



Let's Talk About Ischemic Strokes and Their Causes

Did I have an ischemic stroke?

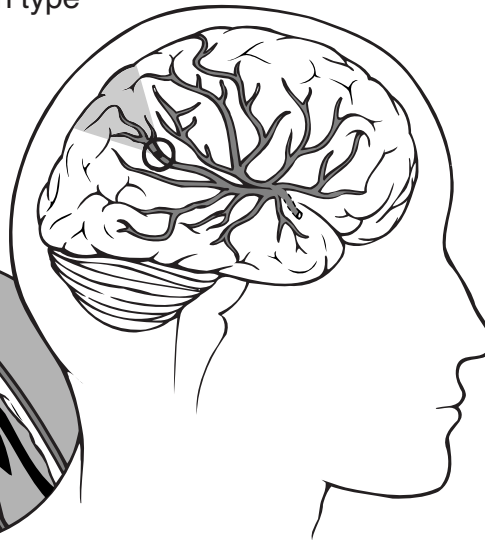
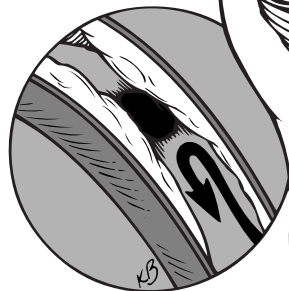
One way a stroke occurs is that blood vessels to the brain become narrowed or clogged, cutting off blood flow to brain cells. A stroke caused by lack of blood reaching part of the brain is called an ischemic (is-KEM-ik) stroke. (See figure.) High blood pressure is the most important risk factor for ischemic stroke that you can change.

You may have a few diagnostic tests before your doctor determines that you had an ischemic stroke. Ischemic strokes differ from hemorrhagic stroke in many ways:

- Ischemic strokes are the most common type of stroke and account for about 87 percent of all strokes.

- Symptoms develop over a few minutes or worsen over hours.
- Ischemic strokes are typically preceded by symptoms or warning signs that may include loss of strength or sensation on one side of the body, problems with speech and language or changes in vision or balance.
- Ischemic strokes usually occur at night or first thing in the morning.
- Often a TIA (transient ischemic attack) or “mini stroke” may give some warning of a major ischemic stroke.

Blocked artery in the brain prevents blood flow.



An ischemic stroke occurs when a clot or a mass clogs a blood vessel, cutting off the blood flow to a part of the brain.

Are all ischemic strokes the same?

There are three types of ischemic strokes.

- **Thrombotic strokes** are caused by a blood clot (thrombus) in an artery going to the brain. The clot blocks blood flow to part of the brain. Blood clots usually form in arteries damaged by arteriosclerosis.
- **Embolic strokes** are caused by a wandering clot (embolus) that's formed elsewhere (usually in the heart or neck arteries). Clots are carried in the bloodstream and clog a blood vessel in or leading to the brain.

Are all ischemic strokes the same? (continued)

- **Systemic hypoperfusion** (low blood flow) occurs because of circulatory failure caused by the heart itself. The heart's pumping action fails and too little blood reaches the brain. This is how a heart attack may cause a stroke.

How are ischemic strokes treated?

Drugs and acute hospital care are all accepted ways to treat an ischemic stroke. Tissue plasminogen activator (tPA) and other clot-busting drugs are available for treatment, but

must be administered within a three-hour window. Medication may also be used to treat brain swelling that sometimes occurs after a stroke.






How can I learn more?

- Talk to your doctor, nurse or other healthcare professionals. Ask about other stroke topics. This is one of many *Let's Talk About Stroke* fact sheets available.
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What are the Warning Signs of Stroke?

-  **Sudden weakness or numbness of the face, arm or leg, especially on one side of the body**
-  **Sudden confusion, trouble speaking or understanding**
-  **Sudden trouble seeing in one or both eyes**
-  **Sudden trouble walking, dizziness, loss of balance or coordination**
-  **Sudden, severe headaches with no known cause**



Learn to recognize a stroke.
Because time lost is brain lost.

Today there are treatments that can reduce the risk of damage from the most common type of stroke, but only if you get help quickly — within 3 hours of your first symptoms.

Call 9-1-1 immediately if you experience these warning signs!

Do you have questions for your doctor or nurse?

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

What can I do to help prevent another stroke?

The statistics in this kit were up to date at publication. For the latest statistics, see the Heart Disease and Stroke Statistics Update at americanheart.org/statistics.

The American Stroke Association is a division of the American Heart Association. Your contributions will support research and educational programs that help reduce disability and death from stroke.

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Learn and Live...



Let's Talk About Hemorrhagic Strokes

Did I have a hemorrhagic stroke?

Not all strokes are caused by blood clots that block an artery. About 13 percent happen when a blood vessel ruptures in or near the brain. This is called a *hemorrhagic* (hem-o-RAYG-ik) stroke. (See figure.)

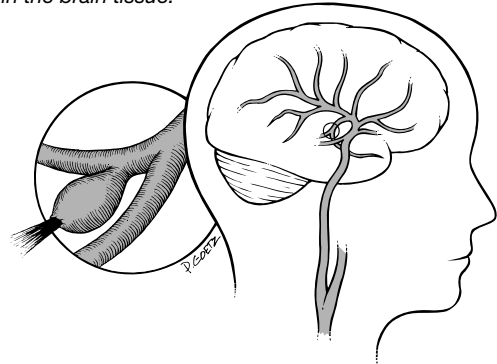
You may have many diagnostic tests before your doctor determines that you had a hemorrhagic stroke. Hemorrhagic strokes are different from ischemic strokes in many ways.

- The fatality rate is higher and overall prognosis poorer for those who have hemorrhagic strokes.
- People who have hemorrhagic strokes are younger.

Another type of hemorrhagic stroke, called a subarachnoid hemorrhage, can occur when an aneurysm (a blood-filled pouch that balloons out from an artery) ruptures, flooding the space between the skull and the brain with blood.

- This kind of stroke is often associated with a very severe headache, nausea and vomiting.
- Usually the symptoms appear suddenly.
- A transient ischemic attack (TIA) or any other stroke warning sign may not precede this type of stroke.

Ruptured artery in the brain stops oxygen supply to the surrounding areas of the brain. When this happens, blood collects in the brain tissue.



Are all hemorrhagic strokes the same?

There are two kinds of hemorrhagic stroke. In both, a blood vessel ruptures, disrupting blood flow to part of the brain.

Subarachnoid (sub-ah-RAK-noid) **hemorrhage:**

- Occurs when a blood vessel on the surface of the brain ruptures and bleeds into the space between the brain and the skull.
- A ruptured aneurysm is often caused by high blood pressure. An aneurysm is a blood-filled pouch that balloons out from an artery wall.

Intracerebral hemorrhage:

- Occurs when a blood vessel bleeds into the tissue deep within the brain.
- Chronically high blood pressure or aging blood vessels are the main causes of this type of stroke.

In addition to high blood pressure, factors that increase the risk of hemorrhagic strokes include: 1) cigarette smoking; 2) use of oral contraceptives (particularly those with high estrogen content); 3) excessive alcohol intake; and 4) use of illegal drugs.

How are hemorrhagic strokes treated?

Because hemorrhages may be life-threatening, hospital care is required. Medication can control high blood pressure. Other medicine may be prescribed to reduce the brain swelling

that follows a stroke. Surgery may be needed depending on the cause of the hemorrhage. Surgery could be done to repair an aneurysm or remove a blood clot.






