulants.
- Always talk to your health care provider before taking any new medicines or supplements. This includes aspirin, vitamins, cold medicine, pain medicine, sleeping pills or antibiotics. These can affect the way anticoagulants work by strengthening or weakening them.

- Discuss your diet with your health care providers. Foods rich in Vitamin K can reduce the effectiveness of warfarin. Vitamin K is in leafy, green vegetables, fish, liver, lentils, soybeans and some vegetable oils.
- Tell your family that you take anticoagulant medicine.
- Always carry your emergency medical ID card.

Could anticoagulants cause problems?

If you do as your doctor tells you, there probably won't be problems. But you must tell them right away if:

- You think you're pregnant or you're planning to get pregnant.
- Your urine turns pink, red or brown. This could be a sign of urinary tract bleeding.
- Your stools turn red, dark brown or black. This could be a sign of intestinal bleeding.
- You bleed more than normal when you have your period.
- Your gums bleed.
- You have a very bad headache or stomach pain that doesn't go away.

(continued)

WHEN IT COMES TO **STROKE**,

BE FAST CALL **911**

Any one of these sudden **SIGNS**
could mean a **STROKE**



Balance

Watch for sudden loss of balance



Eyes

Check for vision loss



Face

Look for an uneven smile



Arm

Check if one arm is weak



Speech

Listen for slurred speech



Time

Call **911** right away

Learn all **10 SYMPTOMS OF STROKE** @ overreact2stroke.com

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EMERGENCY MEDICAL SERVICES

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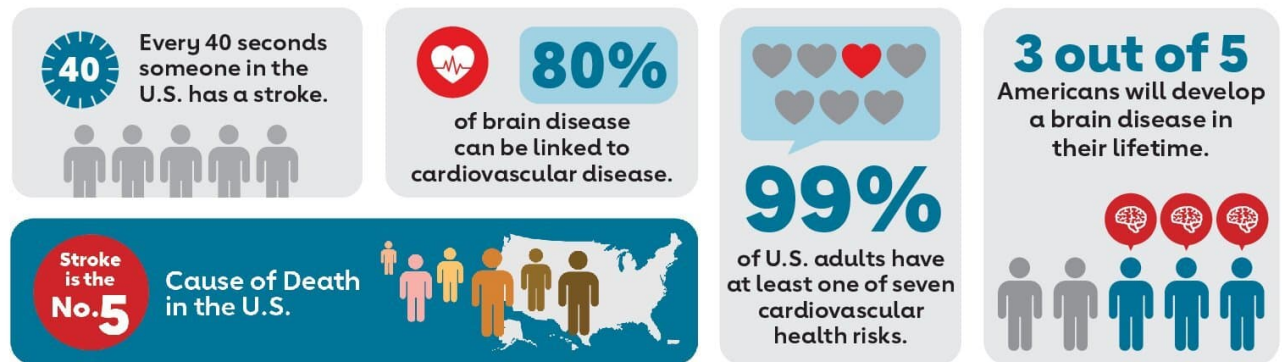


American Stroke Association.
A Division of the American Heart Association.

BRAIN HEALTH & HEALTHY AGING

As you age, a healthy body is key to a healthy brain and sharp mind. Stay healthy and active to help reduce your risk of stroke, heart disease, memory loss and difficulty with thinking and learning.

BY THE NUMBERS



YOUR LIFESTYLE CHOICES AFFECT YOUR BRAIN HEALTH

It's never too late to start making healthier choices:



Get enough sleep

Adults need 7–9 hours per night. Teenagers and children need more.



Get regular checkups

Schedule regular visits with your health care provider. Talk about how to control or manage your risk factors.



Move more, sit less

Aim for 150 minutes of moderate aerobic exercise per week or 75 minutes of vigorous exercise (or a combination) per week.



Eat healthy

Increase the amount of fruits and vegetables you eat. Reduce your intake of sodium, added sugar and saturated and trans fats.



Don't smoke or vape

If you currently smoke or vape, quit.

HOW CAN I LEARN MORE?

1

Talk with your health care provider

2

Call 1-888-4-STROKE (1-888-478-7653) or visit heart.org/BrainHealth

FACE FEEL PUFFY?

JEANS FIT TIGHTER?



In **3** weeks you can:

- Change your sodium palate &
- Start enjoying foods with less sodium
- Reduce bloating



On average, American adults eat more than 3,400 milligrams of sodium daily – more than double the American Heart Association's recommended limit.



IN ONLY

SALTY WAYS

21 DAYS

Nutrition Facts	
Serving Size 5 oz. (144g)	
Servings Per Container 4	
Amount Per Serving	
Calories 310	Calories from Fat 100
% Daily Value*	
Sodium 560mg	28%
Cholesterol 118g	39%
Total Fat 15g	21%

Learning to read & understand food labels can help you make healthier choices.

heartcheckmark.org



Look for the Heart-Check mark to find products that can help you make smarter choices about the foods you eat.

WEEK ONE

Breads & Rolls

Cold Cuts & Cured Meats

- Look for lower sodium items
- Track your sodium consumption
- Log how much sodium you've shaved out of your diet

WEEK TWO

Pizza

Poultry

- If you do eat pizza, make it one with less cheese & meats
- Add veggies to your pizza instead
- Use fresh poultry rather than fried, canned or processed

WEEK THREE

Soups

Sandwiches

- One cup of chicken noodle soup can have up to 940 mg of sodium
- Check labels & try lower sodium varieties
- Use lower sodium meats, cheeses & condiments & plenty of vegetables to build healthier sandwiches

KNOW THE SALTY 6

Common foods that may be loaded with excess sodium:

- 1 Breads & Rolls
- 2 Cold Cuts & Cured Meats
- 3 Pizza
- 4 Poultry
- 5 Soup
- 6 Sandwiches



Choose wisely, read nutrition labels & watch portion control.



life is why™



Healthy For Good™



HOW TO EAT BETTER

1 LEARN WHAT THE AHA RECOMMENDS

Make smart choices to build an overall healthy dietary pattern. These daily amounts are based on AHA's Healthy US-Style Eating Pattern for 2,000 calories per day. There is a right number of calories for you, based on your age, activity level and whether you are trying to lose, gain or maintain your weight. Cup/ounce equivalents may vary for different types of food. Visit heart.org/servings for more information on serving sizes.



