



# UNDERSTANDING STROKE



## STROKE EDUCATION FOR FAMILIES AND FRIENDS

If you are a family member or caregiver of a stroke patient and are ready, willing, and able to learn, there is stroke education available at [mclaren.org/flintstroke](https://mclaren.org/flintstroke) or ask your nurse to contact your local Neuroscience Stroke Coordinator.

This is a chance for you to learn some helpful information as well as ask questions to help cope with this change in your loved one's health.

You are not alone; join others as they share their experiences and recovery at educational support group meetings. Meetings are in person or via Zoom. More information at: [mclaren.org/flintstroke](https://mclaren.org/flintstroke).

For more information regarding stroke go to the American Stroke Association at [www.stroke.org](https://www.stroke.org).

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THE "LET'S TALK ABOUT STROKE"  
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## WHAT IS STROKE?

**Stroke is a disease that affects the arteries leading to and within the brain. It is the No. 5 cause of death and a leading cause of disability in the United States.**

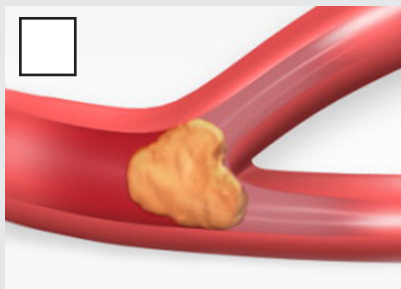
A stroke occurs when a blood vessel that carries oxygen and nutrients to the brain either bursts, ruptures or is blocked by a clot. As a result, the brain cannot get the blood and oxygen it needs and pieces of the brain die.

### Stroke Risk Factors

Approximately 80 percent of strokes can be prevented. Though some stroke risk factors are uncontrollable, such as age and race, other risk factors are in your control and making small lifestyle changes can reduce your stroke risk. For example, hypertension, which is the leading risk factor, can be controlled by eating a healthy diet, regularly physical activity, not smoking, and by taking prescribed medications. The American Heart Association identifies seven factors to control for ideal health. Life's Simple 7: be active, control cholesterol, eat a healthy diet, manage blood pressure, maintain a healthy weight, control blood sugar and don't smoke.

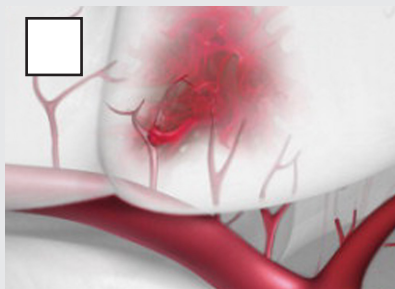
## TYPES OF STROKE

Which one are you? Check the appropriate box.



An Ischemic Stroke occurs when a clot or mass, often a fatty plaque deposit, clogs a blood vessel cutting off the blood flow to brain cells.

Ischemic strokes account for 87 percent of all stroke cases.



A Hemorrhagic Stroke results from a weakened vessel that ruptures and bleeds into the surrounding brain tissue.

The blood accumulates and forms a bruise within the brain tissue, compressing brain cells and causing them to die.



A TIA or Transient Ischemic Attack produces stroke-like symptoms. A TIA is caused by a clot; but unlike a stroke, the blockage is temporary and usually causes no permanent damage to the brain. TIAs are often called "mini-strokes".

Approximately 15 percent of all strokes occur after a TIA. A TIA is a medical emergency!

# QUALITY STROKE CARE AT McLAREN FLINT

McLaren Flint, part of McLaren Health Care and its statewide McLaren Stroke Network, has earned the Get With The Guidelines® Stroke GOLD PLUS distinction from the American Heart Association/American Stroke Association, an acknowledgment of its proficiency in its care for stroke patients by consistently achieving national quality measurements. This is the fourth consecutive year the program has earned this distinction.

“As the region’s first Comprehensive Stroke Center, and a hub for advanced stroke treatment for the McLaren Stroke Network, McLaren Flint is committed to continuing its dedication to improving outcomes for stroke patients,” said Chris Candela, President and CEO of McLaren Flint. “Get With The Guidelines makes it easier for our teams to put proven knowledge and guidelines to work on a daily basis, which studies show can help patients recover better. The end goal is to ensure more people in Genesee County and beyond, can experience longer, healthier lives.”

Distinction levels are determined based on programs’ compliance with the most up-to-date, evidence-based treatment guidelines set by the AHA/ASA to improve the care and clinical outcomes of stroke patients. The GOLD PLUS level – the highest achievable level – is earned by complying with these guidelines for 24 or more consecutive months.

Part of the McLaren Stroke Network, McLaren Flint has routinely earned national recognition for its care, treatment, quality, and outcomes.

“We are fortunate to have the expertise and knowledge of many skilled clinical professionals, which directly results in a higher level of care for our patients and best possible outcomes,” said Dr. Aniel Majjhoo, an interventional neurologist and medical director of the McLaren Stroke Network. “Adhering to the established guidelines puts our patients and providers in a position for success, and ultimately more treated patients being safely discharged home.”

## Identifying Stroke Symptoms

### B.E. F.A.S.T.



**B** BALANCE  
Sudden loss of balance



**E** EYES  
Sudden trouble seeing



**F** FACE  
Uneven or crooked smile



**A** ARMS  
Arm hanging down



**S** SPEECH  
Speech is slurred or drooling



**T** TERRIBLE HEADACHE & TIME  
Sudden onset of headache, call 9-1-1



Additionally, McLaren Flint was listed on the AHA/ASA’s Honor Roll Elite for its prompt use of alteplase, a medication to dissolve stroke-causing blood clots, its Target: Type 2 Diabetes Honor Roll, which recognizes the program for providing the latest evidence-based care to diabetic

stroke patients, and its Target: Stroke Honor Roll Advanced Therapy, recognizing the program for its timeliness in which the stroke-causing blood clot is removed from eligible patients via an interventional procedure.

McLaren Flint also continues to be the region’s only Comprehensive Stroke Center, an accreditation it has held for the past seven years.



## LET'S TALK ABOUT RISK FACTORS FOR STROKE

Knowing your risk factors for stroke is the first step in preventing a 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? Check all you have:

- 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. Normal blood pressure is below 120/80. If it's consistently 140/90 or above, it's too high. Talk to your doctor about how to manage it.
- Tobacco use.** Tobacco use damages blood vessels. This can lead to blockages within those blood vessels, causing a stroke. Don't smoke and avoid second-hand smoke.
- Diabetes.** 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.
- High cholesterol.** High cholesterol increases the risk of blocked 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.
- 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. This causes a stroke.
- Transient Ischemic Attacks (TIAs).** Recognizing and treating TIAs can reduce the risk of a major stroke. TIAs produce stroke-like symptoms but most have no lasting effects. Know the warning signs of a TIA and seek emergency medical treatment immediately.
- Atrial Fibrillation (AFib) or other heart disease.** In AFib the heart's upper chambers quiver (like a bowl of gelatin) rather than beating in an organized, rhythmic way. This causes the blood to pool and clot, increasing the risk of stroke. AFib increases risk of stroke five times. 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.

- Excessive alcohol intake.** Drinking an average of more than one drink per day for women or more than two drinks a day for men can raise blood pressure. Binge drinking can lead to stroke.
- Illegal drug use.** Intravenous drug use carries a high stroke risk. Cocaine use also has been linked to stroke. Illegal drugs commonly cause hemorrhagic strokes.

**What are the risk factors I can't control? Check all that apply:**

- 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. This is 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.





# LET'S TALK ABOUT HIGH BLOOD PRESSURE AND STROKE

## What is high blood pressure (HBP)?

High blood pressure means that the force of the blood pushing against the sides of your arteries is consistently in the high range. This 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.

## How does high blood pressure increase stroke risk?

High blood pressure is the single most important risk factor for stroke because it's the No. 1 cause of stroke.

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

About 87 percent of strokes are caused by narrowed or clogged blood vessels in the brain that cut off the blood flow to brain cells. This is an ischemic stroke.

About 13 percent of strokes occur when a blood vessel ruptures in or near the brain. This is a hemorrhagic stroke. Chronic HBP or aging blood vessels are the main causes of this type of stroke.

## 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 eat too much salt
- People who drink too much alcohol
- Women who use birth control pills
- People who aren't physically active
- Pregnant women



## **How can I control high blood pressure?**

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

- 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.



# LET'S TALK ABOUT STROKE, TIA AND WARNING SIGNS

## What is high blood pressure (HBP)?

Stroke occurs when a blood vessel bringing blood and oxygen to the brain gets blocked or ruptures. When this happens, brain cells don't get the blood that they need. Deprived of oxygen, nerve cells stop working and die within minutes. Then, the part of the body they control can't function either. The effects of stroke may be permanent depending on how many cells are lost, where they are in the brain, and other factors.