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Do you have questions for your doctor or nurse?

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

Will I have to worry about a hemorrhagic stroke occurring again?

How can I control high blood pressure?

What can I do to help prevent another stroke?

What else should I know about treatment options?





Let's Talk About a Stroke Diagnosis

How is a stroke diagnosed?

It's critical to diagnose a stroke in progress because the treatment for stroke depends on the type, the source of the stroke (usually related to risk factors), and in some cases, the location of the injury to the brain.

Other conditions with similar symptoms to stroke and transient ischemic attack (TIA, or "warning stroke" or "mini-stroke") will need to be ruled out to diagnose stroke. Some of these include seizures, fainting, migraine, heart problems or other general medical conditions.

The type of stroke also must be determined. Treatment for stroke is different if it's an ischemic stroke or a hemorrhagic stroke.

Ischemic strokes, caused by a blocked artery in the brain, may be treated with a clot-busting drug, called tPA (tissue plasminogen activator). Therefore, it's important to receive a correct diagnosis before treatment begins. To receive a clot-busting drug treatment such as tPA, a medical doctor must diagnose your stroke as an ischemic stroke and treat you within three hours of the onset of symptoms. If more than three hours passes, tPA can't be given.

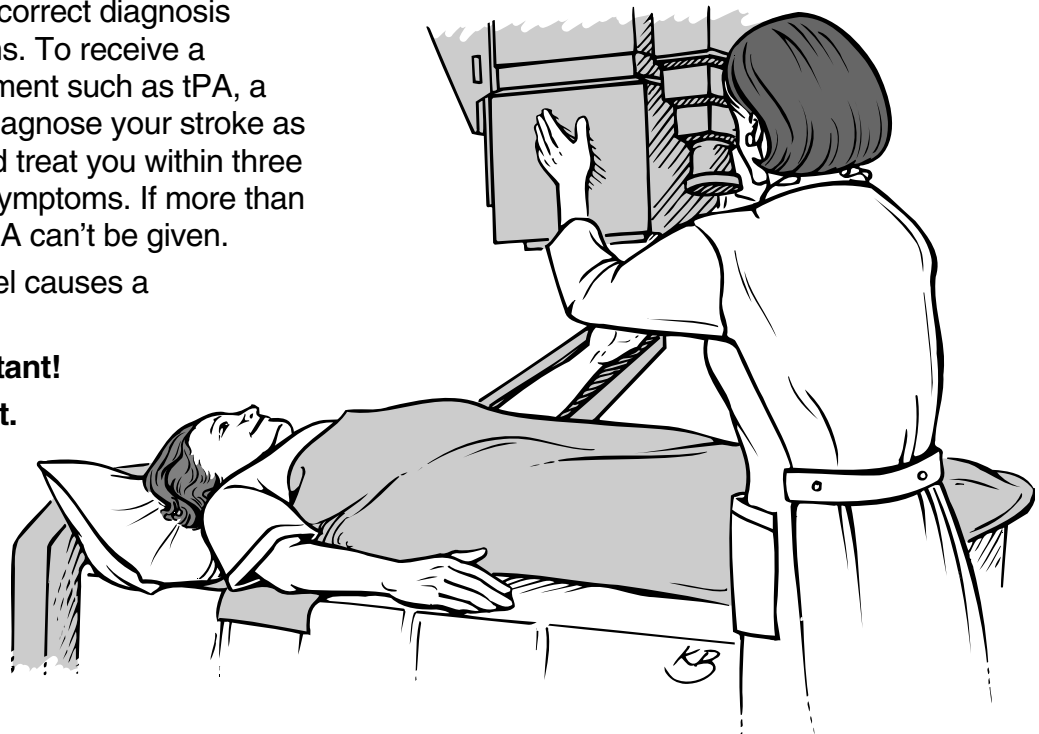
A ruptured blood vessel causes a hemorrhagic stroke.

Timing is very important!

Time lost is brain lost.

In the emergency room, your doctor or stroke emergency team may:

- Ask you when the symptoms of the stroke started.
- Ask you about your medical history.
- Conduct a physical and neurological examination.
- Have certain laboratory (blood) tests done.
- Do a CT (computed tomography) scan of the brain or MRI (magnetic resonance imaging) brain scan. This determines what kind of stroke a person has had.
- Study the results of other diagnostic tests that might be needed.



What are the types of diagnostic tests?

A doctor may use many different tests. Diagnostic tests examine how the brain looks, works and gets its blood supply. Most are safe and painless. Diagnostic tests fall into two categories: 1) imaging tests and 2) blood flow tests.

Imaging Tests

- CT scan (computed tomography) or CAT scan is a key imaging test of the brain. It uses radiation to create a picture (like an X-ray) of the brain. It's usually one of the first tests given to a patient with stroke symptoms. CT test results give valuable information about the cause of stroke and the location and extent of brain injury.
- MRI (magnetic resonance imaging) uses a large magnetic field to produce an image of the brain. Like the CT scan, it shows the location and extent of brain injury. The image produced by MRI is sharper and more detailed than a CT scan, so it's often used to diagnose small, deep injuries.

Blood Flow Tests

These tests give detailed information about the condition of arteries in your head and neck that supply blood to your brain. Another test is a medical procedure called cerebral angiography, otherwise known as cerebral arteriography. In this test, special substances are injected into the blood vessels and an X-ray is taken. Cerebral angiography gives a picture of the blood flow through the vessels. This allows the size and location of blockages to be evaluated. This test is especially valuable in diagnosing aneurysms and malformed blood vessels and providing valuable information before surgery.

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Do you have questions for your doctor or nurse?

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

Do these tests cause any complications?