Vegetables
fresh, frozen, canned and dried

5 servings
or 2.5 cups



Fruits
fresh, frozen, canned and dried

4 servings
or 2 cups



Grains
at least half should be whole grains

6 servings
or 6 ounces



Dairy
low-fat (1%) and fat-free

3 servings
or 3 cups



Proteins
fish, skinless poultry, lean meat, eggs, nuts, seeds, beans and legumes

2 servings
or 5.5 ounces



Oils
polyunsaturated and monounsaturated

3 tablespoons

2 READ NUTRITION LABELS

Nutrition Facts	
8 servings per container	
Serving size 2/3 cup (55g)	
Amount per serving	230
Calories	
	% Daily Value*
Total Fat 8g	10%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%

Learning how to read and understand food labels can help you make healthier choices.

LIMIT

sugary drinks, sweets, fatty or processed meats, salty foods, and highly processed foods

AVOID

partially hydrogenated oils, tropical oils, and excessive calories

LEARN MORE AT [HEART.ORG/MYLIFECHECK](http://heart.org/mylifecheck) AND [HEART.ORG/EATSMART](http://heart.org/eatsmart)

3 TIPS FOR SUCCESS

Goal setting and making small changes can help set you up for success.



WATCH CALORIES

Eat only as many calories as you use up through physical activity. Understand serving sizes and keep portions reasonable.



COOK AT HOME

Take control over the nutritional content of your food by learning healthy preparation methods.



LOOK FOR THE HEART-CHECK

The Heart-Check mark helps you find foods that can be part of a healthy eating plan.



LEARN THE SALTY SIX

Limit the amount of sodium you're eating each day. Learn the Salty Six — common foods loaded with excess sodium.

- Cold Cuts & Cured Meats
- Pizza
- Soup
- Breads & Rolls
- Sandwiches
- Burritos & Tacos

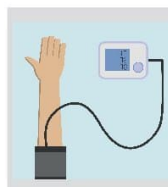
HOW TO MANAGE BLOOD PRESSURE

Life's Simple



1 UNDERSTAND READINGS AND LEVELS

The first step to managing blood pressure is to understand what the levels mean and what is considered normal, elevated, high blood pressure (hypertension), and hypertensive crisis.



Blood pressure is typically recorded as two numbers, written as a ratio like this:

117
76

Read as "117 over 76 millimeters of mercury."

Systolic¹

The top number, the higher of the two numbers, measures the pressure in the arteries when the heart beats (when the heart muscle contracts).

Diastolic²

The bottom number, the lower of the two numbers, measures the pressure in the arteries when the heart is resting between heart beats.

THE AHA DEFINES THESE CATEGORIES AS³:

Blood Pressure Category	Systolic mm Hg (upper #)		Diastolic mm Hg (lower #)
Normal	Less than 120	and	Less than 80
Elevated Blood Pressure	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

2 LEARN AND TRACK LEVELS



Check.

Change.

Control.



Check.
Change.
Control.*

Medical providers can take blood pressure readings and provide recommendations. Check. Change. Control. helps track and manage progress in reducing blood pressure. Track online with ccctracker.com/aha

1. http://www.heart.org/HEARTORG/Encyclopedia/Heart-Encyclopedia_UCM_445084_Encyclopedia.jsp?title=systolic_blood_pressure
 2. http://www.heart.org/HEARTORG/Encyclopedia/Heart-Encyclopedia_UCM_445084_Encyclopedia.jsp?title=diastolic_blood_pressure
 3. Whelton PK, et al. ACC/AHA/AAPA/ABC/ACPM/AGS/APHA/ASH/ASPC/NMA/PONA guideline for the prevention, detection, evaluation, and management of high blood pressure in adults: executive summary: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. Hypertension. 2017.
 4. http://www.heart.org/HEARTORG/Encyclopedia/Heart-Encyclopedia_UCM_445084_Encyclopedia.jsp?title=DASH_diet
 5. Warburton DE, Nicol KW, Bredin SS. Health benefits of physical activity: The evidence. CMAJ. 2006;174(6):806.
 6. Appel LJ, Brands MW, Daniels SR, Karanja N, Elmer PJ, Sacks FM. Dietary approaches to prevent and treat hypertension. Hypertension. 2006;47(2):297. doi: 10.1161/01.HYP.0000202568.01167.86.
 7. Najem B, Housheer A, Patlak A, et al. Acute cardiovascular and sympathetic effects of nicotine replacement therapy. Hypertension. 2006;47(8):1154. doi: 10.1161/01.HYP.0000219284.47970.34.

3 TIPS FOR SUCCESS



EAT SMART

Follow a healthy eating pattern that emphasizes fruits and vegetables and includes whole grains, low-fat dairy, and healthy proteins and fats. Limit sugary foods and drinks, fatty or processed meats, salty foods, and highly processed foods.⁴



GET ACTIVE

Physical activity helps control blood pressure, weight and stress levels.⁵



MANAGE WEIGHT

If you're overweight, even a slight weight loss can prevent high blood pressure.⁶



QUIT SMOKING

Every time you smoke, it can cause a temporary increase in blood pressure.⁷



LEARN THE SALTY SIX

Limit the amount of sodium you're eating each day. Learn the Salty Six — common foods loaded with excess sodium.

Cold Cuts & Cured Meats
Pizza
Soup
Breads & Rolls
Sandwiches
Burritos & Tacos

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HEALTH SCREENING SERVICES™
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American Heart Association

How to measure your blood pressure at home

Follow these steps for an accurate blood pressure reading

1 PREPARE

Avoid caffeine, cigarettes and other stimulants 30 minutes before you measure your blood pressure.

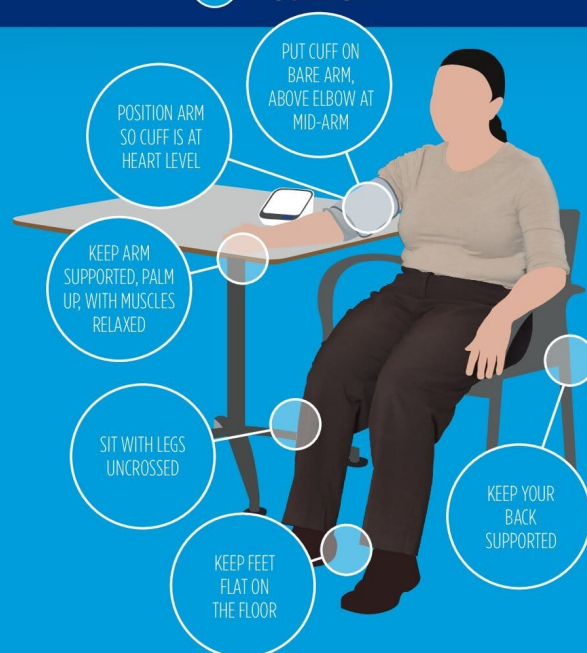
Wait at least 30 minutes after a meal.