## What is a TIA?

TIA, or transient ischemic attack, is a "minor stroke" that occurs when a blood clot blocks an artery for a short time. The symptoms of a TIA are the same as those of a stroke, but they usually last only a few minutes. About 15 percent of major strokes are preceded by TIAs, so **don't ignore a TIA. Call 9-1-1 or seek emergency medical attention immediately!**

## Isn't stroke hopeless?

No. Stroke is largely preventable. You can reduce your stroke risk by living a healthy lifestyle – controlling high blood pressure; not smoking; eating a low-fat, low cholesterol diet; being physically active; maintaining a healthy body weight; managing diabetes; drinking moderately or not at all.

Also, much is being done to fight the effects of stroke. For example, the FDA approved use of the clot dissolving drug tissue plasminogen activator (tPA) to treat stroke. This is an advance because tPA can stop a stroke in progress and reduce disability. But to be eligible for tPA, you must seek emergency treatment right away, because it must be given within 4.5 hours after symptoms start, and have a clot-caused stroke.

## What are warning signs of stroke?

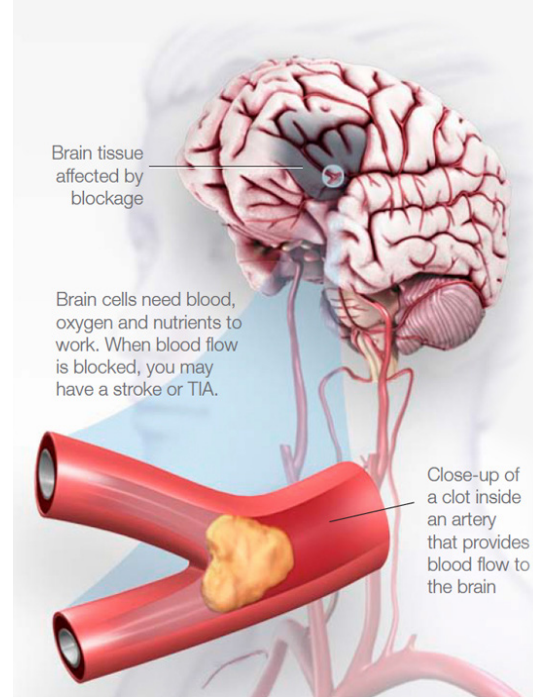
You and your family should recognize the warning signs of stroke. You may have some or all of these signs. Note the time when symptoms start and call 9-1-1 or the emergency medical number in your area. Stroke is a medical emergency!

Don't ignore these warning signs, even if they go away. Timing is important. There are treatments that can be considered within 4 1/2 hours of the onset of symptoms.

## Stroke Warning Signs:

- Sudden numbness or weakness 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

Before you need to take emergency action, find out where the emergency entrance is to your nearest hospital. Also, keep a list of emergency phone numbers next to your phone and with you at all times, just in case. Take these steps NOW!



Stroke is the number 4 cause of death and a leading cause of serious, long-term disability in America.



## LET'S TALK ABOUT ISCHEMIC STROKE

87% of strokes occur when blood vessels to the brain become narrowed or clogged with fatty deposits called plaque, cutting off blood flow to brain cells. A stroke caused by lack of blood reaching part of the brain is called an ischemic stroke. High blood pressure is the most important risk factor for ischemic stroke that you can change.

### Are all ischemic strokes the same?

There are two 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 plaque.
- 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 block a blood vessel in or leading to the brain.

### How are ischemic strokes diagnosed?

When someone has shown symptoms of a stroke or a TIA (transient ischemic attack), a doctor will gather information and make a diagnosis. He or she will review the events that have occurred and will:

- get a medical history
- do a physical and neurological examination
- have certain laboratory (blood) tests done
- get a CT or MRI scan of the patient
- study the results of other diagnostic tests that might be needed

### How are ischemic strokes treated?

Acute treatment is the immediate treatment given by the healthcare team when a stroke happens. The goal of acute treatment is to keep the amount of brain injury as small as possible.

**The only FDA approved drug to treat ischemic stroke is tissue plasminogen activator (tPA).** It is a clot busting drug. tPA must be given within 4.5 hours of the first symptoms of stroke. Medication may also be used to treat brain swelling that sometimes occurs after a stroke.

**Preventive treatment** may be given before or after a stroke happens. When someone has a stroke, they are at risk of another.

Once the medical team identifies what caused the stroke, they may prescribe treatments or procedures to reduce the risk of a second, such as:

- Antiplatelet agents such as aspirin and anticoagulants such as warfarin interfere with the blood's ability to clot and can play an important role in preventing stroke.
- Carotid endarterectomy is a procedure in which blood vessel blockage is surgically removed from the carotid artery in the neck.
- Doctors sometimes use balloon angioplasty and implantable steel screens called stents to treat cardiovascular disease and reduce fatty buildup clogging a vessel that may make it easy for clots to form in the bloodstream.

# LET'S TALK ABOUT ANTICOAGULANTS AND ANTIPLATELET AGENTS

Anticoagulants and antiplatelet agents are medicines that reduce blood clotting in an artery, vein or the heart. Clots can block the blood flow to your heart muscle and cause a heart attack. They can also block the blood flow to your brain, causing a stroke.

## What should I know about anticoagulants?

Anticoagulants (or “blood thinners”) are medicines that delay the clotting of blood. Examples are heparin, warfarin and dabigatran.

Anticoagulants make it harder for clots to form or keep existing clots from growing in your heart, veins or arteries. Treatment should be managed by your healthcare provider.

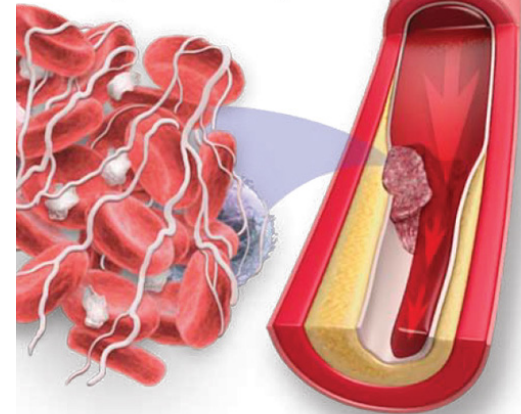
- Follow your doctor's (or other healthcare provider's) instructions.
- If you take warfarin or heparin, have regular blood tests so your doctor can tell how the medicine is working.
- The test for people on warfarin is called a prothrombin time (PT) or International Normalized Ratio (INR) test.
- The test for persons on heparin is called an activated partial thromboplastin time or a PTT test.
- 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 medicines or supplements, such as aspirin, vitamins, cold medicine, pain medicine, sleeping pills or antibiotics. These can affect the way anticoagulants work 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 your healthcare providers. Foods rich in Vitamin K can reduce the effectiveness of anticoagulants. Vitamin K is found in leafy, green vegetables, fish, liver, lentils, soybeans, and some vegetable oils.
- Tell your family that 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.

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



## WHAT MEDS ARE YOU ON?

Anticoagulants

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Antiplatelet Agents

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- 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 are used to treat patients with atherosclerosis or with increased clotting tendencies. In atherosclerosis 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 blockage in the artery.
- Antiplatelet drugs include aspirin, ticlopidine, clopidogrel and the combination of aspirin and dipyridamole.
- Aspirin can help prevent an ischemic stroke. It can also help if you have had a TIA or if you have heart problems. You must use aspirin just as your doctor tells you.

## LET'S TALK ABOUT HEMORRHAGIC STROKE

About 13 percent of strokes happen when a blood vessel ruptures in or near the brain. This is called a hemorrhagic stroke as shown at right.

When a hemorrhagic stroke happens, blood collects in the brain tissue. This is toxic for the brain tissue causing the cells in that area to weaken and die.

### 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.

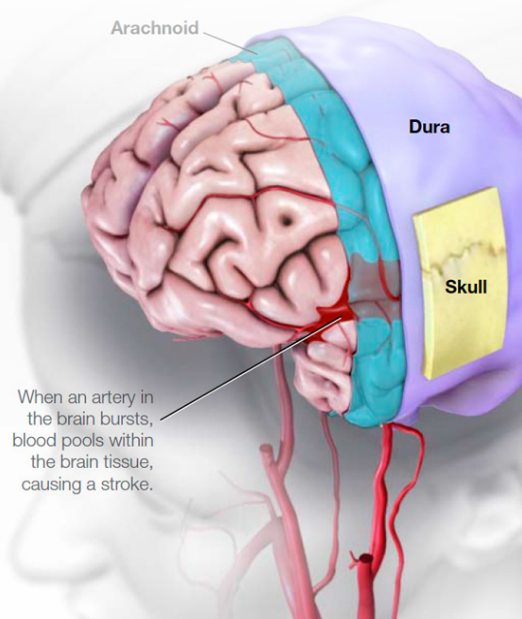
Which one are you? Please check box.

