

Learn About Stroke

Patient Education Guide



Introduction

When you or a loved one has a stroke, you may have many questions or concerns. This guide will help you understand what a stroke is and what to expect. Not all strokes are the same, and you may read things in this guide that do not apply to your type of stroke.

At Henry Ford Health, team members will work with you or your loved one to help you regain as much function as possible. We will explain what we do, answer your questions, and help you plan for recovery. You are not alone in your stroke recovery journey!

What is a stroke?

There are 2 major types of stroke:

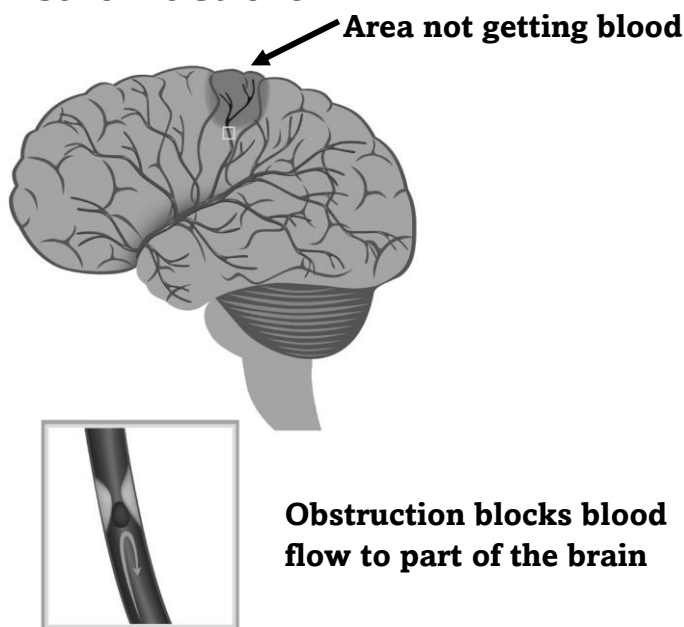
1. Ischemic Stroke

- Blood vessels that become narrow or clogged cut off blood flow to the brain and can cause an ischemic stroke.
- This is the most common type of stroke.

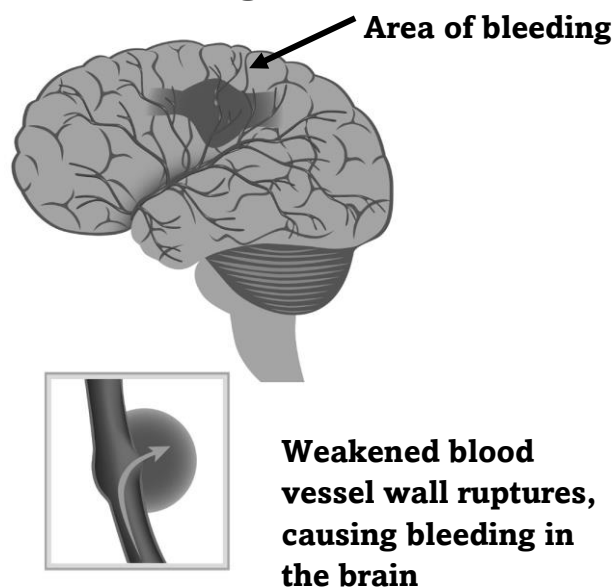
2. Hemorrhagic Stroke

- Bleeding in the brain is called a hemorrhagic stroke.
- You may need to have many tests before your doctor knows if you had a hemorrhagic stroke.
- There are 2 types of hemorrhagic stroke:
 1. An **intracerebral hemorrhage** is when a blood vessel bleeds into the brain tissue. When this happens, blood destroys brain tissue.
 2. A **subarachnoid hemorrhage** is when a blood vessel on the surface of the brain ruptures or bursts suddenly and bleeds into the space between the brain and the skull. A ruptured aneurysm is the most common cause of a subarachnoid hemorrhage. An aneurysm is a blood-filled pouch that balloons out from an artery.