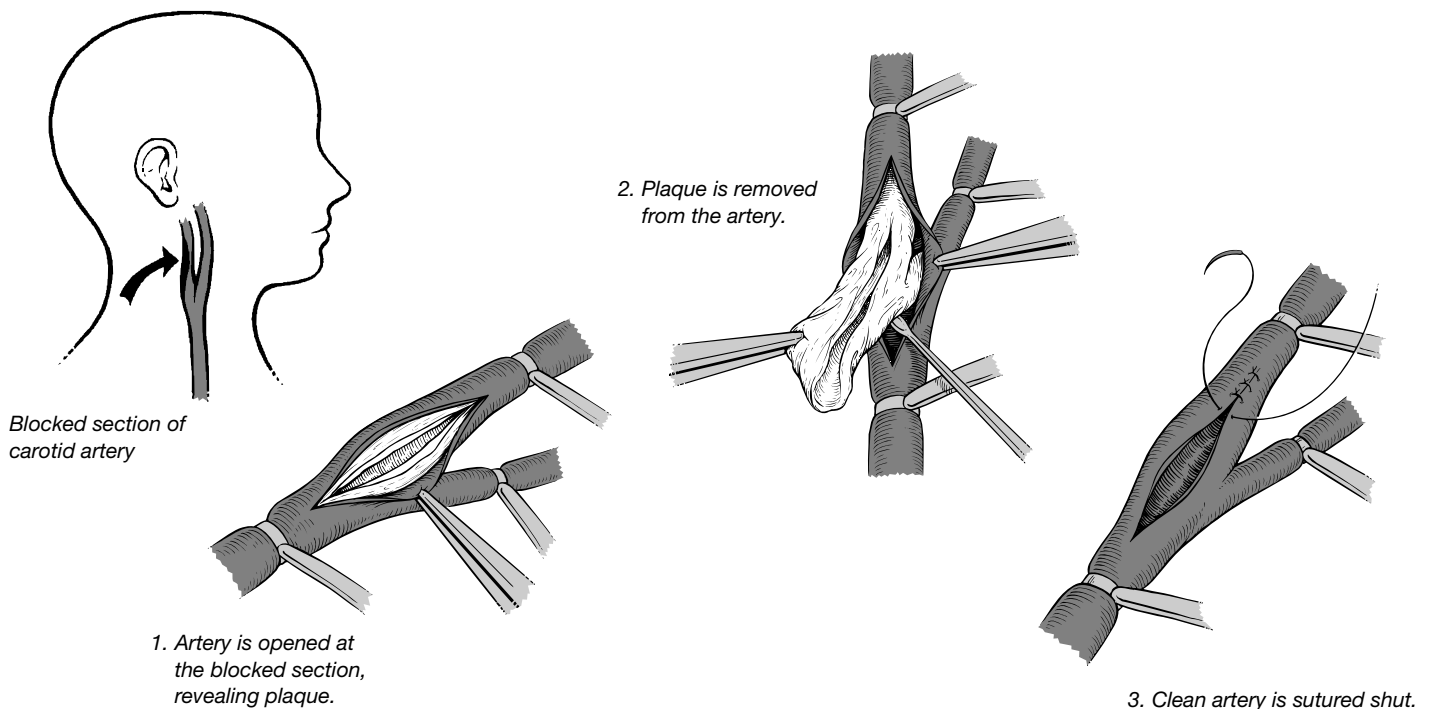
Let's Talk About Carotid Endarterectomy

Why do I need carotid endarterectomy?

The major blood supply to the brain travels through a pair of arteries (carotid arteries) on each side of the neck. Sometimes cholesterol plaques form in these arteries. This reduces the blood supply to the brain and increases the risk that a clot can block blood flow. When this

happens, people experience symptoms of stroke.

Carotid endarterectomy is a surgery that opens up the blocked artery, removes the plaque and restores blood flow.



What happens when I have this surgery?

- You will be put to sleep before the surgery, or a local anesthesia may be used.
- A surgeon will make a cut in your neck and open the carotid artery.
- The surgeon will take plaque out of your carotid artery.
- The surgeon will make the artery as smooth and clean as possible.
- The surgeon will close up the artery and the cut.

What happens after surgery?

- You will wake up in the hospital.
- Your neck may hurt for a couple of days, and it may be hard to swallow at first.
- For several months, you may have a loss of sensation in the area where you had your surgery. This is a normal reaction to the surgery. In time, feeling will return.
- You'll probably go home in a day or two.
- For about three weeks, you should not lift anything heavy.
- For a short time, you may be restricted from driving.
- Within a month you may be able to return to work.
- Your doctor may recommend medication after the procedure.
- You should make healthy lifestyle changes to help reduce the chance of plaque returning and to lower your risk of stroke.

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Do you have questions for your doctor or nurse?

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

Could I have a stroke during surgery?

What are the risks of having this surgery?

What are the risks of not having this surgery?

Is the surgeon experienced in doing this procedure?

Is there another kind of treatment for this problem?

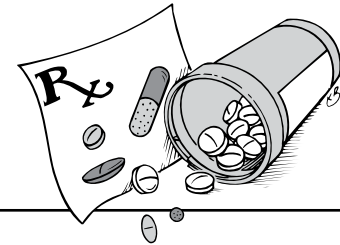
Will I need a surgery again?





Let's Talk About Anticoagulants and Antiplatelet Agents

Anticoagulants (AN-ti-ko-AG-u-lants) and antiplatelet (AN-ti-PLAYT-lit) agents are medicines that interfere with the blood's ability to clot in an artery, vein or the heart. Doctors use them to help patients prevent strokes caused by a blood clot.



What should I know about anticoagulants?

Anticoagulants (or “blood thinners”) are medicines that delay the clotting of blood. Two examples are heparin and warfarin (brand name COUMADIN). Anticoagulants make it harder for clots to form or keep existing clots from enlarging in your heart, veins or arteries. Treatment should be supervised, and it should last only as long as necessary.

- Follow your doctor's (or other healthcare provider's) instructions.
- Have regular blood tests so your doctor can tell how the medicine is working.
- Never take aspirin with anticoagulants unless your doctor tells you to.
- You must tell other healthcare providers that you're taking anticoagulants.
- Always check with your doctor before taking other medications or food supplements, such as aspirin, vitamins, cold medicine, pain medicine, sleeping pills or antibiotics. These can alter the effectiveness and safety of anticoagulants by strengthening or weakening them.
 - Let your doctor know if you have been started on any new medications that might interfere with the action of warfarin.
- Discuss your diet with a healthcare professional.
- Tell your family how you take anticoagulant medicine and carry your emergency medical ID card with you.

Could anticoagulants cause problems?

Yes. Tell your doctor if:

- Your urine turns pink or red.
- Your stools turn red, dark brown or black.
- 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.
- You get sick or feel weak, faint or dizzy.
- You think you're pregnant.
- You often find bruises or blood blisters.
- You have an accident of any kind.

What should I know about antiplatelet agents?

Antiplatelet medicines keep blood clots from forming by preventing blood platelets from sticking together. They're used as part of a

treatment for patients with atherosclerosis or with increased clotting tendencies. Atherosclerosis is the process by which

What should I know about antiplatelet agents? (continued)

deposits of cholesterol form along inner walls of blood vessels, creating the conditions for blood clots to form.

- Antiplatelets are generally prescribed preventively, when atherosclerosis is evident but there is not yet a large obstruction in the artery.

- Antiplatelet drugs include aspirin, ticlopidine, clopidogrel and dipyridamole.
- Aspirin is an important therapeutic agent for stroke prevention. It's a medicine that can save your life if you have heart problems, or if you have had a stroke or TIA. **You must use aspirin just as your doctor tells you, and not in your own way.**

How can I learn more?

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Do you have questions for your doctor or nurse?

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

What kind of aspirin or other antiplatelet agent should I take?

What should I do if I forget to take it?

What is the right dose for me?





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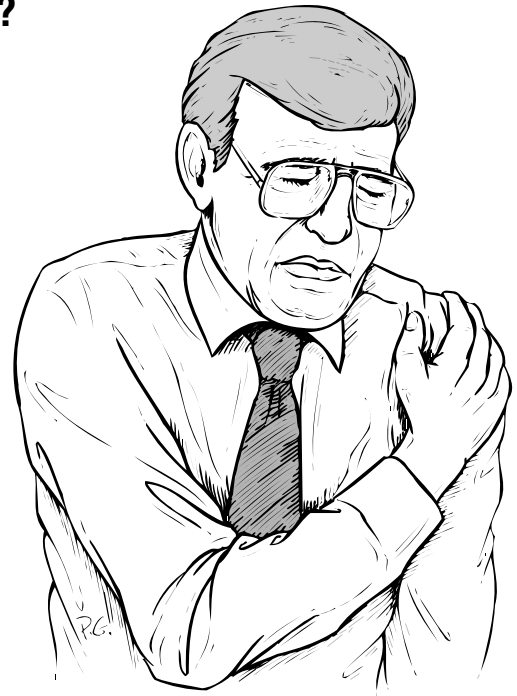
Let's Talk About Complications After Stroke

Can life-threatening conditions result from a stroke?