**Intracerebral hemorrhages (most common type of hemorrhagic stroke):**

- Occur when a blood vessel bleeds or ruptures into the tissue deep within the brain.
- Are most often caused by chronically high blood pressure or aging blood vessels.
- Are sometimes caused by an arteriovenous malformation (AVM). An AVM is a cluster of abnormally formed blood vessels. Any one of these vessels can rupture, also causing bleeding into the brain.

**Subarachnoid hemorrhages:**

- Occur when an aneurysm (a blood-filled pouch that balloons out from an artery) on or near the surface of the brain ruptures and bleeds into the space between the brain and the skull.
- Are often caused by high blood pressure.



In addition to high blood pressure, factors that increase the risk of hemorrhagic strokes include:

- cigarette smoking
- use of oral contraceptives (particularly those with high estrogen content)
- excessive alcohol intake
- use of illegal drugs

### **How are hemorrhagic strokes diagnosed?**

When someone has shown symptoms of a stroke or a TIA (transient ischemic attack), a doctor will gather information and make a diagnosis. He or she will review the events that have occurred and will:

- get a medical history
- do a physical and neurological examination
- have certain laboratory (blood) tests done
- get a CT or MRI scan of the brain
- study the results of other diagnostic tests that might be needed

Diagnostic tests examine how the brain looks, works and gets its blood supply. They can outline the injured brain area. Diagnostic tests fall into three categories.

- Imaging tests give a picture of the brain similar to X-rays.
- Electrical tests record the electrical impulses of the brain (also called an EEG).
- Blood flow tests show any problem that may cause changes in blood flow to the brain.

### **How are hemorrhagic strokes treated?**

Because hemorrhages may be life-threatening, hospital care is required. Medication is used to control high blood pressure. Other medicine may be given to reduce the brain swelling that follows a stroke.

Surgery may be needed depending on the cause and type of the hemorrhage. Surgery is often recommended to either place a metal clip at the base of an aneurysm or to remove the abnormal vessels that make up an AVM.

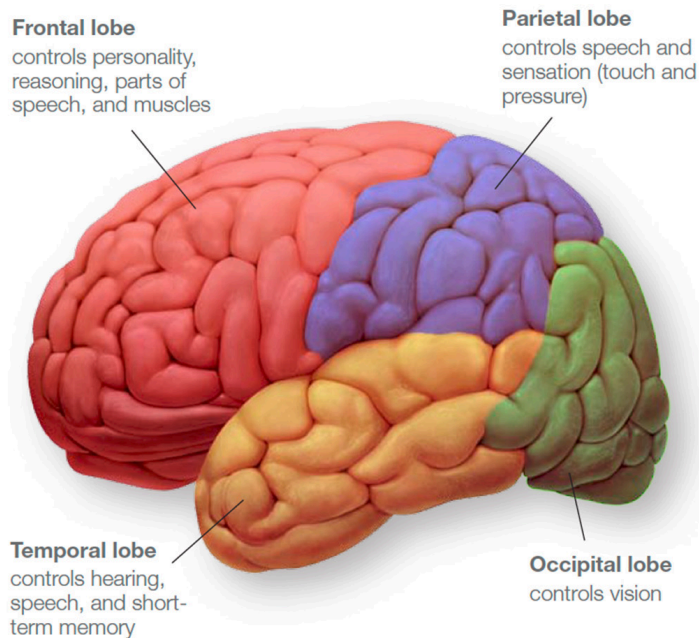
Some procedures are less invasive and use of a catheter that goes in through a major artery in the leg or arm. The catheter is guided to the aneurysm or AVM where it places a device, such as a coil, to prevent rupture.

# LET'S TALK ABOUT CHANGES CAUSED BY STROKE

Your brain controls how you move, feel, communicate, think and act. Brain injury from a stroke may affect any of these abilities. Some changes are common no matter which side of the brain the injury is on. Others are based on which side of the brain the stroke injures.

## What are the most common general effects of stroke?

- Hemiparesis (weakness on one side of the body) or hemiplegia (paralysis on one side of the body)
- Dysarthria (difficulty speaking or slurred speech), or dysphagia (trouble swallowing)
- Fatigue
- 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)
- Decreased field of vision (inability to see peripheral vision) and trouble with visual perception





### **What are common changes with a left-brain injury?**

- Paralysis or weakness on the right side of the body.
- Aphasia (difficulty getting your words out or understanding what is being said)
- Behavior that may be more reserved and cautious than before.

### **What are common changes with a right-brain injury?**

- Paralysis or weakness on the left side of the body.
- One-sided neglect which is a lack of awareness of the left side of the body. It may also be a lack of awareness of what is going on to the survivor's left. For example, they may only eat from the right side of their plate, ignoring the left side.
- Behavior may be more impulsive and less cautious than before.
- It may be harder for the survivor to understand facial expressions and tone of voice. They also may have less expression in their own face and tone of voice when communicating.

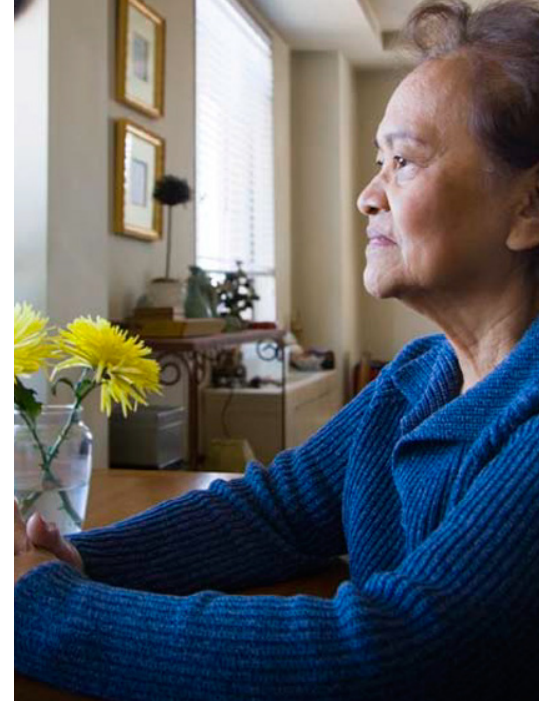
### **What are common emotional effects of stroke?**

- Depression
- Apathy and lack of motivation
- Frustration, anger and sadness
- Pseudobulbar affect, also called reflex crying or emotional lability (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 over time. The effects of a stroke are greatest right after the stroke. 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 your rehabilitation.

- Some improvement occurs spontaneously and relates to how the brain works again after it's been injured.
- Stroke rehabilitation (rehab) programs help you improve your abilities and learn new skills and coping techniques.
- Rehab begins after the stroke is over and you're medically stable.
- Depression after stroke can interfere with rehab. It's important to treat depression.
- Improvement often occurs most quickly in the first months after a stroke. Then it continues over years, perhaps at a slower pace, with your continued effort





## LET'S TALK ABOUT COMPLICATIONS AFTER STROKE

Your doctor's highest priorities after a stroke are to prevent complications from the 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 things happen as a direct result of injury to the brain due to stroke. Others are because of a change in your abilities. For example, being unable to move freely can result in bedsores. Clinical depression can also occur with a stroke.

### **What are common complications of stroke?**

The most common complications of stroke are:

- Brain edema – swelling of the brain after a stroke.
- Pneumonia – causes breathing problems, a complication of many major illnesses. Common swallowing problems after stroke can sometimes result in things 'going down the wrong pipe', leading to aspiration pneumonia.
- Urinary tract infection and/or bladder control.
- 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.

# LET'S TALK ABOUT FEELING TIRED AFTER STROKE

After a stroke, almost all stroke survivors feel tired at some point. Stroke survivors often must work harder to make up 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.

## Why am I so tired?

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, 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.
- You may feel more tired because of depression.

Depression is very common after a stroke. 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. Your doctor can evaluate any medical reasons for your tiredness. He or she can also 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.
- Be social. Go out into the community and interact with friends, family and other people.
- Physical activity is important. With permission from your doctor, consider joining a health and wellness program.





## LET'S TALK ABOUT EMOTIONAL CHANGES AFTER STROKE

Right after a stroke, a survivor may respond one way, yet weeks later respond differently. Some survivors may react with sadness; others may be 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.