If you're on blood pressure medication, measure your BP **before** you take your medication.

Empty your bladder beforehand.

Find a quiet space where you can sit comfortably without distraction.

2 POSITION



3 MEASURE

Rest for five minutes while in position before starting.

Take two or three measurements, one minute apart.

Keep your body relaxed and in position during measurements.

Sit quietly with no distractions during measurements—avoid conversations, TV, phones and other devices.

Record your measurements when finished.

TARGET:BP™



This *Prepare, position, measure* handout was adapted with permission of the American Medical Association and The Johns Hopkins University. The original copyrighted content can be found at <https://www.ama-assn.org/ama-johns-hopkins-blood-pressure-resources>.

HOW TO REDUCE BLOOD SUGAR

1 UNDERSTAND BLOOD GLUCOSE LEVELS

The first step to reducing blood sugar is to understand what makes blood sugar levels rise.

GLUCOSE INSULIN

The carbohydrates and sugars in the food eaten turns into glucose (sugar) in the stomach and digestive system. Glucose can then enter the bloodstream.

Insulin is a hormone that is made in the pancreas and helps the body's cells take up glucose from blood and lower blood sugar levels.¹

In type 2 diabetes glucose builds up in the blood instead of going into cells because,²

The body develops "insulin resistance" and can't use the insulin it makes efficiently.

The pancreas gradually loses its capacity to produce insulin.

THE RESULT CAN BE A HIGH BLOOD GLUCOSE LEVEL.



2 LEARN & TRACK LEVELS

The AHA recommendation for healthy blood glucose is:³

Blood Glucose Range	Diagnosis	What It Means
< 100 mg/dl	Normal	Healthy range
100 to 125 mg/dl	Prediabetes (Impaired Fasting Glucose)	At increased risk of developing diabetes. ⁴
126 mg/dl or more	Diabetes Mellitus (type 2 diabetes)	At increased risk of developing heart disease or stroke.

1. http://www.heart.org/HEARTORG/Encyclopedia/Heart-Encyclopedia_UCM_445084_Encyclopedia.jsp

2. Grundy SM, Benjamin EJ, Burke GL, et al. Diabetes and cardiovascular disease. *Circulation*. 1999;100(10):1134-1146. doi: 10.1161/01.CIR.100.10.1134.

3. Fox CS, Golden SH, Anderson C, et al. Update on prevention of cardiovascular disease in adults with type 2 diabetes mellitus in light of recent evidence. *Circulation*. 2015;132(8):697-718. doi: 10.1161/01.CIR.0000000000000220.

4. Mozaffarian D, Benjamin EJ, Go AS, et al. Heart disease and stroke Statistics—2016 update. *Circulation*. 2015; e111. doi: 10.1161/01.CIR.0000000000000350.

5. Centers for Disease Control and Prevention. National diabetes fact sheet: National estimates and general information on diabetes and prediabetes in the United States, 2011. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

3 TIPS FOR SUCCESS

Goal setting and making slow changes can help set ourselves up for success.



EAT BETTER

Try eating a diet full of fruits, vegetables, whole grains, low-fat dairy products, poultry, fish and nuts while limiting sugary foods and beverages to promote a healthy lifestyle.⁴



GET ACTIVE

Physical activity can help control and reduce type 2 diabetes health effects.⁴



MAINTAIN A HEALTHY WEIGHT

Speak with a medical provider to learn about the recommended type and amount of physical activity necessary to achieve and maintain a healthy weight.⁴



QUIT SMOKING

Having diabetes means you are more likely to die of heart disease or suffer from a stroke. Smoking also increases the risk of these outcomes.⁵

HOW TO STOP SMOKING



1 EDUCATE YOURSELF

The first step to quitting smoking is to understand your risks associated with tobacco use, but there's a lot more to quitting than frightening statistics. Your journey to smoke-free living will have many positive health benefits.^{1,2}

20 minutes after quitting: your **blood pressure** and **heart rate** recover from the nicotine-induced spike.

12 hours of smoke-free living: the carbon monoxide levels in your blood **return to normal**.

2 weeks to three months of smoke-free living: your **circulation** and **lung function** begin to improve.

1 month to nine months of smoke-free living: clear and deeper **breathing** gradually returns.

1 year after quitting, your **risk** of coronary heart disease is **reduced** by 50 percent.

5 years after quitting, your **risk** of stroke is **similar** to that of a **nonsmoker**.

2 MAKE A PLAN TO QUIT

You're more likely to quit smoking for good if you prepare by creating a plan that fits your lifestyle.

SET a quit date within the next 7 days.

CHOOSE a method: cold turkey or gradually.

DECIDE if you need help from a healthcare provider or nicotine replacement.

PREPARE for your quit day by planning how to deal with cravings and urges to smoke.

QUIT on your quit day.

1. U.S. Department of Health and Human Services. A Report of the Surgeon General: How Tobacco Smoke Causes Disease: What It Means to You. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2010.

2. U.S. Department of Health and Human Services. The Health Consequences of Smoking: What It Means to You. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2004.

3 TIPS FOR SUCCESS

Goal setting and making small changes can help set you up for success.

DEAL WITH URGES

Whether physical or mental, learn your triggers and make a plan to address them. Avoid situations that make you want to smoke until you're confident that you can handle them.



GET ACTIVE

Physical activity can help you manage the stress of not smoking.



HANDLE STRESS

Learn other healthy ways to manage the stress of quitting.



GET SUPPORT

A buddy system or support program can help you work through problems you might have when quitting smoking.



STICK WITH IT

Quitting smoking takes a lot of willpower. Reward yourself when you reach milestones and forgive yourself if you take a step backward. Get back on course as soon as possible to stay on track and kick the habit for good.

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together to end stroke™ before it even happens.

High blood pressure is a risk you can do something about.

Did you know that 80% OF STROKES ARE PREVENTABLE?

That means there are things you can do to reduce your risk. The most important controllable risk factor is high blood pressure.