Ischemic Stroke



Hemorrhagic Stroke



What is a Transient Ischemic Attack (TIA)?

- TIA is a short-term blockage of blood flow that does not cause permanent damage.
- TIAs can be a serious warning sign that you are at risk to have a stroke.

Spot a Stroke F.A.S.T

F.A.S.T is an easy way to remember the sudden signs of a stroke.



Face Drooping

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

Ask: Can you smile for me?



Arm Weakness

Is one arm weak or numb?

Ask: Can you raise both arms?



Speech Difficulty

Is speech slurred? Are they unable to speak or hard to understand?

Ask: Can you repeat this back to me:
'The sky is blue in Michigan.'



Time to Call 9-1-1

If they show any of these symptoms, even if they go away, call 9-1-1 and get them to the hospital!

What other signs of a stroke should I know?

These may be other signs of a stroke when they happen very fast:

- Legs feel weak or numb.
- Confused or have trouble understanding.
- Have trouble seeing in one or both eyes.
- Trouble walking, feel dizzy, or lose balance.
- Severe headache with no known cause.

When should I get help?

- **Call 911 if you have any signs of a stroke.**
- Do not drive yourself or have anyone else drive you to the hospital. There are treatments that can lower the risk of damage from some strokes, but only if you get medical help right away.

Treatment Options

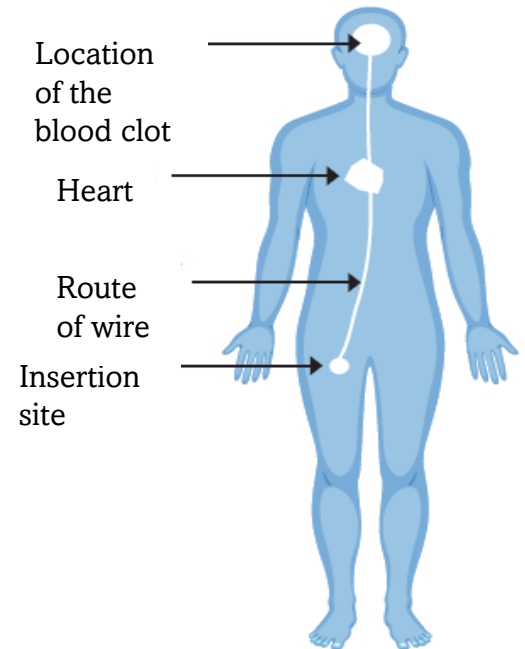
Quick medical attention is important. Your care team may include doctors who specialize in care of the brain such as a neurologist and a neurosurgeon.

What is the treatment for an Ischemic Stroke?

If a stroke happened less than 4 ½ hours before you arrive at the Emergency Department, the doctor may be able to use a medicine called “IV thrombolytics.”

- IV thrombolytics are sometimes called the “clot-busting” drugs. They can clear the blood clot and let blood flow again.
- This can decrease damage and help you to have a better recovery.
- This medicine is not safe for everyone and cannot be used if you have a hemorrhagic stroke or if you have other bleeding problems.

If a stroke is caused by a large blood clot in the brain, it may be able to be treated with a procedure where a thin tube is put in a blood vessel in the groin and up to the brain to physically pull the clot out from the blood vessel.



What is the treatment for a Hemorrhagic Stroke?

If your stroke is due to bleeding in the brain, you may get medicines to lower pressure in the brain, prevent seizures, lower blood pressure, or to counteract any blood thinners you are on.

If a ruptured aneurysm caused the bleeding, there are 2 procedures that may be done to repair it:

1. **Coiling:** Tiny metal coils are guided through a vessel in the groin up to your brain to fill in the aneurysm and stop the blood flow.
2. **Surgical clipping:** A neurosurgeon opens the skull to access the aneurysm and places a tiny clamp at the base of the aneurysm to stop the bleeding.

All stroke treatments must be done quickly!

Tests in the Hospital

Many activities will happen while you are in the hospital.