### **How does stroke cause emotional changes?**

Emotions may be hard to control, especially right after a stroke. Some changes are a result of the actual injury and chemical changes to the brain caused by the stroke.

Others are a normal reaction to the challenges, fears and frustrations that one may feel trying to deal with the effects of the stroke. Often, talking about the effects of the stroke and acknowledging these feelings helps stroke survivors deal with these emotions.

### **What are some common emotional changes after stroke?**

Pseudobulbar Affect, also called “emotional lability,” “reflex crying” or “labile mood,” can cause:

- Rapid mood changes – a person may “spill over into tears” for no obvious reason and then quickly stop crying or start laughing.
- Crying or laughing that doesn't match a person's mood.

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 needed. If not treated, depression can be an obstacle to a survivor's recovery. Don't hesitate to take antidepressant medications prescribed by your doctor.

Other common emotional reactions include:

- 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 and/or medication if needed.
- Stroke may cause you to tire more easily. Rest when you feel fatigued. Make sure you get enough sleep. Sometimes lack of sleep can cause emotion.

## LET'S TALK ABOUT STROKE AND REHABILITATION

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

### What is stroke rehabilitation?

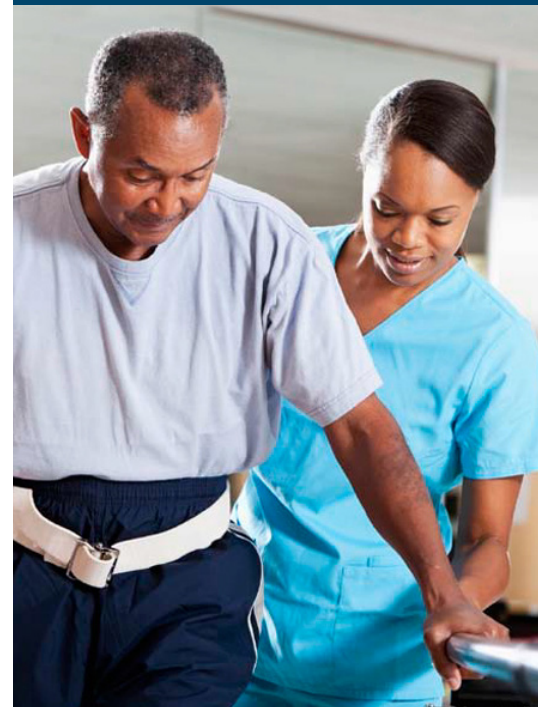
After a stroke, you may have to change or relearn how you live day to day. Rehab may reverse some of the effects of stroke.

The goals of rehab are to increase independence, improve physical functioning, and help you gain a satisfying quality of life after stroke. Another goal is to help you make lifestyle changes to prevent another stroke.

### Who will be a part of my rehabilitation program?

Your rehab team may include:

- **Physiatrist** – A medical doctor who specializes in rehab.
- **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 rehab.



- **Speech language pathologist** – A specialist who helps to restore speech and 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, Psychologist or Social Work** – 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?

Rehab programs often focus on:

- Activities of daily living such as eating, bathing and dressing.
- Mobility skills such as transferring from bed to chair, 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.

## McLAREN NEUROLOGIC REHABILITATION INSTITUTE

McLaren utilizes a wide range of therapies for individuals with a variety of Neurologic diagnoses. McLaren licensed therapists are certified brain injury specialists.

### Occupational Therapy

Assists individuals to improve their cognitive and physical skills in preparation for independence at home, school and the workplace.

### Physical Therapy

Works to control body movements necessary for standing, sitting, walking and other physical activities.

### Speech and Language Therapy

Assists individuals with difficulties in swallowing, speech, thinking, understanding, and communicating effectively.

### Cognitive - Communication Retraining

Relearning communication and thought processing skills is key to the rehabilitative process. Treatment focuses on strategies to improve how individuals attend to their environment, organize and use language, and remember important information.



### **Visual Perceptual Retraining**

Individuals relearn the use of integrated visual perceptual and visual motor skills to perform daily living activities, such as walking, reading, using tools, and driving a car.

### **Independent Living Skills**

Individuals practice a variety of daily living skills, such as managing a household, providing child care, traveling independently, and accessing resources in the community. Adaptive equipment, home/work modifications, in-home therapies, or other strategies may be recommended.

### **Academic Skills Assistance**

Help is provided to improve skills necessary for return to school. Educational planning is coordinated with school personnel.

### **Individual, Group, and Family Therapies**

McLaren therapists provide education, support and counseling to assist individuals and their families in understanding and adjusting to disabilities and life-style changes brought about by various neurological conditions. A majority of the support groups are open to the community.

### **LSVT® Certified Clinicians**

LSVT® BIG and LOUD Certified Physical, Occupational and Speech Therapists for Parkinson's disease and other Neurological conditions. Evidence based training on increased amplitude, intensity and effort.

### **Driver Retraining**

The clinical driving evaluation provides information and assistance to identify vision, visual perceptual skills, safety, and reaction time needed for safe return to on-road driving.

### **Specialized Services**

- Vestibular rehabilitation is used to address problems with balance and dizziness that are common following a brain injury
- Social services assistance
- Community resources and referral assistance
- Driving Evaluation
- Specialized therapy for individuals requiring services beyond the scope of our outpatient rehabilitation program



## LET'S TALK ABOUT STROKE AND APHASIA

Aphasia is a language disorder that affects the ability to communicate. It's most often caused by strokes that occur in areas of the brain that control speech and language.

### What are the effects of aphasia?

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

### 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 think about 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 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.

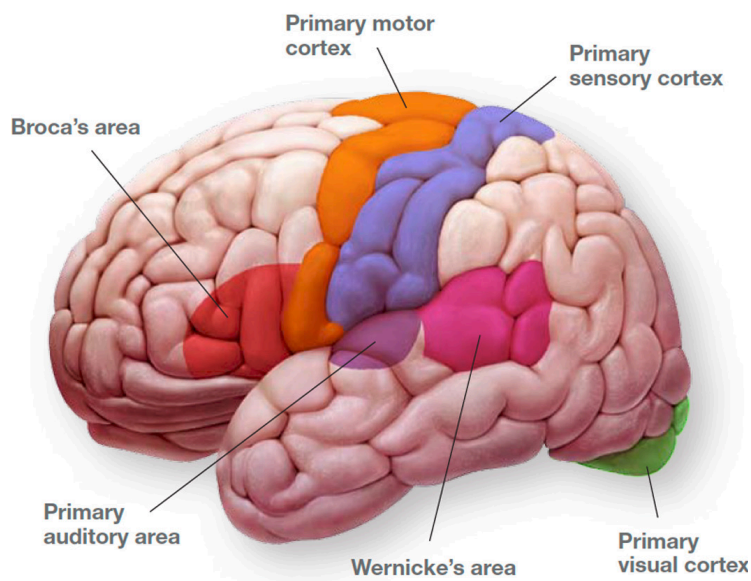
### How can family and friends help?

The stroke survivor and their family members will need the help and support of a doctor, counselor and speech language 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 not only respects their dignity, but makes it less stressful for them when communicating.



## LET'S TALK ABOUT LIVING AT HOME AFTER STROKE

Most stroke survivors are able to return home and resume many of the activities they did 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 go home or 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 should be available who is willing and able to help when needed.





- **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 look around your home and remove 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. Changes can be as simple as moving 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 special 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 for a short time. 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.

## **LET'S TALK ABOUT LIFESTYLE CHANGES TO PREVENT STROKE**

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 your risk for disability and death from stroke and heart attack.

### **How can I make my lifestyle healthier?**

Here are steps to take to be healthier and reduce your risk of stroke:

- Don't smoke and avoid second-hand smoke.
- Improve your eating habits. Eat foods low in saturated fat, trans fat, cholesterol, sodium and added sugars.

- Be physically active.
- Take your medicine as directed.
- Get your blood pressure checked regularly and work with your healthcare provider to manage 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?**

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

- Make a decision to quit – and commit to stick to it.
- Ask your healthcare provider for information, programs and medications 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 or registered dietician 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, trans fat, sugar and salt.
- Bake, broil, roast and boil foods instead of frying.
- Read nutrition labels on packaged meals. Many are very high in sodium.
- Limit alcohol to one drink a day for women; two drinks per day for men.
- Eat more fruit, vegetables, whole-grains, dried peas and beans, pasta, fish, poultry and lean meats.

### **What about physical activity?**

- If you have a medical condition, check with your doctor before you start.
- Start slowly and build up to at least 2 ½ hours of moderate physical activity (such as brisk walking) a week.
- Look for even small chances to be more active. Take the stairs instead of an elevator and park farther from your destination.