Take control by controlling your blood pressure.

HIGH BLOOD PRESSURE can damage blood vessels in the brain, increasing the chances of clots or ruptures. If a clot or rupture interferes with the flow of oxygen-rich blood to the brain, a stroke can occur.

One in three U.S. adults has high blood pressure, and it often goes untreated. That's why it poses a major health problem — and represents a big opportunity to reduce the risk of stroke.

The key is getting your blood pressure checked. Because high blood pressure has no obvious symptoms, checking is the only way to find out.

Your healthcare provider can recommend ways to lower your blood pressure, including exercise and maintaining a healthy weight.

Medication is sometimes prescribed to treat high blood pressure, but it only works if you take it, so make sure you don't skip any doses.

Reducing blood pressure even a little - 5 to 10 mmHg - could have a big impact on your life.

Understanding your blood pressure numbers is key to controlling high blood pressure. A normal blood pressure reading is less than 120/80 mm Hg.

Know your numbers. Work with your doctor to determine your blood pressure goal and track your screenings using the chart below.

MY BLOOD PRESSURE GOAL: _____

DATE	TIME	BLOOD PRESSURE	COMMENTS

Learn more at StrokeAssociation.org/StrokeMonth



Together
to End Stroke™



IS YOUR CHOLESTEROL A PROBLEM?

By American Heart Association News

New guidelines offer specific recommendations to treat and prevent high cholesterol. Working with your health care provider is the only sure way to know whether you need treatment, but here are general recommendations:



BE ALERT EARLY

Take a "lifespan" approach to lower heart disease risk, stroke and other major problems. If there's a family history, it's reasonable to test kids as young as 2.



KEEP MONITORING

People between 40-75 are the most likely to need medicine. Among the many factors that could further increase risk:

- family history of heart disease or stroke
- high triglycerides
- metabolic syndrome
- chronic kidney disease
- chronic inflammatory conditions, such as rheumatoid arthritis, psoriasis or HIV
- history of pre-eclampsia or early menopause
- ethnicity



FOCUS ON LIFESTYLE

Healthy eating and physical activity are proven to lower LDL cholesterol (the "bad" kind).



MONITOR

People over 20 who don't have cardiovascular disease should have a risk assessment every 4-6 years.



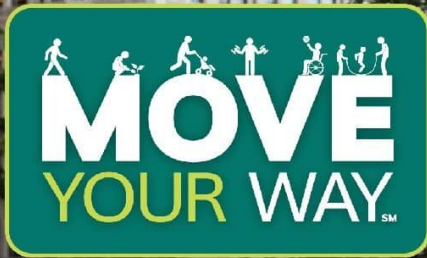
YOUR GENETICS MATTER

Talk to your doctor. Some populations are more prone to certain medical conditions and could have racial and/or ethnic features that could influence risk. Tools used for risk assessment are not always able to provide accurate information about all populations or individuals.

Source: American Heart Association

Published Nov. 10, 2018

ADULTS



What's your move?

You know you need physical activity to stay healthy.
But did you know it can help you feel better right away?



Boost your mood



Sharpen your focus



Reduce your stress



Improve your sleep

So get more active — and start feeling better today.

How much activity do I need?

Moderate-intensity aerobic activity

Anything that gets your heart beating faster counts.



AND

Muscle-strengthening activity

Do activities that make your muscles work harder than usual.



Tight on time this week? **Start with just 5 minutes.** It all adds up!

Or get the same benefits in half the time. If you step it up to **vigorous-intensity** aerobic activity, aim for at least **75 minutes** a week.

Is it moderate or vigorous? Use the “talk test” to find out.

When you’re being active, just try talking:

- If you’re breathing hard but can still have a conversation easily, it’s **moderate-intensity activity**
- If you can only say a few words before you have to take a breath, it’s **vigorous-intensity activity**

What counts?

Whatever gets you moving!



Even things you have to do anyway



Even things that don't feel like exercise

You can get more active.

No matter who you are, where you live, on your own, or together. You can find a way that works for you.



And over time, physical activity can help you live a longer, healthier life.

- ✓ Lower your risk of diseases like type 2 diabetes and some cancers
- ✓ Control your blood pressure
- ✓ Stay at a healthy weight

So take the first step. Get a little more active each day. **Move your way.**

Find tips to get moving and build a weekly activity plan.

health.gov/MoveYourWay/Activity-Planner





OTHER HEART DISEASE

People with coronary heart disease or heart failure have a higher risk of stroke than those with hearts that work normally. Dilated cardiomyopathy (an enlarged heart), heart valve disease and some types of congenital heart defects also raise the risk of stroke.

SICKLE CELL DISEASE

(ALSO CALLED SICKLE CELL ANEMIA)

The genetic disorder mainly affects African-American and Hispanic children. "Sickled" red blood cells are less able to carry oxygen to tissues and organs. These cells also tend to stick to blood vessel walls, which can block arteries to the brain and cause a stroke.

PERIPHERAL ARTERY DISEASE

is the narrowing of blood vessels carrying blood to leg and arm muscles. It's caused by fatty buildups of plaque in artery walls. People with peripheral artery disease have a higher risk of carotid artery disease, which raises their risk of stroke.

CAROTID OR OTHER ARTERY DISEASE

The carotid arteries in your neck supply blood to your brain. A carotid artery narrowed by fatty deposits from atherosclerosis may become blocked by a blood clot. Carotid artery disease is also called carotid artery stenosis.



UNDERSTANDING STROKE RISK



StrokeAssociation.org/prevent
1-888-4-STROKE



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Together
to End Stroke™

EVERY 40 SECONDS, SOMEONE SUFFERS A STROKE.

Yet, 80 percent of strokes are preventable. Though certain risk factors — including heredity, age and race — can't be changed, several risk factors can be changed, treated or controlled.



TALK TO YOUR DOCTOR ABOUT YOUR STROKE RISK

HIGH BLOOD PRESSURE (HBP)

HBP is the No. 1 cause of stroke and the most important controllable risk factor for stroke. People who are overweight or obese, over age 35, have a family history of HBP, African-Americans, pregnant women, and those who are physically inactive, eat too much salt and/or drink too much alcohol are at higher risk for HBP.

Of all people with high blood pressure, more than 20 percent are unaware of their condition. Are you one of them? If you don't know, see a healthcare professional to be tested.

How can you control your blood pressure?