- A team member will ask you about your health history and do a physical exam.
- A neurologist, a doctor who specializes in the brain, may do a neurology exam. This exam may include checking your:
 - Vision
 - Arm and leg movement
 - Muscle strength
 - Balance
 - Speech

What other tests could I get?

Computerized Tomography (CT) Scan

- An imaging test that creates a picture of the brain and is one of the first tests you will have.
- It will help the doctor decide what may have caused the stroke, the area in the brain affected, and how much your brain has been injured by the stroke.
- You may have more than one CT scan while in the hospital.

Magnetic Resonance Imaging (MRI)

- An imaging test that uses a large magnet to take an image or picture of the brain.
- It can show the location of the stroke and how much of your brain has been injured.
- The picture from an MRI is more detailed than a CT scan, so it is often used to diagnose small, deep injuries.
- An MRI cannot be done if you have a metal fragment in your body or a pacemaker.

Blood Tests

- Many blood tests will be done, including a check of your cholesterol.
- Cholesterol is a type of fat in your blood, which can lead to clogged blood vessels.

Echocardiogram

- This is an ultrasound that shows the heart chambers, valves, and function of the heart.
- It looks for a possible blood clot in the heart.

Transesophageal Echocardiogram (TEE)

- TEE can find problems with the heart chambers and valves of the heart.
- It also can find an irregular heartbeat or problem in the heart wall.

Angiogram

- An angiogram is a scan that shows blood flow through arteries or veins, or through the heart.
- It is used to find:
 - Blood clots in the brain.
 - Weak spots, called aneurysms, in the lining of blood vessels.
 - Problems in the blood vessel walls.
 - The amount of blockage in a blood vessel.

Other Care Team Members

- After you are stable, doctors and staff will decide if a rehabilitation program is right for you.
- Rehabilitation can take place on a special unit of the hospital, at an outpatient rehabilitation facility, or in your own home. Your individual needs will determine where you get rehabilitation.
- Your rehabilitation may include physical therapy, occupational therapy, and speech and language therapy.

Physical Therapy

- Physical therapists and physical therapy assistants are trained to treat people with neurological problems.
- The first goal is to help get you to move as much as possible.
- After an evaluation, a treatment program will be designed just for you.

Occupational Therapy

- An occupational therapist provides treatment to increase independence. It gives you the chance to relearn or learn new “skills for living”.
- Occupational therapists will help you to learn safe and independent ways to do your daily living activities like bathing, dressing, and cooking.
- Occupational therapy focuses on how to:
 - Save your energy and make tasks easier.
 - Learn how to use adaptive equipment, such as tools that can help you do tasks in the kitchen or to get dressed.
 - Improve visual and perceptual problems.
- They will also help train your family members and caregivers on how to help you.



Speech and Language Therapists

- Speech and language therapists help patients regain speaking skills or learn different ways to communicate and understand.
- The speech therapist will work with you on your thinking skills including attention, memory, problem solving, and reasoning.
- They also treat voice and voice box disorders, motor speech, and swallowing problems.

Registered Dietitian Nutritionists

- Registered Dietitian Nutritionists have special training to help patients know what foods will be best to eat for a healthy life.
- A dietitian can teach you about healthy eating and share ideas about food choices that will work for you.

Case Management

- Case Managers are social workers or nurses who help you and your family prepare for discharge from the hospital.
- Case Managers help coordinate community resources, long-term care, referral to home care agencies, hospice, or durable medical equipment. Case Managers also provide crisis intervention and counseling for patients and their families, focused on post-hospital needs.

Common Problems After a Stroke

Understanding the problems that you may have after a stroke is the first step in dealing with them. Each part of the brain has a job to control a different part of the body. Damage to any part of the brain makes it hard to do its job. This can cause problems with thinking and processing information, movement, or changes in your personality.

You may not have all these changes, and some changes may improve over time with therapy.

Cognitive Changes

Cognitive changes may include not being able to:

- Recognize family members, friends, or familiar places.
- Remember how to do daily activities.
- Remember things such as the date, the season, or your age.
- Follow simple commands.
- Act appropriately in different situations.