## LET'S TALK ABOUT THE STROKE FAMILY CAREGIVER

People who provide help for stroke survivors are often called caregivers. Everyone involved in helping a stroke survivor is a caregiver. It can be the spouse, family members or friends. Often one person, spouse, adult child or parent, will provide most of the care.

It's important that caregivers and stroke survivors strive to be "care partners" in their efforts. It's often a challenge for both to adjust to their changed roles. The adjustment may be easier if the caregiver and stroke survivor share in decision-making as much as possible and try to share their feelings honestly.

### What should a caregiver do?

There is no one "job description" that explains what all caregivers do. Each caregiver's responsibilities vary according to the unique needs of the stroke survivor. Role changes and new skills may need to be learned. Common responsibilities of caregiving include:

- Providing physical help with personal care and transportation.
- Managing financial, legal and business affairs.
- Monitoring behavior to ensure safety.
- Managing housework and making meals.
- Coordinating health care and monitoring or giving medications.
- Helping the survivor maintain learned rehab skills and work to improve them.
- Providing emotional support for the stroke survivor and family members.
- Encouraging the stroke survivor to continue working toward recovery and to be as independent as possible.

### Is there assistance for caregivers?

Many people find caring for another person very rewarding. But there may be times when a stroke survivor's needs are too much for any one person. Sometimes a caregiver just needs a break. These community resources may be helpful:

- **Adult day care** – professional supervision of adults in a social setting during the day.
- **Adult foster homes** – supervised care in approved (licensed) private homes.
- **Meal programs (Meals on Wheels)** – a federally sponsored nutrition program.
- **Home health aide service** – in-home personal care assistance.
- **Homemaker assistance** – supervised, trained personnel who help with household duties.
- **Respite care** – people come into the home for a limited time to give caregivers a break. Some nursing homes also provide short-term respite care.

### Is training available for family caregivers?

Finding caregiver training locally can be hit or miss. A good place to start is with your local Area Agency on Aging. Visit [eldercare.gov](http://eldercare.gov) to find an office near you.

# LET'S TALK ABOUT DRIVING AFTER 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.

## Can I drive after a stroke?

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 even 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 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 taking a driving test:

- 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. They will offer a professional opinion about how your stroke might change your ability to drive. Contact your State Department of Motor Vehicles. Ask for the Office of Driver Safety. Ask what applies 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.\*
- 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 rehab centers.
- Ask your family if they have seen changes in your communication, thinking, judgment or behavior that should be evaluated before you drive again. Family often have more opportunities to observe changes than others do.



\* Pre-driving skills evaluations are offered at the McLaren Neurologic Rehabilitation Institute. A clinical pre driving skills evaluation provides information and assistance to identify vision, visual perceptual skills, safety, and reaction time needed for safe return to on-road driving. For questions or appointments, please call (810) 342-4220.



Caregivers, take breaks – and don't feel guilty about it. You don't want to end up feeling like a parent instead of a partner. Encourage fun whenever you can. Laughter and playfulness can help you maintain an adult relationship.

## SEX AFTER STROKE

Sex can be a sensitive subject, but the good news is that many stroke survivors and their partners can enjoy satisfying intimacy after stroke. The sooner you resume sexual relations – as long as you're medically stable – the better.

Everything from depression to impotence to concern over your appearance to side effects of medication to fatigue may be at play. Like many stroke survivors, you may have questions:

- Will I have another stroke during sex? The chances are very low. The amount of energy needed for sex is about the same as the energy used to walk up one or two flights of stairs. Talk to your doctor if you're concerned.
- How will my partner respond to me? You may wonder if your partner is turned off by your appearance. Your partner may worry that sex could cause pain. You'll both need time to adjust. Share your feelings openly, and talk to a counselor if needed.
- What if I have trouble communicating? You may be dealing with aphasia (loss of speech). You know what you want to say but can't make the words come out right, or you may not understand what someone else is saying. Touch can be an important communication tool. It shows warmth, caring and desire.

### Start with these tips:

- **Communicate openly.** Talk to your partner. Just having a conversation can relieve your concerns.
- **Begin slowly.** At first you may want to try massage or other ways of being intimate instead of intercourse. Explore what feels good – and speak up! Your partner can't read your mind.
- **Rest up and plan ahead for sex.** You'll both be at your best when you're not tired and when you have uninterrupted time to spend together. Rest can also enhance sexual activity. Be sure and allow enough time to help compensate for slower physical responses.
- **Keep tabs on the medications you take.** Sleeping pills may make you less alert, so avoid them if you can. If you take high blood pressure medication, plan for sex before your daily dose, which may help you avoid impotence caused by some high blood pressure medications. Other medications like tranquilizers, sleeping pills, antidepressants and antihistamines can reduce sexual desire or cause impotence. If you're a woman, some forms of birth control may be easier than others. (Talk to your doctor if you want to get pregnant to learn the effects of pregnancy on your body and the risks involved.)
- **Find a comfortable position.** A common effect of stroke is weakness or paralysis on one side of the body, so you may need to alter your usual position for intercourse. If you're a man with one-sided paralysis, the missionary position (man on top) won't work for you. Instead, your partner might try being on top, or you might try a side-lying position.
- **Take time to experiment.** Your sense of touch may be affected after a stroke. For example, if you're paralyzed on one side, your partner may forget about the affected area, so remind him or her to approach you from the non-paralyzed side. Rediscover what you and your partner enjoy.
- **Take time for yourself.** Careful grooming and attractive clothes can help you feel your best. This may take extra effort at first, but the results are worthwhile. Even small steps can help you accept your new self, regain confidence and fight depression.

# COPING WITH DEPRESSION AND ANXIETY FOLLOWING A STROKE

Following a stroke, some people experience new or worsening symptoms of DEPRESSION or ANXIETY.

- This can occur, in part, as a reaction to changes in their life following a stroke (i.e., loss of function or independence)
- Likewise, changes in the brain following a stroke can affect how emotions are experienced and expressed
- Occasionally, a stroke can cause someone to EXPRESS a different emotion than they are FEELING (such as laughing at a funeral). This is called Pseudobulbar Affect (PBA). Individuals with PBA are unable to control how they express their emotions in the same way as before the stroke.
- It's not just the survivor of a stroke who is at an increased risk of developing depression or anxiety; being a CAREGIVER for someone following a stroke is often very stressful. This can increase your chances of having symptoms of depression or anxiety.

It is normal to GRIEVE for what has been lost following a stroke:

- However, when these feelings are intense or long-lasting, it's time to get help! Recognizing when normal grief becomes depression can help the individual or their family begin to reach out for help.
- Approximately 1/3 of patients who have had a stroke will present with depressive symptoms
- Some common symptoms of DEPRESSION include: depressed or sad mood, poor or excessive sleep and appetite, lack of enjoyment in activities you used to enjoy, poor concentration and memory, lack of motivation, social withdrawal, uncharacteristic behaviors, thoughts about death or dying

Likewise, sometimes people develop worsening anxiety following a stroke.

- Common symptoms of ANXIETY include: anxious mood, worry, dread, fear, racing thoughts, racing heartbeat, being preoccupied with certain thoughts, tense muscles, fidgeting, poor sleep, low energy, shaking, headache, uncharacteristic behaviors, stomach ache

## The Good News- There is HELP!

If you or a family member/friend are experiencing depression or anxiety, please let your doctor know!

- Therapy and/or medications can help to improve one's mood and develop new coping strategies
- Sometimes people can become isolated following a stroke. Increasing a stroke survivor's involvement in family/friends, activities they enjoy, recreation, religion, hobbies, and goals can be a great way to cope following a stroke. These activities can also decrease symptoms of depression and anxiety
- Arm yourself with knowledge! You can get more information at [www.strokeassociation.org](http://www.strokeassociation.org) or call 1-800-787-6537
- Attend a support group, we have one here at McLaren: 1st & 3rd Wednesday of each month from 3:30-5:00 pm at the McLaren Medical Education Building behind Beech Hill Centre Conference Room A, G-3230 Beecher Rd, Flint (810) 342-4220
- A Speech and Communication Group also meets every Thursday at 3:00 p.m. at McLaren Neurologic Rehabilitation Institute, G-3239 Beecher Road, Flint (810) 342-4220





## **HOMECARE**

### **Vascular Interventional Neuro Services**

At McLaren Flint we offer life saving alternatives through our vascular interventional neuro program. These interventions involve procedures that either stop bleeding in the brain or remove the clots that are causing the stroke. McLaren Flint was the first hospital in the region to offer such services. Following a stroke, patients experiencing the mildest of deficits to the most severe, can be assured the neurological experts at McLaren Flint are qualified to provide the care they need.