- *Eat a better diet, which may include reducing salt intake.*
- *Engage in regular physical activity.*
- *Maintain a healthy weight.*
- *Manage stress.*
- *Avoid tobacco smoke.*
- *Take your medication as prescribed.*
- *If you drink alcohol, limit your intake (no more than one drink per day for women and two drinks per day for men).*

CIGARETTE SMOKING

The nicotine and carbon monoxide in cigarette smoke damage the cardiovascular system in many ways. The use of oral contraceptives combined with cigarette smoking greatly increases stroke risk.

DIABETES MELLITUS

Many people with diabetes also have high blood pressure, high blood cholesterol and are overweight. This increases their risk even more. Though diabetes is treatable, the presence of the disease still increases your risk of stroke.

POOR DIET

Diets high in saturated fat, trans fat and cholesterol can raise blood cholesterol levels. Diets high in sodium (salt) can contribute to increased blood pressure. Diets with excess calories can contribute to obesity. But a diet that includes five or more servings of fruits and vegetables per day may reduce stroke risk.

PHYSICAL INACTIVITY AND OBESITY

Being inactive, obese or both can increase your risk of high blood pressure, high blood cholesterol, diabetes, heart disease and stroke. So go on a brisk walk, take the stairs and do whatever you can to make your life more active. Try to get a total of at least 30 minutes of activity on most or all days.

HIGH BLOOD CHOLESTEROL

It also appears that low HDL ("good") cholesterol is a risk factor for stroke in men, but more data are needed to verify its effect in women.

ATRIAL FIBRILLATION

The heart's upper chambers quiver instead of beating effectively, which can let the blood pool and clot. If a clot breaks off, enters the bloodstream and lodges in an artery leading to the brain, a stroke results.

Taking Steps to *Prevent Another Stroke*

<u>QUESTIONS</u>	<u>YES</u>	<u>RISK / RECOMMENDATION</u>
1. Has the patient had a stroke ?	<input type="checkbox"/>	The risk of a recurrent stroke is 6% at 1 year, 16% at 5 years, and 25% at 10 years post stroke.
2. Has the patient experienced a TIA ?	<input type="checkbox"/>	Approximately 12% of all strokes are preceded by a TIA.
3. Has the underlying cause of the stroke been identified?	<input type="checkbox"/>	If the etiology of the stroke has not been determined, consider collaborating with colleagues to further evaluate the cause.
4. Is this an ischemic stroke patient who should be on an aspirin regimen?	<input type="checkbox"/>	Guidelines recommend that Aspirin (50–325 mg/d) monotherapy or the combination of aspirin 25 mg and extended-release dipyridamole 200 mg twice daily is indicated as initial therapy after TIA or ischemic stroke for prevention of future stroke.
5. Does the patient have uncontrolled high blood pressure ?	<input type="checkbox"/>	Treatment of hypertension is possibly the most important intervention for secondary prevention of ischemic stroke. Target blood pressure for secondary stroke prevention should be <130/80 mm Hg.
6. Does the patient have diabetes mellitus (DM) ?	<input type="checkbox"/>	DM is an independent risk factor for stroke recurrence. After a TIA or ischemic stroke, all patients should be screened for DM.
7. Does the patient's cholesterol level need to be lowered?	<input type="checkbox"/>	Statin therapy with intensive lipid-lowering effects is recommended to reduce the risk of another ASCVD event. The first goal is to achieve a ≥50% reduction in LDL-C levels, but if LDL-C levels remains ≥70 mg/dL on maximally tolerated statin therapy, adding ezetimibe may be reasonable.
8. Is the patient physically inactive ?	<input type="checkbox"/>	Physical activity improves stroke risk factors, may reduce stroke risk itself, and aid recovery. For patients who are capable of engaging in regular physical activity, at least 3 to 4 sessions per week of 40 minutes of moderate- to vigorous-intensity aerobic physical exercise are reasonable to reduce stroke risk factors.
9. Does the patient smoke , or are they exposed to second-hand smoke?	<input type="checkbox"/>	Current smokers have a 2 to 4 times increased risk of stroke compared with nonsmokers. Talk to your patient about programs, nicotine replacements and other medications that can help them quit.
10. Does the patient need to make dietary changes ?	<input type="checkbox"/>	It is reasonable to do a nutritional assessment of your patient. Patients should be counseled to follow a diet emphasizes vegetables, fruits, whole grains, low-fat dairy products, fish legumes and nuts, and limits sodium, sweets and red meats.
11. Does the patient drink large amounts of alcohol ?	<input type="checkbox"/>	Patient 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.
12. Does the patient have sleep apnea ?	<input type="checkbox"/>	A sleep study might be considered for patients with an ischemic stroke or TIA. Treatment with CPAP might be considered for patients with ischemic stroke or TIA and sleep apnea.
13. Has the patient been diagnosed with atrial fibrillation (AFib) ?	<input type="checkbox"/>	AFib is a powerful risk factor for ischemic stroke, increasing the risk of stroke by five times. It is reasonable to consider a combination of oral anticoagulation therapy and antiplatelet therapy in patients that have CAD, ACS or stent placement.

STROKES CAN HAPPEN AT ANY AGE

Pediatric stroke can happen in infants, children and even before birth.

PERINATAL STROKE

Last few months of pregnancy to 1-month-old

CHILDHOOD STROKE

1-month-old to 18 years

RISK FACTORS

The cause in most perinatal strokes remains unknown.

Risk factors that could lead to stroke include:

- Congenital heart disease
- Disorders of the placenta
- Blood clotting disorders
- Infections (e.g. Meningitis)



Risk factors in children ≠ Risk factors in older adults

Risk factors for children include:

- Congenital heart disease
- Diseases affecting the brain's arteries
- Infections affecting the brain or other organs
- Head trauma
- Sickle cell disease
- Autoimmune disorders

No previous risk factor is identified in about half of childhood stroke cases.

WARNING SIGNS

Signs of a perinatal stroke may go unrecognized for months or years because the signs can be subtle.

NEWBORNS:

Seizures may be an early sign:

- Repetitive twitching of face, arm or leg
- Apnea (pauses in breathing) associated with staring

DEVELOPING CHILDREN:

- Decreased movement or weakness on one side of the body
- Showing a hand preference, or consistently reaching out with only one hand before 1 year of age

Signs are often missed in children because there is a lack of awareness that strokes can happen in this age group.