Emotional Changes

- You may have trouble controlling your emotions. This can cause mood changes that happen quickly or laughing or crying at the wrong time.
- Depression is common after a stroke. It can slow down stroke recovery and needs to be treated.

Motor Deficits

- Movement problems usually happen on only 1 side of the body.
- Movement problems can be mild weakness or you may not be able to move the arm or leg at all.
- If face muscles are weak, there may be drooping of an eyelid, the mouth, or a whole side of the face.

Neglect

Neglect is the loss of space awareness on 1 side of the body. This may include:

- Ignoring the side of the body that has been affected by the stroke.
- Focusing on only one side of something – for example, eating from only one side of the plate and leaving the rest, or only putting one arm into a shirt and not the other.
- Not turning in the direction of someone who is speaking.
- Not knowing your limits after the stroke.

Sensory deficits

- Sensory deficits usually happen on one side of the body.
- This may feel like tingling or numbness in the face, arm, or leg.
- Vision changes may also occur which can include blurred vision, or loss of vision in one or both eyes.

Dysphagia

- Difficulty swallowing is called dysphagia.
- It can affect eating, drinking, and taking medicine.
- If your doctor thinks you may have a swallowing problem, a speech-language pathologist will test your swallowing.

Stiff Muscles

- Some stroke survivors may experience something called “spasticity.” This is when muscles become stiff and rigid, and cause your body to tighten into an abnormal position. This is common in places like your elbow, wrist or ankle. If you have this, talk with your doctor about treatments that can help.

Language Deficits

These may include:

- Not being able to express things correctly.
- Not being able to name objects or people.
- Knowing what you want to say, but the words come out wrong.
- Not understanding spoken or written language.
- Slurred or garbled speech.

Aphasia

- Aphasia happens when you have trouble using or understanding language. This includes speaking, understanding, reading, and writing.
- Aphasia can be different for everyone. Most people with aphasia have not lost intelligence or common sense, but they have trouble understanding and using language. This makes aphasia very frustrating.
- People with aphasia may:
 - Have a hard time producing sounds or words.
 - Have trouble repeating words or imitating simple sounds.
 - Speak in short phrases or “broken” sentences.
 - Use jargon or “nonsense” speech.
 - Swear or curse without meaning to.
 - Have trouble with reading, writing, or simple math.
 - Not be able to understand what others are saying even though they may act like they do.
- When talking to someone with aphasia:
 - Include them in conversations.
 - Speak slowly and clearly.
 - Give information in small amounts.
 - Allow extra time for them to process or think about the information.
 - Use gestures, pictures, or drawings.
 - Avoid constant “quizzing” or “testing.”
 - Offer encouragement and support without pressure to perform.

Dysarthria

- Dysarthria is slurred speech that is caused by weak muscles and nerves in the tongue, voice box (larynx), or mouth.
- A person with dysarthria may be able to say words and understand language, but may not be able to speak the words clearly enough to be understood by others.
- Someone with dysarthria may:
 - Not be able to control their breathing to clearly produce sounds.
 - Sound monotone, nasally, or strained.
 - Have a different voice than before the stroke.
 - Have problems with chewing food or drinking liquids.
- To help someone with dysarthria, encourage them to:
 - Take a deep breath before they speak.
 - Slow down when they speak.
 - Exaggerate tongue and mouth movements when they speak.
 - Sing songs.

Prevent Another Stroke

The best way to prevent another stroke is to take the medicines prescribed by your doctor and to control your risk factors, including:

- High blood pressure
- High cholesterol and lipids
- Diabetes
- Smoking
- Being overweight and not physically active
- Heart disease

Sometimes people have risk factors that cannot be changed such as:

- Age
- Gender
- Race or ethnicity
- Family history
- Having had a stroke in the past

Knowing your risk factors and working to reduce them can help prevent you from having another stroke.

Lower Blood Pressure

- Talk to your doctor to see how often you should check your blood pressure.
- Exercise regularly.
- If you are overweight, losing even a few pounds will help lower your blood pressure.
- Limit your alcohol intake.
- Take your blood pressure medicine as prescribed.
- Your diet should be low in salt, saturated fat, and cholesterol. Most food products now have labels to help you make good decisions about healthy food.