Your doctor's highest priorities after a stroke are to prevent complications from the present stroke and to prevent another stroke. Your doctor must determine that you are medically stable and able to resume some self-care activities. This means that all complications must be treated and under control.

Some complications happen as a direct result of injury to the brain due to stroke, or because of a change in the patient's abilities; for example, being unable to move freely can result in bedsores. Clinical depression can also occur with a stroke.

Lack of support or exercise of an arm can result in shoulder pain, a common complication of stroke.



What are common complications of stroke?

The most common complications are:

- Brain edema (eh-DE-mah) — swelling of the brain after a stroke.
- Seizures — abnormal electrical activity in the brain causing convulsions.
- Clinical depression — a treatable illness that often occurs with stroke and causes unwanted emotional and physical reactions to changes and losses.
- Bedsores — pressure ulcers that result from decreased ability to move and pressure on areas of the body because of immobility.
- Limb contractures — shortened muscles in an arm or leg from reduced range of motion or lack of exercise.
- Shoulder pain — stems from lack of support of an arm due to hemiplegia or exercise of an arm. This usually is caused when the affected arm hangs resulting on pulling of the arm on the shoulder.
- Deep venous thrombosis — blood clots form in veins of the legs because of immobility from stroke.
- Urinary tract infection and bladder control — urgency and incontinence.
- Pneumonia — causes breathing problems, a complication of many major illnesses.

What can be done?

If you need medical treatment, your doctor will prescribe it.

- Medical treatment often involves medical supervision, monitoring and drug therapies.
- Physical treatment usually involves some type of activity that may be done by you, a healthcare professional or by both of you working together. Types of treatment may include:
 - range-of-motion exercises and physical therapy to avoid limb contracture and shoulder pain and blood vessel problems.
 - frequent turning while in bed to prevent pressure sores and good nutrition.

— bladder training programs for incontinence.

— swallowing and respiratory therapy, and deep-breathing exercises, all of which help to decrease the risk of pneumonia.

- Psychological treatment can include counseling or supportive therapy for feelings that result from clinical depression. Types of treatment may include antidepressant medication, psychotherapy or a combination of both. You may also be referred to a local stroke support group.

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Do you have questions for your doctor or nurse?

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

What complications am I most at risk for?

What can I do to prevent complications?



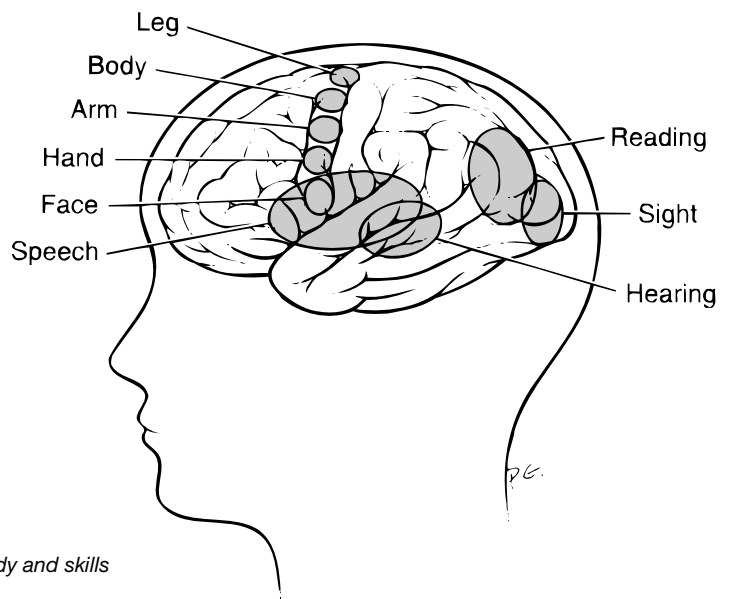


Let's Talk About Changes Caused by Stroke

What are the most common effects of stroke?

Your brain controls how you move, feel, think and act. Brain injury from a stroke may affect any of these abilities. You may experience some of these effects of stroke:

- Hemiparesis (weakness on one side of the body) or hemiplegia (paralysis on one side of the body)
- One-sided neglect (ignoring or forgetting your affected side), as result of hemiparesis, hemiplegia, motor impairment and loss of sensation on one side of the body. This usually occurs with a stroke on the right side of the brain.
- Dysarthria (difficulty speaking or slurred speech), aphasia (difficulty getting your words out or understanding what is being said) or dysphagia (trouble swallowing)
- Decreased field of vision and trouble with visual perception
- Loss of emotional control and changes in mood
- Cognitive changes (problems with memory, judgment, problem-solving or a combination of these)
- Behavior changes (personality changes, improper language or actions)



Different parts of the brain control different parts of the body and skills

What are common emotional effects of stroke?

- Depression
- Apathy and lack of motivation
- Tiredness
- Frustration, anger and sadness
- Reflex crying (emotions may change rapidly and sometimes not match the mood)
- Denial of the changes caused by the brain injury

Will I get better?

In most cases people do get better. The effects of a stroke are greatest immediately after the stroke occurs. From then on, you may start to get better. How fast and how much you improve depends on the extent of the brain injury and the success of rehabilitation.

- Recovering your abilities begins after the stroke is over and you're medically stable.
- Some improvement occurs spontaneously and relates to how the brain works again after it's been injured.

- Stroke rehabilitation programs help you improve your abilities and learn new skills and coping techniques.
- Depression after stroke can interfere with rehabilitation. It's important to treat depression.
- Improvement often occurs most quickly in the first months after a stroke, then continues over years with your continued efforts.

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Can other areas of the brain help the damaged part of the brain?

How has my stroke affected me?



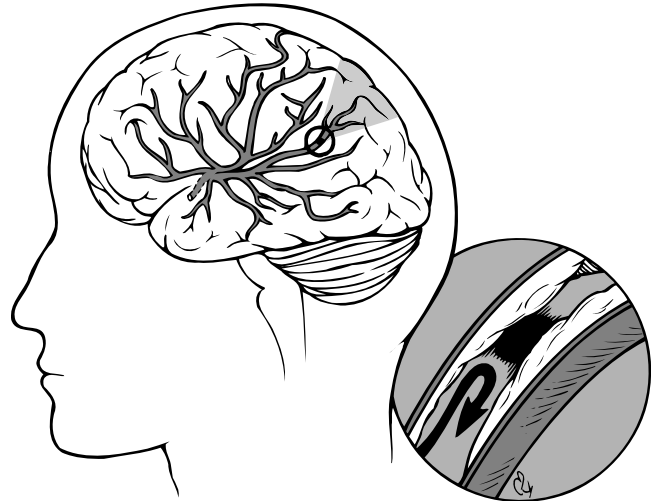
Let's Talk About Stroke and Aphasia

What is aphasia?

Aphasia (ah-FA-ze-ah) is a language disorder that affects the ability to communicate. It's most often caused by a stroke that affects the left part of the brain, which controls the speech and language center of the brain. (See figure.)

Aphasia does not affect intelligence. Stroke survivors remain mentally alert, even though their speech may be jumbled, fragmented or impossible to understand. Some survivors continue to have:

- Trouble speaking, like “getting the words out”
- Trouble finding words
- Problems understanding what others say
- Problems with reading, writing or math
- Inability to process long words and infrequently used words



Blocked artery in the brain prevents blood flow.

When you have a clot in a blood vessel in your brain, you can have a stroke. If the stroke affects the part of your brain that knows speech and language (the left side of the brain in most people), you could have aphasia.

How does it feel to have aphasia?