STROKE SIGNS ▶



ADDITIONAL SIGNS IN CHILDREN INCLUDE:

- Severe sudden headache, especially with vomiting and sleepiness
- Weakness or numbness on one side of the body difficulty speaking or understanding others
- Vision loss or double vision
- Severe dizziness or loss of coordination
- New-onset of seizures usually on one side of the body

TIME IS BRAIN AT ANY AGE

NEWBORNS:

Quick recognition ▶ Prompt medical evaluation and treatment

BABIES:

Early diagnosis ▶ Rehabilitation treatment can start while a young brain is still developing



DON'T DELAY!

Prompt diagnosis and treatment of stroke in children is as critical as it is in adults.

Learn more at iapediatricstroke.org and StrokeAssociation.org

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Together to End Stroke™



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Together to End Stroke®



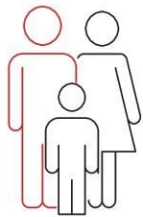
THINGS YOU SHOULD KNOW

*Your Risk for
Stroke and How
to Be Prepared*

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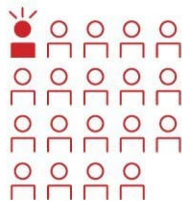
STROKE: THE NO. 5 CAUSE OF DEATH IN THE U.S.



About
795,000
Americans will have
a new or recurrent stroke.



More than
690,000
U.S. strokes are caused when a clot
cuts off blood flow to a part of the
brain—this is called an ischemic stroke.



Stroke kills more than
142,000
people a year. That's 1
in every 19 deaths.



*Sources: 1) Heart Disease and Stroke Statistics-2019 Update: A Report from the American Heart Association
2) Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2016 on CDC WONDER Online Database, released December, 2017. Data are from the Multiple Cause of Death Files, 1999-2016, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at <http://wonder.cdc.gov/ucd-icd10.html> on Jan 2, 2018 10:31:09 AM*

IS STROKE PREVENTABLE?

There are some things you can do to prevent a stroke.

These are called controllable factors. If lifestyle changes are made, like eating healthy or not smoking, a person's risk of stroke can be reduced.

Controllable Factors:

- | | |
|---|--|
|  High blood pressure |  Other heart disease |
|  Cigarette smoking |  Sickle cell disease (also called sickle cell anemia) |
|  Diabetes |  High blood cholesterol |
|  Carotid or other artery disease |  Poor diet |
|  Peripheral artery disease |  Physical inactivity and obesity |
|  Atrial fibrillation | |

Sources: 1) <https://www.stroke.org/en/about-stroke/stroke-risk-factors/stroke-risk-factors-you-can-control-treat-and-improve> 2) <http://stroke.ahajournals.org/content/28/7/1507.full#ref-13>
3) <http://stroke.ahajournals.org/content/31/5/1013.full>

STROKE RISK FACTORS THAT CANNOT BE CHANGED

Some risk factors for stroke are simply not controllable. But knowing what they are is still important in determining your overall risk for stroke.

Uncontrollable Factors:



Age



Gender



Race



Heredity



Prior stroke, TIA
or heart attack

To learn more about how to prevent a stroke, go to stroke.org/Prevention

Sources: 1) <https://www.stroke.org/en/about-stroke/stroke-risk-factors/stroke-risk-factors-not-within-your-control> 2) <http://stroke.ahajournals.org/content/28/7/1507.full#ref-13> 3) <http://stroke.ahajournals.org/content/31/5/1013.full>



BEING PREPARED

If you are at risk for a stroke, knowing the signs of a stroke can help you be prepared. Most often it's family and bystanders who call 9-1-1 when a stroke occurs. Educating your family can save your life or someone else's.

KNOW THE WARNING SIGNS OF STROKE

Learn and share the warning signs of stroke and be able to spot a stroke F.A.S.T.!

F

FACE
DROOPING

Does one side of the face droop or is it numb?

A

ARM
WEAKNESS

Is one arm weak or numb?

S

SPEECH
DIFFICULTY

Is speech slurred, are they unable to speak, or are they hard to understand?

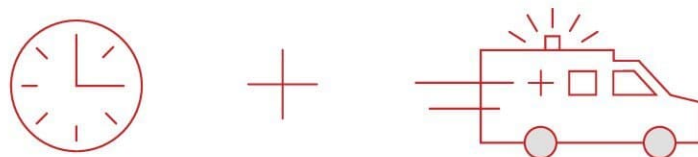
T

TIME TO
CALL 9-1-1

If the person shows any of these symptoms, even if the symptoms go away, call 9-1-1 and get to the hospital immediately.

WHEN A STROKE OCCURS

Quick decisions and timely treatment may improve recovery.



**QUICK TREATMENT =
LESS BRAIN DAMAGE**

Call 9-1-1 at the first sign of stroke so you can be evaluated and receive treatment in time. Stroke treatment begins in the ambulance. Calling 9-1-1 can help patients get treated more quickly and get them to a hospital that specializes in stroke care.

Sources: 1) Adeoye, O, et al. Geographic Access to Acute Stroke Care in the United States. Stroke. 2014;45:3019-3024. Accessed online at: <http://stroke.ahajournals.org/content/45/10/3019.short>.

THERE ARE TWO TYPES OF STROKES

Hemorrhagic

- A hemorrhagic stroke occurs when a weakened blood vessel ruptures and spills blood into brain tissue.
- The most common cause for the rupture is uncontrolled hypertension (high blood pressure).
- Two types of weakened blood vessels usually cause hemorrhagic stroke: aneurysms and arteriovenous malformations (AVMs).



Ischemic

- An ischemic stroke occurs when a clot cuts off blood flow to a part of the brain.
- Ischemic strokes account for 87% of all stroke cases, and are largely treatable if you get to the hospital in time.