### **Inpatient Rehabilitation**

On the hospital's dedicated Inpatient Rehabilitation Unit the team consists of rehabilitation physicians, consulting physicians, rehabilitation nurses, physical therapists, occupational therapists, speech language pathologists, social workers, psychologists, support staff, pharmacists and dieticians. Members of the team act as teachers, coaches and advocates for the patient. To reach inpatient rehabilitation, please call (810) 342-2384.

For patients who cannot be discharged from inpatient rehab to home, McLaren Flint assists in transition of care needs. The McLaren stroke care team also facilitates home medical supplies and equipment as needed, including custom orthotics and bracing.

### **Home Care Services**

McLaren Health Management Group offers stroke rehabilitation therapy for Stroke Care; a rehabilitative home care program designed to help stroke patients get better by improving their overall function through therapy. A specific plan of care is tailored to each patient and includes: walking and mobility training, balance activities, resistance activities, progressive strengthening, speech and swallowing and caregiver education. For questions regarding stroke rehabilitation at home, call (866) 323-5974.

### **Outpatient Rehabilitation**

The staff of the McLaren Neuro Rehab Institute (MNRI) utilizes a wide range of therapies for individuals with a variety of neurologic diagnoses including stroke. The licensed therapists at MNRI are also certified brain injury specialists. Staff includes physical, occupational, speech language pathologists, and a social worker. The program has access to a neuropsychologist who works with patients to understand and cope when brain injury affects behavior. Among the special types of equipment used for stroke patients at MNRI are iPads and the Lite Gait System. In February 2012 MNRI staff became nationally Certified Brain Injury Specialists (CBIS) through the Academy of Certified Brain Injury Specialists (ACBIS). The certification is achieved through the combination of work experience, training and passing a written exam. The certification was established for direct care staff and professionals who want a strong foundation in the best practices in brain injury rehabilitation.

To contact MNRI, please call (810) 342-4220.



# STROKE EDUCATION AND SUPPORT SERIES

The McLaren Stroke Network offers a free education and support program series for stroke patients, people at high risk of a stroke, family members of stroke patients, and the community. Series speakers represent a number of different disciplines including physicians, speech language pathologists, physical and occupational therapists, dieticians, pharmacists, nurses, and individuals from the community. Educational topics change annually and are chosen based on group needs and requests. The first half of the meeting is reserved for the speakers and any questions from the attendees in an effort to improve the participants knowledge of stroke, therapies and treatment, and prevention. The second half of the meeting is allocated for support for the survivors and their friends, family and caregivers. This is especially important now, when families and friends are not able to see each other as much in person.

Due to the COVID-19 pandemic and patients in rural areas, the support group has gone virtual. The McLaren Stroke Network is pleased to provide access to stroke education and support to as many stroke patients and caregivers in Michigan as possible, no matter where they live. The virtual options for stroke education and support include different dates, times, speakers, and topics. Use the QR code provided below with any QR code app to see the virtual options for stroke education and support or by typing [www.mclaren.org/main/stroke-education-and-support](http://www.mclaren.org/main/stroke-education-and-support) into your internet address bar and



scroll to the bottom of the page. Links to all of the virtual groups are provided on the website and use the Zoom platform. Attend the group that best fits your schedule.

You are welcome to attend as many group sessions as you would like. In-person groups are also available at

certain McLaren subsidiaries.

Programs are held the first Wednesday of each month at 3:30 pm, and – when in-person groups resume – will be held in the conference room at the Hospitality House, G-3170 Beecher Road, Flint, MI 48532. For dates and times, please call (810) 342-4220.

If you have any questions regarding support groups, contact the Neuroscience Coordinator at (810) 342-5706 or the Neuroscience Institute at (810) 342-5700.

*\* Please note, subjects and speakers may change due to unforeseen circumstances.*

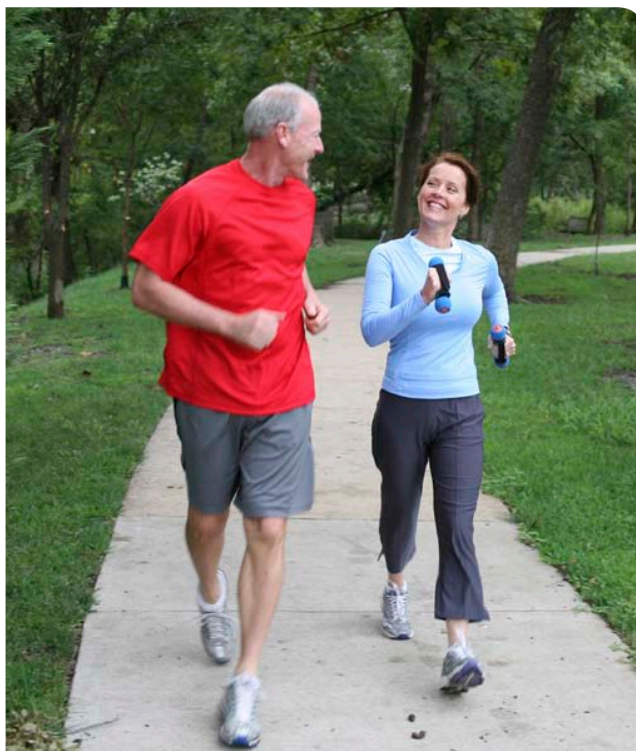


## Why Should I Be Physically Active?

If your doctor has suggested that you begin a physical activity program, follow that advice. The American Heart Association recommends that adults get at least 150 minutes of moderate-intensity physical activity each week. People who don't get enough physical activity are much more likely to develop health problems.

Regular, moderate-intensity aerobic physical activity can lower your risk of:

- Heart disease and heart attack
- High blood pressure
- High total cholesterol, high LDL (bad) cholesterol and low HDL (good) cholesterol
- Overweight or obesity
- Diabetes
- Stroke



If you have a chronic condition, talk to your healthcare provider about an exercise program that's right for you. Once you start, you'll find that exercise isn't just good for your health — it's also fun.

### What else can physical activity do for me?

Physical activity is associated with these benefits:

- Strengthens your heart, lungs, bones and muscles.
- Gives you more energy and strength.
- Helps control your weight and blood pressure.
- Helps you handle stress.
- Helps your quality of sleep.
- Helps you feel better about how you look.

### What kind of activities should I do?

You don't have to be an athlete to lower your risk of heart disease and stroke! If done on most or all days, you can benefit from moderate activities like these:

- Brisk walking
- Gardening and yard work
- Moderate to heavy housework
- Pleasure dancing and home exercise

More vigorous physical activity can further improve the fitness of your heart and lungs. Start slowly, and build up as your heart gets stronger. Start with light or moderate intensity activity, for short periods of time. Spread your sessions throughout the week.

Most healthy adults do not need to consult a doctor or healthcare provider before becoming more physically active. But healthcare providers can provide advice on the types of activities best for you and ways to progress at a safe and steady pace. Then try one or more of these:

- Hiking or jogging
- Stair climbing
- Bicycling, swimming or rowing
- Aerobic dancing or cross-country skiing

(continued)



### How often should I exercise?

- Work up to a total of least 150 minutes of moderate-intensity physical activity or 75 minutes of vigorous physical activity per week.
- Make sure it's regular — you can reach your 150 minute goal by getting about 30 minutes of physical activity on most or all days of the week.

### What else can I do?

Look for ways to add more physical activity to your daily routine. Making small changes in your lifestyle can make a big difference in your overall health. Here are some examples:

- Take a walk for 10 or 15 minutes during your lunch break.
- Take stairs instead of escalators and elevators.
- Park farther from the store and walk through the parking lot.



Taking the stairs instead of escalators or elevators is an easy way to add physical activity to your daily routine.

### 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's the best type of physical activity for me?**

**How much should I exercise?**

### 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.



# How Do I Follow a Healthy Diet?

The American Heart Association recommends an eating plan that emphasizes intake of vegetables, fruits, and whole grains and includes low-fat dairy products, poultry, fish, legumes (dried beans and peas), nontropical vegetable oils, nuts and seeds. It should limit intake of sodium, sweets, sugar-sweetened beverages and red meats.



## Vegetables

- One serving equals: 1 cup raw leafy vegetables (about the size of a small fist); ½ cup cut-up raw or cooked vegetables; ½ cup vegetable juice.
- Eat a variety of colors and types, especially deeply colored vegetables, such as spinach, carrots, and broccoli.
- Look for vegetables that are fresh, frozen, or canned in water without added sugar, saturated and *trans* fats, or salt.