People with aphasia are often frustrated and confused because they can't speak as well or understand things the way they did before their stroke. They may act differently because of changes in their brain. Imagine looking at the headlines of the morning newspaper and not being able to recognize

the words or trying to say “put the car in the garage” and it comes out “put the train in the house” or “widdle tee car ung sender plissen.” Thousands of alert, intelligent men and women are suddenly plunged into a world of jumbled communication because of aphasia.

Are there different types of aphasia?

Yes, there are several forms of aphasia. They include:

- Global aphasia — People with this type of aphasia may be completely unable to speak, name objects, repeat phrases or follow commands.
- Broca's aphasia — The person knows what they want to say, but can't find the right words (can't get the words out).
- Wernicke's aphasia — A person with this aphasia can seldom understand what's being said or control what they're saying.

How can family and friends help?

The stroke survivor with aphasia and family members will need the help and support of a doctor, counselor and speech pathologist. It's a good idea for family and friends to:

- Be open about the problem so people can understand.
- Always assume that the stroke survivor can hear. Check understanding with yes/no questions.
- Set up a daily routine for the person with aphasia that includes rest and time to practice skills.
- Use sentences that are short and to the point.

- Keep the noise level down and stand where the survivor can see you.
- Remember to treat the stroke survivor as an adult and let him or her share in decision-making. No one likes to be ignored. Include the survivor in your conversation.
- Help the stroke survivor cope with feelings of frustration and depression.
- Be patient with the person with aphasia. Give them the time they need to try to speak and get their point across to you. This respects their dignity.

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Do you have questions for your doctor or nurse?

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

How long will I need therapy?

How can I find a stroke or aphasia support group?

Will my aphasia go away?





Let's Talk About Emotional Changes After Stroke

How can stroke change my life?

Immediately after a stroke, a survivor may respond one way, yet weeks later respond differently. Some survivors may react with understandable sadness; others may be amazingly cheerful. These emotional reactions may occur because of biological or psychological causes due to stroke. These changes may vary with time and can interfere with rehabilitation.



What emotional changes are biological?

Emotions may be difficult to control, especially soon after a stroke. There are two common emotional responses caused by biological changes.

Emotional lability, also called “reflex crying” or “labile mood,” can cause:

- Rapid mood changes — a person may “spill over into tears” and then quickly stop crying or may start laughing.
- Crying or laughing that doesn't match a person's mood.
- Crying or laughing that lasts longer than seems appropriate.

Post-stroke depression is characterized by:

- Feelings of sadness
- Hopelessness or helplessness
- Irritability
- Changes in eating, sleeping and thinking

Treatment for post-stroke depression may be necessary. Don't hesitate to take antidepressant medications prescribed by your doctor.

What emotional reactions are psychological?

Post-stroke psychological emotions are “natural.” They're part of adjusting to the changes brought by a stroke. Often, talking about the effects of the stroke and acknowledging these feelings helps stroke survivors deal with these emotions. Some common psychological reactions to stroke are:

- Frustration
- Anxiety
- Anger
- Apathy or not caring what happens
- Lack of motivation
- Depression or sadness






How can I cope with my changing emotions?

- Tell yourself that your feelings aren't "good" or "bad." Let yourself cope without feeling guilty about your emotions.
- Find people who understand what you're feeling. Ask about a support group.
- Get enough exercise and do enjoyable activities.
- Give yourself credit for the progress you've made. Celebrate the large and small gains.
- Learn to "talk" to yourself in a positive way. Allow yourself to make mistakes.
- Ask your doctor for help. Ask for a referral to a mental health specialist for psychological counseling or antidepressant medication if needed for depression.
- Make sure you get enough sleep at night. Sometimes lack of sleep can cause emotional changes.

How can I learn more?

- Talk to your doctor, nurse or other healthcare professionals. Ask about other stroke topics. This is one of many *Let's Talk About Stroke* fact sheets.
- For more information about stroke, or to get more fact sheets, call the American Stroke Association at 1-888-4-STROKE (1-888-478-7653) or visit us online at StrokeAssociation.org.
- If you or someone you know has had a stroke, call the American Stroke Association's "Warmline" at 1-888-4-STROKE (1-888-478-7653), and:
 - ✓ Speak with other stroke survivors and caregivers trained to answer your questions and offer support.
 - ✓ Get information on stroke support groups in your area.
 - ✓ Sign up to get *Stroke Connection*, a free magazine for stroke survivors and caregivers.

What are the warning signs of stroke?

-  **Sudden weakness or numbness of the face, arm or leg, especially on one side of the body**
-  **Sudden confusion, trouble speaking or understanding**
-  **Sudden trouble seeing in one or both eyes**
-  **Sudden trouble walking, dizziness, loss of balance or coordination**
-  **Sudden, severe headaches with no known cause**



Learn to recognize a stroke.
Because time lost is brain lost.

Today there are treatments that may reduce the risk of damage from the most common type of stroke, but only if you get help quickly — within three hours of your first symptoms.

Call 9-1-1 immediately if you experience these warning signs!

Do you have questions for your doctor or nurse?

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

What can my family do to help me when I am emotional?

Is there a stroke support group in my area?

Will these emotional changes improve over time?



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Let's Talk About Feeling Tired After Stroke

Why am I so tired?

After a stroke, almost all stroke survivors feel tired at some point. Stroke survivors often must work harder to compensate for the loss of normal functions (such as being unable to use an arm or hand). But you'll probably start feeling less tired after a few months. For some people, tiredness may continue for years after a stroke, but they usually find ways to make the most of the energy they have.

It's important to pinpoint what's causing you to be tired. Then you can take action to manage it. Consult with your healthcare provider to rule out any medical conditions that might cause tiredness or make it worse. You may feel tired after a stroke for four major reasons:

- You may have less energy than before because of sleeping poorly, not getting enough exercise, poor nutrition or the side effects of medicine.
- You have as much energy as before, but you're using it differently. Because of the effects of your stroke, many things, like dressing, talking or walking, take a lot more effort. Changes in thinking and memory take more concentration. You have to stay "on alert" all the time — and this takes energy.

- You also may feel more tired due to emotional changes. Coping with frustration, anxiety, anger and sadness can be draining. Depressed feelings are common after a stroke. Often, loss of energy, interest or enthusiasm occurs along with a depressed mood.
- Clinical depression is a treatable illness that happens to many stroke survivors. Symptoms include significant lack of energy, lack of motivation, and problems concentrating or finding enjoyment in anything. Talk to your doctor about an evaluation for clinical depression if tiredness continues.



How can I increase my energy?

- Tell your doctor how you feel and make sure you have had an up-to-date physical. Besides evaluating any medical reasons for your tiredness, your doctor also may check to see if your fatigue could be a side effect of your medication.
- Celebrate your successes. Give yourself credit when you accomplish something. Look at your progress, not at what's left to be done.
- Try naps, or schedule rest periods throughout the day. Rest as long as you need to feel refreshed.
- Learn to relax. Sometimes the harder you try to do something, the harder it is to do. You become tense, anxious and frustrated. All this takes more energy. Being relaxed lets you use your energy more efficiently.
- Do something you enjoy every day. A positive attitude or experience helps a lot to boost energy levels.
- Physical activity is important. With permission from your doctor, consider joining a health and wellness program.

How can I learn more?