ACUTE ISCHEMIC STROKE TREATMENT

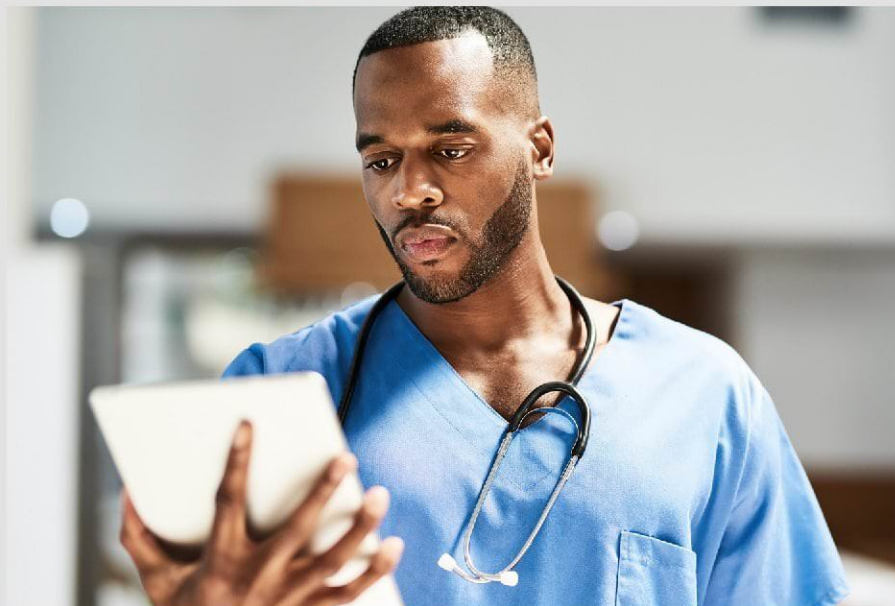
Dissolve clot with tissue plasminogen activator alteplase (IV r-tPA).

Benefits

- For patients who can be treated within 3 hours of stroke onset, alteplase (IV r-tPA) can lead to better recovery after stroke.
- For select patients who are eligible to be treated up to 4.5 hours after stroke onset, alteplase (IV r-tPA) can also improve outcomes.
- Treatment may improve survival rates.

Risks

- Bleeding of the brain, gums or other tissues are major risks.

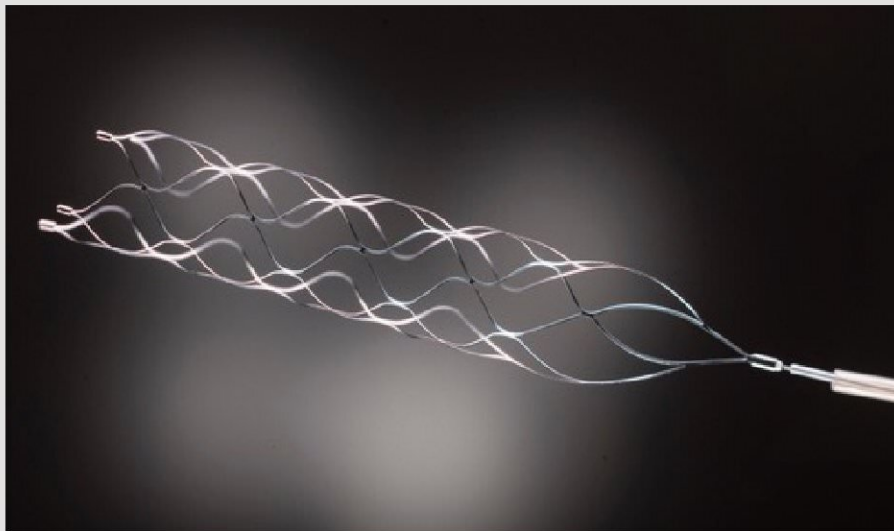


ACUTE ISCHEMIC STROKE TREATMENT

Endovascular Procedures

- Another strongly recommended treatment option is an endovascular procedure* called mechanical thrombectomy, in which trained doctors try to remove a large blood clot by sending a wire-caged device called a stent retriever to the site of the blocked blood vessel in the brain.
- To remove the clot, doctors thread a catheter through an artery in the groin up to the blocked artery in the brain. The stent opens and grabs the clot, allowing doctors to remove the stent with the trapped clot. Special suction tubes may also be used.
- **In select patients, the procedure must be done as soon as possible within up to 24 hours of stroke symptom onset and only after the patient has received alteplase (IV r-tPA), if eligible.**

**Note: Patients must meet certain criteria to be eligible for this procedure.*



ACUTE ISCHEMIC STROKE TREATMENT

Remove larger clots with a stent retriever (eligible patients only).

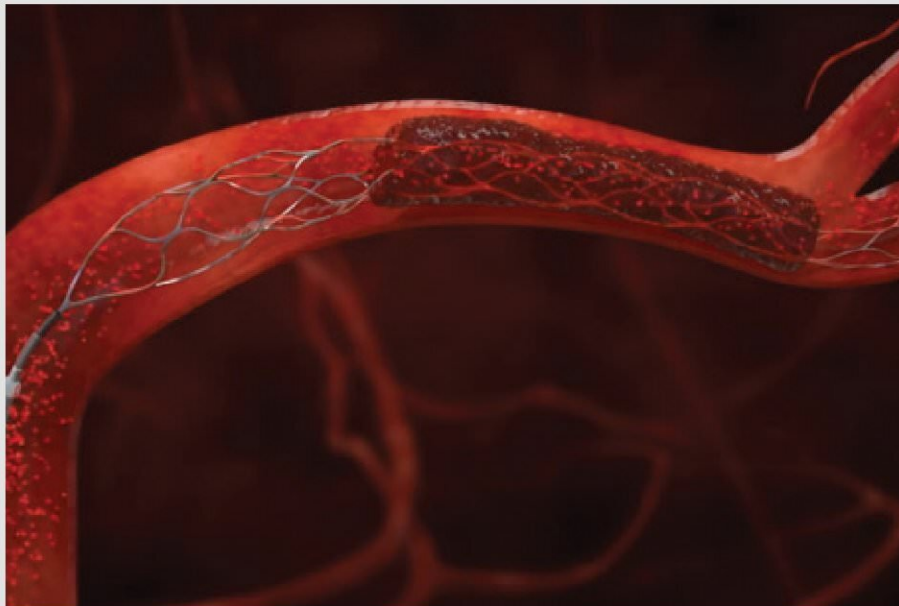
Patients should receive alteplase (IV r-tPA) and a large clot should be present before being considered for mechanical thrombectomy treatment.

Benefits

- High success rates (improved recovery and outcomes) in removing large clots/severe strokes.

Risks

- Bleeding (the most common associated risk).
- Tearing of the inner lining of the blood vessel.





Your medical professional can tell you which treatment options you are eligible for, and address any concerns you may have.

POST-STROKE REHABILITATION

Structure and Organization of Stroke Rehabilitation Care in the U.S.

An inpatient rehabilitation facility can be a separate unit of a hospital or a free-standing building that provides hospital-level care to stroke survivors who need intensive rehab. Best evidence for post-stroke rehabilitation has been found in inpatient rehab facilities.