## Fruits

- One serving equals: 1 medium fruit (about the size of a baseball); ¼ cup dried fruit; ½ cup fresh, frozen, or canned fruit; ½ cup 100% fruit juice.
- Eat a variety of colors and types, especially deeply colored fruits such as peaches and berries.
- Eat whole fruits to get all of the nutrients (such as fiber) that can be missing in some juices.

## Whole grains

- One serving equals: 1 slice bread; ½ cup hot cereal, 1 cup flaked cereal; or ½ cup cooked rice or pasta (about the size of a baseball).
- At least half of your servings should be high-fiber whole grains. Select items like whole-wheat bread, whole-grain crackers and brown rice.
- Aim for about 25-30 grams of fiber from foods each day.

## Poultry, fish and lean meats (less than 6 cooked ounces per day)

- A 3 oz. portion is about the size of a deck of playing cards, ½ of a chicken breast or ¾ cup of flaked fish.
- Enjoy at least 2 servings of baked or grilled fish each week; especially fish high in omega-3 fatty acids, like salmon, trout, and herring. (3 oz. of grilled or baked fish is about the size of a checkbook).
- Trim all visible fat from meats before cooking.
- Remove skin from poultry before eating.

(continued)



### Nuts, seeds, and legumes

- One serving equals:  $\frac{1}{3}$  cup or  $1\frac{1}{2}$  oz nuts; 2 Tbsp. peanut butter (no salt added); 2 Tbsp. or  $\frac{1}{2}$  oz seeds;  $\frac{1}{2}$  cup cooked legumes (dried beans or peas).
- Add beans to your soups, salads, and pasta dishes.
- Try unsalted nuts in your salads, stir-fries, or stirred into yogurt.

### Low-fat dairy products

- One serving equals: 1 cup milk or yogurt or  $1\frac{1}{2}$  oz. low sodium, fat-free or low-fat cheese (about the size of 6 stacked dice).
- Use only milk products with 0% to 1% fat. 2% milk is not low-fat.
- Have only fat-free or low-fat yogurt with no added sugars.
- Use dry-curd, fat-free or low-fat cottage cheese.
- Cheeses (low-sodium, fat-free or low-fat) should have no more than 3 grams of fat per oz. and no more than 2 grams of saturated fat per oz.



### 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:

**How many calories should I eat each day?**

**What's a good, healthy cookbook?**

### 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.



# What About Eating Out?

It takes effort to change eating habits. Most people can't easily change overnight. Sometimes it's best to ease into new habits. This way you can form new, positive eating habits that will be just as comfortable as your old ones. You'll find that your new, healthy lifestyle will help you look better, feel better and have a healthier heart!

Going out to eat doesn't mean losing control of your eating plan. By thinking ahead and making smart choices, you can follow a heart healthy diet almost anywhere you go!



Study the menu before the server comes and feel free to ask how the food is made. And remember, you don't have to finish everything. You can always ask for a "to go" box.

## What should I order?

- Use the basic guidelines of your healthy eating plan when choosing a main dish. Pick skinless poultry and fish most often. Limit red meat and select lean cuts when you choose to eat it. Many restaurants also offer healthy and delicious meat-free meal options as well.
- Ask the server to make substitutions like having steamed vegetables instead of French fries.
- Make sure your entrée is broiled, baked, grilled, steamed or poached instead of fried.
- Order vegetable side dishes and ask that any sauces or butter be left off.
- Ask for low-calorie and salt-free or very low-sodium salad dressing or a lemon to squeeze on your salad instead of dressing.
- Ask for baked, boiled or roasted potatoes instead of fried. And ask for them without the butter and sour cream.

- Order fresh fruit or fruit sorbet in place of cake, pie or ice cream desserts.
- Ask about low-sodium and other healthier menu choices. Many restaurants now have healthy menus or icons to show healthy options.
- When it seems that everything on the menu is "off limits," ask if the chef will make you a fruit or vegetable platter. Most chefs are happy to do it.

## What should I avoid?

- Ask for soft margarine instead of butter — or allow the natural flavors of the foods to come out without the topping.
- Order your dressings and sauces on the side, so you can control how much you use.
- Stay away from fried appetizers or creamy soups. Begin your meal with a salad or broth-based soups like minestrone or gazpacho instead.
- When at a salad bar, stay away from items high in

*(continued)*



saturated fat or sodium like cheese, creamy salad dressings, croutons, and bacon bits.

- Ask that your food be made without butter or cream sauces. You'll be surprised at how delicious your meal can be when broiled "dry."
- Take the skin off poultry when it arrives, and remove visible fat from meat if the chef hasn't already done so.

### What about ethnic restaurants?

- At Asian restaurants, order a stir-fried chicken or fish and vegetable dish without soy sauce, MSG, salt and high-sodium sauces. A steamed, broiled or boiled main dish is an even better choice. Instead of fried rice, ask for steamed or brown rice.
- At Italian restaurants, choose red marinara sauces over white, creamy ones. Try a fish dish or meatless pasta instead of entrées made with sausage or meatballs.
- At Mexican restaurants, ask for low-fat sour cream. Opt for soft corn tortillas over flour ones, and avoid refried beans and cheese. Try salads instead of fried foods, and look for fresh seafood on the menu.



When dining at an Asian restaurant, steamed or brown rice are healthier choices than fried rice.

## HOW CAN I LEARN MORE?

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- 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 can I eat at fast-food restaurants?**

**How can I control the portions?**

## 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.



## How Can I Cook Healthfully?

A healthful eating plan means more than choosing the right foods to eat. It's important to prepare foods in a healthy way. Some ways of cooking are better than others in cutting saturated fat, *trans* fat, sodium, added sugars and calories. At the same time, you want to get as much nutritional value as possible.

You don't have to give up taste or the things you love. Just learn some heart-healthy cooking skills and you can have it all (almost)!



Stir-frying can be healthy and delicious! The high temperature and constant movement of the food keep it from sticking and burning. For vegetables, poultry or seafood, use a tiny bit of liquid vegetable oil in your stir fry pan.

### What are good ways to cook?

- **Roast** — in the oven with a rack so the meat or poultry doesn't sit in its own fat drippings. Set at 350 degrees to avoid searing. Baste with unsweetened liquids like wine, salt-free or low sodium broth, tomato juice or lemon juice. Roasting is also a delicious way to serve seasonal vegetables.
- **Bake** — in the oven in covered or uncovered cookware. When you bake, food cooks slowly with gentle heat. This causes the moisture to evaporate slowly and enhances flavor.
- **Braise or Stew** — on top of the stove or in the oven with a little bit of liquid (water or broth). After

cooking, you can refrigerate the food and remove any fat that has become solid on the top before reheating.

- **Poach** — by immersing foods such as skinless chicken, fish or eggs in simmering liquid.
- **Grill or Broil** — on a rack over high heat.
- **Sauté** — in a skillet or frying pan over direct heat. Use nonstick vegetable spray or a small amount of canola oil.
- **Stir-fry** — in a wok over high heat with a small amount of vegetable oil.
- **Microwave** — heat food quickly in a microwave-safe dish.

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- **Steam** — in a wire basket over simmering water. This can help keep some foods' shape and texture better than boiling.

**How can I cut saturated fat and calories without losing taste?**

- Add fruits, vegetables, and whole grains to your meals.
- Select lean cuts of meat and trim off any visible fat before cooking.
- After browning, put ground meat into a strainer lined with paper towels and rinse off any excess fat.
- Choose canned fish packed in water with no added salt or low sodium. Remove oils by draining canned tuna, salmon or sardines and rinsing them in water.
- Don't overcook vegetables. Steam or bake them instead of boiling so they keep more of their natural flavors and textures.
- Compare Nutrition Facts labels to find a tasty salad dressing that is lower in calories, saturated fat, and sodium.
- Use herbs and spices to add flavor to foods.



Instead of boiling vegetables, steam or bake them to keep more of their natural flavors and textures.

**HOW CAN I LEARN MORE?**

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- 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 about desserts?**
- What's a good, healthy cookbook?**

**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.



# THE EASY WAY TO EAT + HEALTHY +

A healthy eating pattern is about smart choices.  
The American Heart Association suggests these daily amounts.\*



## VEGETABLES

CANNED, DRIED, FRESH & FROZEN

5 SERVINGS or 2.5 CUPS



## FRUITS

CANNED, DRIED, FRESH & FROZEN

4 SERVINGS or 2 CUPS



## WHOLE GRAINS

BARLEY, BROWN RICE, MILLET, OATMEAL, POPCORN AND WHOLE WHEAT BREAD, CRACKERS & PASTA

3-6 SERVINGS or 3-6 OUNCES



## DAIRY

LOW FAT (1%) AND FAT-FREE

3 SERVINGS or 3 CUPS



## PROTEINS

EGGS, NON-FRIED FISH, LEAN MEAT, LEGUMES, NUTS, SKINLESS POULTRY & SEEDS

1-2 SERVINGS or 5.5 OUNCES



## OILS

POLYUNSATURATED AND MONOUNSATURATED CANOLA, OLIVE, PEANUT, SAFFLOWER & SESAME OIL

3 TBSP

Food should give you energy – not weigh you down!  
With a few simple changes, you can make eating healthy your easiest habit.