Control High Cholesterol and Lipids

- Avoid foods like egg yolks, fatty meats, butter, and cream.
- Reduce saturated fat, sugar, and salt.
- Bake, broil, roast, and boil your food instead of frying foods.
- Eat more fruits, vegetables, dried peas and beans, pasta, fish, poultry, and lean meats.
- Take medicines as ordered by your doctor.
- Meet with a dietitian if you need help making changes to what you eat.

Manage Diabetes

- Diabetes is a chronic disease that requires a lifetime of self-management.
- Diabetes that is not under control can result in an unhealthy build-up of sugar in the body. This can lead to heart and kidney disease and can affect every part of the body.
- Your diabetes treatment plan usually includes: a meal plan, a plan for staying active, instructions on how and when to check your blood glucose, and your personal blood glucose goals (or target range).
- If you take diabetes medicine, your plan also should include the types, doses, and the timing of when to take the medicine.
- Manage your weight and blood pressure are part of this plan too.
- Keep your blood glucose levels at or near normal to reduce your risk of diabetes-related problems.

Stop Smoking

- Ask your doctor for information and programs to help you quit.
- Over-the-counter and prescription medicines are available that can help you reach your goal.
- Ask your family and friends to support you.
- Try to avoid people who smoke and situations that make you want to smoke.
- Keep busy doing things that make it hard to smoke.

Henry Ford Health System Tobacco Treatment Services (TTS)

Make a plan to stop using tobacco. This includes cigarettes, vapes, e-cigarettes, cigars, pipe smoking, hookah, chewing tobacco, and more. Henry Ford Health can help you quit.

- Call (888) 427-7587 for Metro Detroit Area
- Call (517) 205-7444 if you live in or near Jackson
- Email TobaccoFree@hfhs.org
- Visit henryford.com/tobaccofree or scan the QR code below.

To scan the QR code:

1. Open the camera on your smartphone.
2. Place the QR directly in the center of the camera and the link should appear on the screen.
3. Click the link that appears. This link will take you to the video.



Physical Activity

- Follow the ideas in the high cholesterol and lipids section to help you lose weight.
- Start an exercise program slowly and increase to 30 minutes a session at least 3 to 4 times a week.
- Try new ways of exercise like dancing, weight training, walking, swimming, or riding a stationary bike.
- Check with your doctor before you begin an exercise program.

Understand Your Heart Disease Risk

- Heart disease means any problem of the heart.
- A common heart problem is atrial fibrillation or “a-fib.” A-fib is a condition where the upper chambers of the heart quiver rather than beat normally. This causes the blood to pool and clot, increasing the risk of stroke.
- If you have had a heart attack, you are at higher risk for a stroke.

It is very important that you follow up with your primary care doctor and neurologist after you go home. These doctors need to watch you closely after you have had a stroke.



Medicine After a Stroke

Depending on your history and risk for future strokes, you may be asked to take certain types of medicine. **It is very important to take all medicines as ordered by your doctor.**

Antiplatelet Medicines

- When there is an injury, such as a cut, the body responds by causing the blood to stick together and create a plug over the injured area.
- Antiplatelet medicines work by stopping the blood from creating clots plugs that may block blood flow to the brain.

Cholesterol-lowering Medicines (Statins)

- The term “statins” refers to a group of cholesterol-lowering medicines that can lower the risk for heart attack and stroke.
- Statins reduce the amount of cholesterol produced by the liver, especially the bad cholesterol (LDL). They can sometimes help increase the amount of good cholesterol (HDL).

Anticoagulants

- Anticoagulants are used for patients that have atrial fibrillation, which can cause clots to form in the heart. The clots can leave the heart and travel to the brain, which may cause a stroke.
- Anticoagulants make it harder for these clots to form. They also keep clots that you already have from getting bigger.