SETTING	ADMISSION	MEDIAN LENGTH OF STAY	SPECIALIST INVOLVEMENT
HOSPITAL	Near onset	4 days (ischemic stroke) 7 days (hemorrhagic stroke)	Major: MD, RN More limited: OT, PT, SLT, SW
INPATIENT REHABILITATION FACILITY (IRF)	5-7 days	15 days (range, 8-30 days)	Major: MD, RN, OT, PT, SLT More limited: SW
SKILLED NURSING FACILITY	5-7 days	Highly variable (maximum, 100 days)	Major: LPN/LVN, NA, OT, PT, SLT More limited: MD, RN
LONG-TERM CARE (NURSING HOME)	Highly variable	Prolonged and highly variable	Major: LPN/LVN, NA More limited: RN, OT, PT, SLT, MD
LONG-TERM CARE HOSPITAL	Variable	25-days average (required)	Major: RN, MD More limited: OT, PT, SLT
HOME HEALTHCARE AGENCY	Variable (typically 5-30 days)	Maximum 60-days	Major: NA, RN More limited: OT, PT, SLT, MD
OUTPATIENT OFFICE	Variable (typically 5-30 days)	Variable	Major: OT, PT, SLT, MD








LPN/LVN, licensed practical or vocational nurse; MD, medical doctor; NA, nurse assistant; OT, occupational therapist; PT, physical therapist; RN, registered nurse (preferably with training in rehabilitation); SLT, speech-language therapist; SW, social worker.

Source: 1) American Stroke Association Guidelines for Adult Stroke Rehabilitation and Recovery

POST-STROKE REHABILITATION

What happens next can make all the difference.

Stroke rehab should include:

-  Training to improve mobility and ability to do daily tasks
-  Individually tailored post-stroke exercise program
-  Access to cognitive/engagement activities (books, games, computer)
-  Speech therapy, if stroke caused difficulty speaking
-  Eye exercises, if stroke causes a loss of vision
-  Balance training for those with poor balance or fall risk
-  Adaptive strategies to help you function within a "new normal"

BEFORE INPATIENT DISCHARGE, A STRUCTURED FALL PREVENTION PROGRAM IS A MUST!

Sources: 1) American Stroke Association Guidelines for Adult Stroke Rehabilitation and Recovery 2) http://www.strokeassociation.org/idc/groups/stroke-public/@wcm/@hcm/@sta/documents/downloadable/ucm_494286.pdf

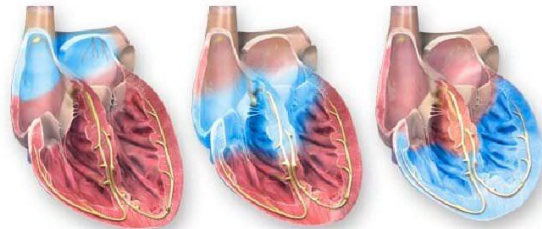


What Is Atrial Fibrillation?

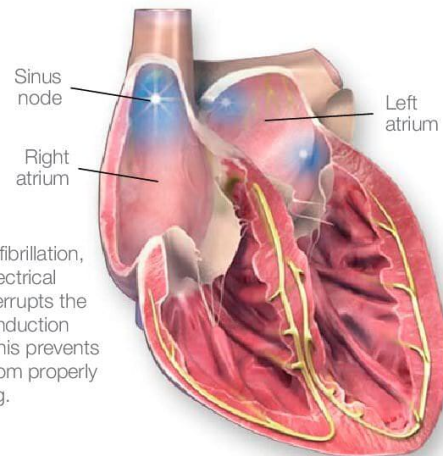
Normally, your heart contracts and relaxes to a regular beat. Certain cells in your heart make electric signals that cause the heart to contract and pump blood. These electrical signals show up on an electrocardiogram (ECG) recording. Your doctor can read your ECG to find out if the electric signals are normal.

In atrial fibrillation (AFib), the heart's two small upper chambers (atria) don't beat the way they should. Instead of beating in a normal pattern, the atria beat irregularly and too fast, quivering like a bowl of gelatin. It's important for the heart to pump properly so your body gets the oxygen and food it needs.

Your heart has a natural pacemaker, called the "sinus node," that makes electrical signals. These signals cause the heart to contract and pump blood.



The illustrations above show normal conduction and contraction.



With atrial fibrillation, random electrical activity interrupts the normal conduction rhythm. This prevents the atria from properly contracting.

How do I know I have atrial fibrillation?

Here are some of the symptoms you may have:

- Irregular and rapid heartbeat
- Heart palpitations or rapid thumping inside the chest
- Dizziness, sweating and chest pain or pressure
- Shortness of breath or anxiety
- Tiring more easily when exercising
- Fainting (syncope)

Can AFib lead to other problems?

Yes. You can live with AFib, but it can lead to other medical problems including:

- Stroke
- Heart failure
- Chronic fatigue

- Additional heart rhythm problems
- Inconsistent blood supply

The risk of stroke is about five times higher in people with AFib. This is because with AFib blood can pool in the atria and blood clots can form.

What can be done to correct it?

Treatment options may include one or more of the following:

- Medicines, such as beta blockers or antiarrhythmics, to help return your heart rate to a normal rhythm.
- Medicines, such as digitalis, calcium channel blockers or amiodarone to help slow your heart rate.
- Blood thinners to keep blood clots from forming.
- Electrical cardioversion (an electric shock) to change the beat of your heart back to normal.

(continued)



- Surgery, a pacemaker or other procedures may be needed.

Your treatment will depend on the underlying cause of your AFib and your level of disability.

How can I lower my risk of stroke?

To reduce your stroke risk, your doctor may prescribe you drugs to keep blood clots from forming. Two examples are anticoagulants and antiplatelets such as warfarin and aspirin.

Anticoagulants include warfarin and three other more recently FDA approved drugs referred to as novel oral anticoagulants or NOACs — dabigatran, rivoraxaban and apixaban.

- Always tell your doctor, dentist and pharmacist if you take any of these medications.
- If you have any unusual bleeding or bruising or other problems, tell your doctor right away.



If you have AFib, your doctor may prescribe medications to help prevent clots from forming in your arteries.

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 to get *Heart Insight*, a free magazine 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 the doctor or nurse?

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

For example:

What should my pulse be?

How do I take my pulse?

My Questions:

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