### LIMIT

SUGARY DRINKS, SWEETS, FATTY MEATS, AND SALTY OR HIGHLY PROCESSED FOODS

### AVOID

PARTIALLY HYDROGENATED OILS, TROPICAL OILS, AND EXCESSIVE CALORIES

### REPLACE

HIGHLY PROCESSED FOODS WITH HOMEMADE OR LESS-PROCESSED OPTIONS

### ENJOY

A VARIETY OF NUTRITIOUS FOODS FROM ALL OF THE FOOD GROUPS, ESPECIALLY FRUITS & VEGGIES

### KEEP

HEALTHY HABITS EVEN WHEN YOU EAT AWAY FROM HOME

\*Servings are based on AHA's Healthy US-Style Eating Pattern for 2,000 calories/day. Your calorie needs may be different. Servings equivalent may depend on form of food. More info on serving sizes is at [heart.org/servings](http://heart.org/servings).

# STROKE RESEARCH AT McLAREN

**As a Comprehensive Stroke Center, McLaren Flint offers the latest in stroke care clinical trials and research to our patients. These clinical trials include stroke treatment and prevention.**

Clinical trials help answer questions in medicine, which can lead to better ways to prevent, detect, diagnose, control, and treat illnesses. Treatments might be new drugs or new combinations of drugs, new surgical procedures or devices, or new ways to use existing treatments. Clinical trials can also look at other aspects of care, such as improving the quality of life for people with chronic illnesses.

If you are interested in learning more, please call (810) 342-3067.

## **Protecting our Patients**

All research programs administered through McLaren Health Care and its subsidiary hospitals are overseen by the centralized Human Research Protections Program (HRPP) to protect the rights and welfare of human subjects participating in research.

# PUTTING PATIENTS FIRST

We serve residents in and around Genesee County, as well as residents from across Michigan and beyond. Our Proton Therapy and Stroke programs bring people to us from all over the state. No matter the need, we provide high-quality, compassionate care and strive to be the health care provider of choice. And, with your help, we can do even more.

## **You Make us Better**

When patients like you give to McLaren Flint, you help us improve the level of health care for our community and beyond. You help forever change lives by providing things like a home-away-from-home or innovative technology that makes all the difference.

There are many ways to give that can benefit our patients and their families. Every gift counts – and every gift can transform a life, something you may have experienced firsthand.

## **Join us**

To learn more about helping McLaren Flint and our community, please visit us online at [mclaren.org/flintfoundation](https://mclaren.org/flintfoundation).

# TO DISCUSS WITH PROVIDER

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## AT A GLANCE

### Medical Goals

BP \_\_\_\_\_

LDL \_\_\_\_\_

Hgb A1C \_\_\_\_\_

Other \_\_\_\_\_

### 2nd Stroke Prevention Agents

Antithrombotics \_\_\_\_\_

Anticoagulation \_\_\_\_\_

Anti Hypertensive \_\_\_\_\_

Cholesterol Lowering Agents

\_\_\_\_\_

### Individualized Goals

What are your challenges?

- balance
- fine motor skills
- walking
- talking
- other \_\_\_\_\_

What are your goals?

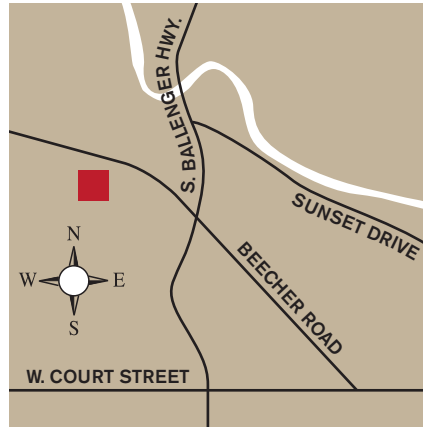
- knitting/sewing
- walking
- playing sorts/golf/tennis, etc.
- musical instrument (guitar/piano)
- holding grand kids
- singing
- other \_\_\_\_\_

# McLAREN OUTPATIENT REHAB SITES AND NEUROLOGY OFFICE LOCATIONS

## FLINT



**Neuroscience Institute**  
401 S. Ballenger Highway  
3 North  
Flint, MI 48532

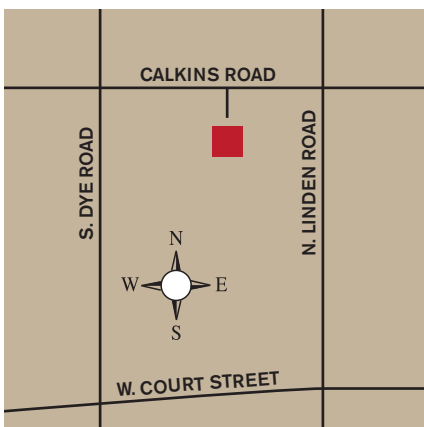


**Neurologic Rehabilitation Institute**  
G-3239 Beecher Road  
Flint, MI 48532  
Phone: (810) 342-4220  
Fax: (810) 342-4436

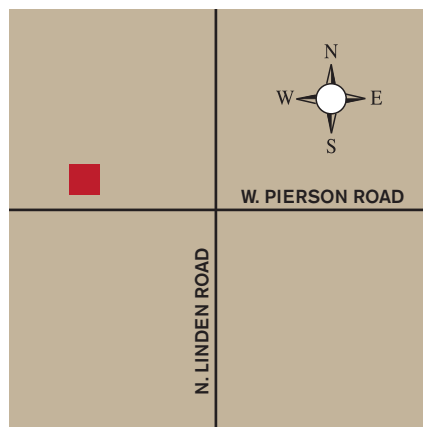
## FLUSHING



**Physical Therapy and Sports Medicine**  
2500 N. Elms Road  
Flushing, MI 48433  
Phone: (810) 342-5550  
Fax: (810) 342-5589

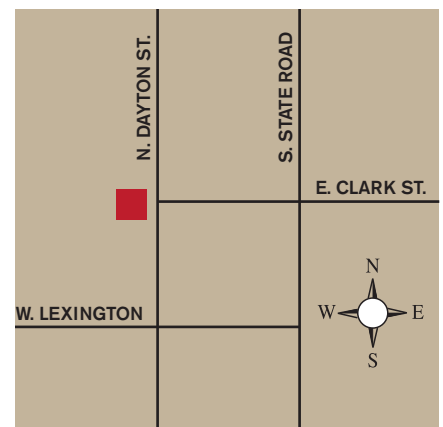


**Flint Neurological Center**  
5082 Villa Linde Pkwy.  
Flint, MI 48532  
Phone: (810) 720-1335



**Sunita Tummala, MD**  
5084 W. Pierson Road  
Flint, MI 48504  
Phone: (810) 733-5700

## DAVISON



**Physical Therapy and Sports Medicine**  
(Located at St. John Family Center)  
505 N. Dayton  
Davison, MI 48423  
Phone: (810) 658-5631  
Fax: (810) 658-7732

# NEURO TEAM



**Aniel Majhoo, MD**  
Neurology & Vascular  
Neurology  
Board Certified  
Interventional Neurology



**Mahmoud Rayes MD**  
Neurocritical Care,  
Vascular Neurology,  
and Neurology  
Board Certified



**Bharath Naravetla MD**  
Interventional Neurology  
Board Certified  
Neurocritical Care and  
Neurology



**Gregory Norris MD**  
Neurology  
Board Certified  
Neurotrauma & Critical Care

## YOUR APPOINTMENT

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Provider: \_\_\_\_\_

Regarding: \_\_\_\_\_

**Cardiologist:** \_\_\_\_\_

Follow-up Appointment: \_\_\_\_\_

**PCP:** \_\_\_\_\_

Follow-up Appointment: \_\_\_\_\_

**Other:** \_\_\_\_\_

Follow-up Appointment: \_\_\_\_\_

**PT/OT/SLP:** \_\_\_\_\_

Location: \_\_\_\_\_

First Sessions: \_\_\_\_\_



THE "LET'S TALK ABOUT STROKE"  
INFORMATION PROVIDED COURTESY OF:



For more information regarding stroke go to  
[mclaren.org/flintstroke](https://mclaren.org/flintstroke)

or the American Stroke Association at  
[strokeassociation.org](https://strokeassociation.org)



FLINT