Antihypertensives

- Antihypertensives, or blood pressure medicines, will help to lower your blood pressure.
- High blood pressure damages blood vessels and can lead to a stroke.

Other Medicines

- Your doctor may prescribe other medicines depending on your medical history. These medicines will help to control your risk factors for a stroke.

Recover From a Stroke

You will work with many health care team members in your recovery. Recovery from a stroke can be a slow process and many decisions will need to be made. Your doctor and the health care team will offer guidance to you and your family.

A message for family members on recovery:

- Be patient with the evaluation process. This is an important part of treatment since a stroke affects each person differently.
- Keep a list of questions, phone numbers, and appointments. You may also want to record progress as it occurs.
- Check when it is best to visit. Once therapy begins, your loved one may spend a lot of time in therapy. The therapist may need you to attend some sessions but often it is best for the patient to work with the therapist without “an audience.”
- This can be a stressful time for family members. You will be able to support and care for your loved one better when you take care of yourself. Try to rest when you can, eat healthy and do things that you enjoy.

Henry Ford Stroke

For more information on our team, types of stroke, and to read patient stories visit Henryford.com/stroke.



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1. Open the camera on your smartphone.
2. Place the QR directly in the center of the camera and the link should appear on the screen.
3. Click the link that appears. This link will take you to the website.

Stroke Support Groups

A support group is a great way to learn, listen, and talk with others who have also had a stroke.

| Group | Location | Phone Number |
|---------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------|
| Henry Ford Stroke Survivorship Group | Art Block, near Henry Ford Hospital - Detroit | 313-916-4413 |
| Mind Over Matters | Henry Ford St. John Hospital - Detroit | 313-343-7636 |
| Stroke and Brain Aneurysms Support Group | Henry Ford Providence Novi Hospital - Novi | Facebook.com/groups/644439765934379 |
| Providence Stroke Support Group | Henry Ford Providence Southfield - Southfield | 248-849-5802 |
| The Super Survivors' Stroke Support Group | Henry Ford Macomb Hospital - Clinton Township | 810-334-5976 |
| Spice of Life Stroke Club | Rehab Institute of Michigan - Detroit | 313-745-9790 |
| Support Group VA Gotcha | VA Hospital Detroit - Detroit | 313-576-1000 ext 65107 |
| Change of Pace Stroke Club | Warren | 586-757-7480 |
| First Step Support Group | Farmington Hills Senior Center - Farmington Hills | 248-851-0134 |
| Cane and Able Stroke Support Group | Corewell Health - Sterling Heights | 248-964-4222 |
| Zest For Life Stroke Club | Recreation Authority Senior Center - Roseville | 586-777-7177 |
| Speech Therapy and Education Program for Stroke Survivors (STEPSS) | Wayne State University - Detroit | 313-577-3339 |

To find more support groups visit: Stroke.org/stroke-support-group-finder.

Caregiver Resources

Caregivers play an important role in helping stroke survivors with recovery.

Make the home safe.

- Set up a room so that your loved one does not have to climb stairs.
- Clean up any clutter in the house so no one can trip over it. Remove throw rugs and furniture that could cause falls.
- Make sure rooms are well lit.
- Put grab bars and seats in tubs and showers.

Find out what your loved one can do and what they need help with.

- Try not to do things for your loved one that they can do on their own.
- Help them learn and practice new skills.

Visit and talk with your loved one often.

- Try doing activities that you both enjoy, such as playing cards or board games.
- Keep in touch with your loved one's friends as much as you can. Encourage them to visit.

Take care of yourself.

- Do not try to do everything yourself. Ask other family members and friends to help.
- Eat well, get enough rest, and take time to do things that you enjoy.
- Keep up with your doctor visits, and make sure to take your medicines regularly.
- Get out of the house as much as you can.
- Join a local support group.
- Find out if you qualify for home health visits to help with rehab or for adult day care.

Henry Ford Health offers a multitude of resources for caregivers.

Visit [Henryford.com/familycaregivers](https://www.henryford.com/familycaregivers) for more information, or call (313) 874-4838.



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