- Talk to your doctor, nurse or other healthcare professionals. Ask about other stroke topics. This is one of many *Let's Talk About Stroke* fact sheets.
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- If you or someone you know has had a stroke, call the American

Stroke Association's "Warmline" at 1-888-4-STROKE (1-888-478-7653), and:

- ✓ Speak with other stroke survivors and caregivers trained to answer your questions and offer support.
- ✓ Get information on stroke support groups in your area.
- ✓ Sign up to get *Stroke Connection*, a free magazine for stroke survivors and caregivers.

Do you have questions for your doctor or nurse?

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

What can I do to decrease my tiredness?

Are the medicines I take causing my fatigue?

Could clinical depression be causing my tiredness?





Let's Talk About Risk Factors for Stroke

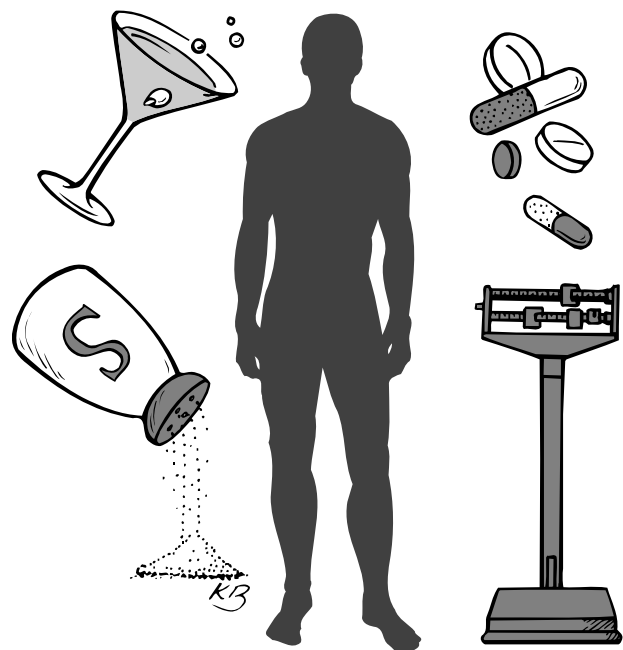
Why is it important to know my risk for stroke?

Knowing your risk for stroke is the first step in preventing stroke. You can change or treat some risk factors, but others you can't.

By having regular medical checkups and knowing your risk, you can focus on what you can change and lower your risk of stroke.

What risk factors can I change or treat?

- **High blood pressure.** This is the single most important risk factor for stroke because it's the No. 1 cause of stroke. Know your blood pressure and have it checked at least once every two years. If it's consistently 140/90 or above, it's high. Talk to your doctor about how to control it.
- **Tobacco use.** Don't smoke cigarettes or use other forms of tobacco. Tobacco use damages blood vessels.
- **Diabetes mellitus.** Having diabetes increases your risk of stroke because it can cause disease of blood vessels in the brain. Work with your doctor to manage diabetes and reduce other risk factors.
- **Carotid or other artery disease.** The carotid arteries in your neck supply most of the blood to your brain. A carotid artery damaged by a fatty buildup of plaque inside the artery wall may become blocked by a blood clot, causing a stroke.
- **TIA's.** Transient ischemic attacks (TIAs) are "mini strokes" that produce stroke-like symptoms but no lasting effects. Recognizing and treating TIAs can reduce the risk of a major stroke. Know the warning signs of a TIA and seek emergency medical treatment immediately.
- **Atrial fibrillation or other heart disease.** In atrial fibrillation the heart's upper chambers quiver rather than beating effectively. This causes the blood to pool and clot, increasing the risk of stroke. People with other types of heart disease have a higher risk of stroke, too.
- **Certain blood disorders.** A high red blood cell count makes clots more likely, raising the risk of stroke. Sickle cell anemia increases stroke risk because the "sickled" cells stick to blood vessel walls and may block arteries.



What risk factors can I change or treat? (continued)

- **High blood cholesterol.** High blood cholesterol increases the risk of clogged arteries. If an artery leading to the brain becomes blocked, a stroke can result.
- **Physical inactivity and obesity.** Being inactive, obese or both can increase your risk of cardiovascular disease.
- **Excessive alcohol intake.** Drinking an average of more than one drink per day for women or more than two drinks a day for men raises blood pressure. Binge drinking can lead to stroke.
- **Illegal drug use.** Intravenous drug use carries a high risk of stroke. Cocaine use also has been linked to stroke.

What are the risk factors I can't control?

- **Increasing age.** Stroke affects people of all ages. But the older you are, the greater your stroke risk.
- **Gender.** In most age groups, more men than women have stroke, but more women die from stroke.
- **Heredity and race.** People whose close blood relations have had a stroke have a higher risk of stroke. African Americans have a higher risk of death and disability from stroke than whites, because they have high blood pressure more often. Hispanic Americans are also at higher risk of stroke.
- **Prior stroke.** Someone who has had a stroke is at higher risk of having another one.

How can I learn more?

- Talk to your doctor, nurse or other healthcare professionals. Ask about other stroke topics. This is one of many *Let's Talk About Stroke* fact sheets.
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 - ✓ Speak with other stroke survivors and caregivers trained to answer your questions and offer support.
 - ✓ Get information on stroke support groups in your area.
 - ✓ Sign up to get *Stroke Connection*, a free magazine for stroke survivors and caregivers.

Do you have questions for your doctor or nurse?

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

What are my risk factors for stroke?

What can I do to control my risk factors?



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Let's Talk About Lifestyle Changes To Prevent Stroke

How can I make my lifestyle healthier?

You can do plenty to make your heart and blood vessels healthy, even if you've had a stroke. A healthy lifestyle plays a big part in decreasing disability and death from stroke and heart attack. Here are the steps to take:

- Don't smoke.
 - Improve your eating habits.
 - Be physically active.
 - Take your medicine as directed.
 - Get your blood pressure checked and control it if it's high.
 - Reach and maintain a healthy weight.
 - Decrease your stress level.
- Seek emotional support when it's needed.
 - Have regular medical checkups.



How do I stop smoking?

- Make a decision to quit — and commit to stick to it.
 - Ask your healthcare professional for information and programs that may help.
 - Fight the urge to smoke by going to smoke-free facilities. Avoid staying around people who smoke.
- Keep busy doing things that make it hard to smoke, like working in the yard.
 - Remind yourself that smoking causes many diseases, can harm others and is deadly.
 - Ask your family and friends to support you.

How do I change my eating habits?

- Ask your doctor, nurse or a licensed nutritionist for help.
 - Be aware of your special needs, especially if you have high blood pressure, high cholesterol or diabetes.
 - Avoid foods like egg yolks, fatty meats, butter and cream, which are high in fat and cholesterol.
- Eat moderate amounts of food and cut down on saturated fat, sugar and salt.
 - Bake, broil, roast and boil (don't fry) foods.
 - Avoid most "fast food" and read nutrition labels on packaged meals.
 - Limit alcohol to one drink a day.
 - Eat more fruit, vegetables, cereals, dried peas and beans, pasta, fish, poultry and lean meats.

What about physical activity?

- Check with your doctor before you start.
- Start slowly and build up to at least 30 minutes of moderate physical activity a session five or more days a week.
- Try new types of physical activity for home activities — dancing, weight training, warm-water exercise, tai chi or specialized videotapes.
- Physical activity reduces your risk of heart attack and stroke and makes your heart stronger.
- It helps control your weight and blood pressure, helps you relax and can improve your mood.
- Look for even small chances to be more active. Take the stairs instead of an elevator and park farther from your destination.

How can I learn more?

- Talk to your doctor, nurse or other healthcare professionals. Ask about other stroke topics. This is one of many *Let's Talk About Stroke* fact sheets.
- For more information about stroke, or to get more fact sheets, call the American Stroke Association at 1-888-4-STROKE (1-888-478-7653) or visit us online at StrokeAssociation.org.
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 - ✓ Speak with other stroke survivors and caregivers trained to answer your questions and offer support.
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Do you have questions for your doctor or nurse?

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

What is the most important change I can make?

What kind of physical activity can I do safely?

What if I go back to bad habits?





Let's Talk About High Blood Pressure and Stroke

What is high blood pressure?

High blood pressure means that the force of the blood pushing against the sides of your arteries is consistently in the high range. This is not normal. It can lead to stroke, heart attack, heart failure or kidney failure.

Two numbers represent blood pressure. The higher (systolic) number shows the pressure while the heart is beating. The lower (diastolic) number shows the pressure when the heart is resting between beats. The systolic number is always listed first.

A blood pressure reading of less than 120 over 80 is considered normal for adults. A blood pressure reading equal to or higher than 140 over 90 is high. Blood pressure between 120–139/80–89 is considered “prehypertension” and requires lifestyle modifications to reduce the risk of cardiovascular disease.



Having hypertension does not mean that you're tense, nervous or hyperactive. You can be calm and relaxed and still have high blood pressure. You usually can't tell if you have it. The only way to know if your blood pressure is high is to have it checked regularly by your doctor.

Who is at higher risk?

- People with a family history of high blood pressure
- African Americans
- People 35 years or older
- People who are overweight or obese
- People who smoke
- People who eat too much salt
- People who drink too much alcohol
- Women who use birth control pills
- People who aren't physically active
- Pregnant women

What should I do to 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:

- Lose weight if you're overweight.
- Eat a healthy diet that's low in salt, saturated fat, trans fat and cholesterol.
- Eat fruits and vegetables, and fat-free or low-fat dairy products.
- Enjoy regular physical activity.
- 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. Check with your doctor about drinking alcohol; it can raise blood pressure.
- Take medicine as prescribed.
- Know what your blood pressure should be and try to keep it at that level.

How can I learn more?

- Talk to your doctor, nurse or other healthcare professionals. Ask about other stroke topics. This is one of many *Let's Talk About Stroke* fact sheets.
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Do you have questions for your doctor or nurse?

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

Will I always have to take my medicine?

How often should my blood pressure be checked?

What should my blood pressure be?





Why Should I Limit Sodium?

Salt is sodium chloride. Sodium is an element that's needed for good health. You must have a certain balance of sodium and water in your body at all times. Too much salt or too much water in your system will upset the balance. When you're healthy, your kidneys get rid of extra sodium to keep the correct balance of sodium and water.



What's bad about sodium?

In some people, too much sodium leads to or aggravates high blood pressure. Having less sodium in your diet may help you avoid

high blood pressure. People with high blood pressure are more likely to develop heart disease and stroke.

How much sodium do I need?

- The average American eats about 2,900 to 4,300 mg of sodium, or about 6 to 10 grams of salt, daily.
- Healthy Americans should try to eat less than 2,300 mg of salt per day.
- Some people — African Americans, middle-aged and older adults, and those with high blood pressure — need less than 1,500 mg per day.
- Your doctor may tell you to cut salt out completely.

What are sources of sodium?

Most of the sodium in our diets comes from adding it when food is being prepared. Pay attention to food labels, because they tell how much sodium is in food products.

Here's a list of sodium compounds to limit in your diet:

- Salt (sodium chloride or NaCl)
- Monosodium glutamate (MSG)
- Baking soda
- Baking powder
- Disodium phosphate
- Any compound that has "sodium" or "Na" in its name

What foods should I limit?

- Salted snacks
- Fish that's frozen, pre-breaded, pre-fried or smoked; also fish that's canned in oil or brine like tuna, sardines or shellfish
- Ham, bacon, corned beef, luncheon meats, sausages and hot dogs
- Canned foods and juices containing salt
- Commercially made main dishes like hash, meat pies and frozen dinners with more than 700 mg of sodium per serving
- Cheeses and buttermilk
- Seasoned salts, meat tenderizers and MSG
- Ketchup, mayonnaise, sauces and salad dressings

What else can I do?

- Avoid adding table salt to foods.
- Use salt substitutes (with your doctor's approval) or herbs and spices.
- Eat fresh lean meats, skinless poultry, fish, egg whites and tuna canned in water.
- Choose unsalted nuts and low-sodium peanut butter. Cook dried peas and beans.
- Use products made without added salt; try low-sodium bouillon and soups and unsalted, fat-free broth.
- Rinse canned vegetables, beans and shellfish to reduce salt.

How can I learn more?

1. Talk to your doctor, nurse or other health-care professionals. If you have heart disease or have had a stroke, members of your family also may be at higher risk. It's very important for them to make changes now to lower their risk.
2. Call 1-800-AHA-USA1 (1-800-242-8721) or visit americanheart.org to learn more about heart disease.
3. For information on stroke, call 1-888-4-STROKE (1-888-478-7653) or visit StrokeAssociation.org.

We have many other fact sheets and educational booklets to help you make healthier choices to reduce your risk, manage disease or care for a loved one.

Knowledge is power, so *Learn and Live!*

What are the warning signs of heart attack and stroke?

Warning Signs of Heart Attack

Some heart attacks are sudden and intense, but most of them start slowly with mild pain or discomfort with one or more of these symptoms:

- **Chest discomfort**
- **Discomfort in other areas of the upper body**
- **Shortness of breath with or without chest discomfort**
- **Other signs including breaking out in a cold sweat, nausea or lightheadedness**

Warning Signs of Stroke

- **Sudden weakness or numbness of the face, arm or leg, especially on one side of the body**
- **Sudden confusion, trouble speaking or understanding**
- **Sudden trouble seeing in one or both eyes**
- **Sudden trouble walking, dizziness, loss of balance or coordination**
- **Sudden, severe headache with no known cause**

Learn to recognize a stroke. Time lost is brain lost.

Call 9-1-1 ... Get to a hospital immediately if you experience signs of a heart attack or stroke!

Do you have questions or comments for your doctor?

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

What's my daily sodium limit?

Is there sodium in the medicine I take?

Your contribution to the American Heart Association supports research that helps make publications like this possible.

The statistics in this sheet were up to date at publication. For the latest statistics, see the *Heart Disease and Stroke Statistics Update* at americanheart.org/statistics.

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Let's Talk About Living at Home After Stroke

Can I live at home after stroke?

Most stroke survivors are able to return home and resume many of the activities they were involved in before the stroke. Leaving the hospital may seem scary at first because so many things may have changed. The hospital staff can help prepare you to move home or perhaps to another setting that can better meet your needs.



How do I know if going home is the right choice?

Going home poses few problems for people who have had a minor stroke and have few lingering effects. For those whose strokes were more severe, going home depends on these four factors:

- Ability to care for yourself. Rehabilitation should be focused on daily activities.
- Ability to follow medical advice. It's important to take medication as prescribed and follow medical advice.
- A caregiver. Someone who is willing and able to help when needed should be available.
- Ability to move around and communicate. If stroke survivors aren't independent in these areas, they may be at risk in an emergency or feel isolated.

What changes do I need to make at home?

Living at home successfully also depends on how well your home can be adapted to meet your needs.

- Safety. Take a good look around and eliminate anything that might be dangerous. This might be as simple as taking up throw rugs, testing the temperature of bath water or wearing rubber-soled shoes. Or it may be more involved, like installing handrails in your bathroom or other areas.
- Accessibility. You need to be able to move freely within the house. Modifications can be as simple as rearranging the furniture or as involved as building a ramp.
- Independence. Your home should be modified so you can be as independent as possible. Often this means adding adaptive equipment like grab bars or transfer benches.

What if I can't go home?

Your doctor may advise a move from the hospital to another type of facility that can meet your needs permanently or temporarily. It's important that the living place you choose is safe and supports your continued recovery. Your social worker and case manager at the hospital can give you information about alternatives that might work for you. Possibilities include:

- Nursing facility. This can be a good option for someone who has ongoing medical problems.
- Skilled nursing facility. This is for people who need medical attention, continued therapy and more care than a caregiver can provide at home.
- Intermediate care facility. This is for people who don't have serious medical problems and can manage some level of self-care.
- Assisted living. This is for people who can live somewhat independently but need some assistance with things like meals, medication and housekeeping

How can I learn more?

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- ✓ Get information on stroke support groups in your area.
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Do you have questions for your doctor or nurse?

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

What living arrangement would you recommend for me?

Is there a caregiver or stroke support group available in my community?

Is a different option possible later?





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Let's Talk About Stroke and Rehabilitation

What is stroke rehabilitation?

When the immediate crisis of a stroke has passed and you've been stabilized medically, it's time to consider rehabilitation therapy.

After a stroke, you may have to change or relearn how you live day to day. Rehabilitation may reverse some of the effects of stroke.

The goals of rehabilitation are to increase independence, improve physical functioning, help you gain a satisfying quality of life after stroke and help you prevent another stroke.



Who will be part of my rehabilitation program?

Who will be a part of my rehabilitation program?

Your rehabilitation team may include:

- **Physiatrist** — A medical doctor who specializes in rehabilitation.
- **Physical therapist** — A healthcare provider who specializes in maximizing a stroke survivor's mobility and independence to improve major motor and sensory impairments, such as walking, balance and coordination.
- **Occupational therapist** — A therapist who focuses on helping stroke survivors rebuild skills in daily living activities such as bathing, toileting and dressing.
- **Rehabilitation nurse** — A nurse who coordinates the medical support needs of stroke survivors throughout rehabilitation.
- **Speech therapist** — A specialist who helps to restore language skills and also treats swallowing disorders.
- **Recreational therapist** — A therapist who helps to modify activities that the survivor enjoyed before the stroke or introduces new ones.
- **Psychiatrist or psychologist** — Specialists who help stroke survivors adjust to the emotional challenges and new circumstances of their lives.
- **Vocational rehabilitation counselor** — A specialist who evaluates work-related abilities of people with disabilities. They can help stroke survivors make the most of their skills to return to work.

What will I do in rehabilitation?

Rehabilitation programs often focus on:

- Activities of daily living such as eating, bathing and dressing.
- Mobility skills such as transferring, walking or self-propelling a wheelchair.
- Communication skills in speech and language.
- Cognitive skills such as memory or problem solving.
- Social skills in interacting with other people.
- Psychological functioning to improve coping skills and treatment to overcome depression, if needed.






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What are the warning signs of stroke?

-  **Sudden weakness or numbness of the face, arm or leg, especially on one side of the body**
-  **Sudden confusion, trouble speaking or understanding**
-  **Sudden trouble seeing in one or both eyes**
-  **Sudden trouble walking, dizziness, loss of balance or coordination**
-  **Sudden, severe headaches with no known cause**



Learn to recognize a stroke.
Because time lost is brain lost.

Today there are treatments that may reduce the risk of damage from the most common type of stroke, but only if you get help quickly — within three hours of your first symptoms.

Call 9-1-1 immediately if you experience these warning signs!

Do you have questions for your doctor or nurse?

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

What are your recommendations for my rehabilitation?

How can I continue to improve my skills after formal rehabilitation ends?

Can you refer me to a psychiatrist?



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Let's Talk About Driving After Stroke

Can I drive after a stroke?

Driving is often a major concern after a stroke. It's not unusual for stroke survivors to want to drive. Getting around after a stroke is important — but safety is even more important. Injury to the brain may change how you do things. So before you drive again, think carefully about how these changes may affect safety for you, your family and others.



What are some warning signs of unsafe driving?

Often survivors are unaware of the difficulties in driving that they might have. Some may not realize all of the effects of their stroke. They may feel that they're able to drive, when it's a bad idea. Driving against your doctor's advice can be dangerous and may be illegal. In some cases, your doctor may have the legal responsibility to notify your state that you've been advised not to drive.

If you or someone you know has experienced some of these warning signs of unsafe driving, please consider having your driving tested:

- Drives too fast or too slow for road conditions or posted speeds
- Needs help or instructions from passengers
- Doesn't observe signs or signals
- Makes slow or poor distance decisions
- Gets easily frustrated or confused
- Often gets lost, even in familiar areas
- Has accidents or close calls
- Drifts across lane markings into other lanes

How can I tell if I can drive?

- Talk to your doctor or occupational therapist. He or she can tell you about your stroke and whether it might change your driving. You'll also get a professional opinion based on experience.
- Contact your State Department of Motor Vehicles in your area. Ask for the Office of Driver Safety. Ask what requirements apply to people who've had a stroke.
- Have your driving tested. Professionals such as driver rehabilitation specialists can evaluate your driving ability. You'll get a behind-the-wheel evaluation and be tested for vision perception, functional ability, reaction time, judgment and cognitive abilities (thinking and problem solving). Call community rehabilitation centers or your local Department of Motor Vehicles.






How can I tell if I can drive? (continued)

- Enroll in a driver's training program. For a fee, you may receive a driving assessment, classroom instruction and suggestions for modifying your vehicle (if necessary). These programs are often available through rehabilitation centers.
- Ask your family if they have noticed changes in your communication, thinking, judgment or behavior that should be evaluated before you drive again. They often have many more opportunities to observe changes than others do.

How can I learn more?

- Talk to your doctor, nurse or other healthcare professionals. Ask about other stroke topics. This is one of many *Let's Talk About Stroke* fact sheets.
- For more information about stroke, or to get more fact sheets, call the American Stroke Association at 1-888-4-STROKE (1-888-478-7653) or visit us online at StrokeAssociation.org.
- If you or someone you know has had a stroke, call the American Stroke Association's "Warmline" at 1-888-4-STROKE (1-888-478-7653), and:
 - ✓ Speak with other stroke survivors and caregivers trained to answer your questions and offer support.
 - ✓ Get information on stroke support groups in your area.
 - ✓ Sign up to get *Stroke Connection*, a free magazine for stroke survivors and caregivers.

What are the warning signs of stroke?

-  **Sudden weakness or numbness of the face, arm or leg, especially on one side of the body**
-  **Sudden confusion, trouble speaking or understanding**
-  **Sudden trouble seeing in one or both eyes**
-  **Sudden trouble walking, dizziness, loss of balance or coordination**
-  **Sudden, severe headaches with no known cause**



Learn to recognize a stroke. *Because time lost is brain lost.*

Today there are treatments that may reduce the risk of damage from the most common type of stroke, but only if you get help quickly — within three hours of your first symptoms.

Call 9-1-1 immediately if you experience these warning signs!

Do you have questions for your doctor or nurse?

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

When should I test my driving ability?

If not, when might I be able to drive again?

Is my driving restriction permanent?

