

STROKE

Patient Education Booklet



MAURY REGIONAL
MEDICAL CENTER

MAURY REGIONAL MEDICAL CENTER'S Stroke Survivor Support Group



The Stroke Support Group is for those who have experienced a stroke as well as their family, caregivers and friends. Meetings are held in the Maury Regional Annex located at 1223 Trotwood Avenue – across from the hospital – at 6 p.m. on the fourth Thursday of each month (except for a combined November/December meeting). Agendas vary and include speakers, networking, resource information and much more. For more information, call 931.840.4446.

Introduction

This guide was created for adults who have had a stroke or warning signs of a stroke. We wish you success during your recovery and hope that you will find this guide helpful through your journey to healing.

What you need to know about stroke.....every stroke is different.

Two people with similar strokes may be affected in different ways.

No one is able to predict how long it's going to take, what lies ahead or how much the survivor will recover.

Life will be changed forever in some way for you and those closest to you.

You are not alone: according to the National Stroke Association, stroke is the number one cause of adult disability in the U.S.

The most important things to remember about stroke are:

- How to recognize the symptoms and when to seek medical attention quickly
- How to reduce your risk for stroke and prevent another stroke
- How to manage and adapt to problems or disability after a stroke

There are three things that you can do to make your journey easier.

1. Be informed

- Know the facts.
- Be aware of best practices for care and how you can be involved in your care and recovery.

2. Be part of the process

- Make your voice heard when it comes to setting goals and care planning.
- Ask questions and get answers.

3. Do what needs to be done to get better

- Practice your exercises.
- Take your medication.
- Make lifestyle changes.
- Achieve your goals.

Patient Support Partner Program

We use the term Patient Support Partner (PSP) to describe those in your life (family and friends) who support you in your recovery. Ask your nurse about the PSP program at Maury Regional Medical Center.





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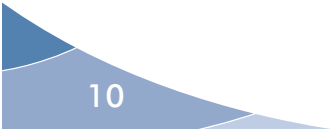
The information provided in this booklet is for educational use only. This information is not intended to replace the medical advice of your doctor or health care provider. Please consult your health care provider for advice about specific medical condition.



Section 1

Understanding Stroke

- Understanding the Brain
- Signs and Symptoms of Stroke
- BE FAST Acronym for identifying a stroke
- The importance of calling 9-1-1
- What is a Stroke?
- Types of Stroke
- How can a stroke affect my body?
- Know the risk factors for stroke
- Your Personal Risk Factors for Stroke
- Personal Notes Page



Understanding the Brain

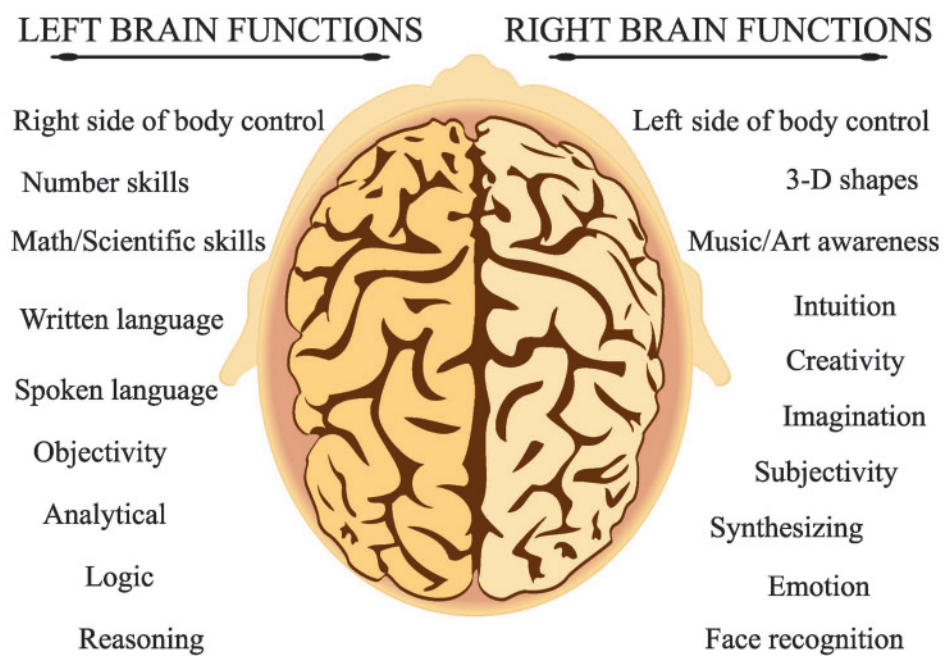
Brain cells – The brain is full of specialized cells called neurons. These neurons make the brain work. To work properly – and even to survive – they need to be fed by a constant supply of blood.

Blood vessels of the brain – Arteries and veins are types of blood vessels in your body. Arteries carry blood, rich in oxygen and nutrients to your organs. Veins carry waste products away from your organs. Cerebral arteries are the arteries of the brain. Normal brain function needs a constant supply of oxygen and nutrients.







When a stroke happens, the blood flow is disrupted. Some brain cells do not get the oxygen and nutrients they need. When the cell dies, that area of the brain cannot function as it did before.

Hemispheres – The brain is divided into two parts called hemispheres, the right and the left. If you were to split the brain right down the middle into two equal parts, you would have a right and left hemisphere. Although equal in size, they are not the same and do not carry out the same functions.

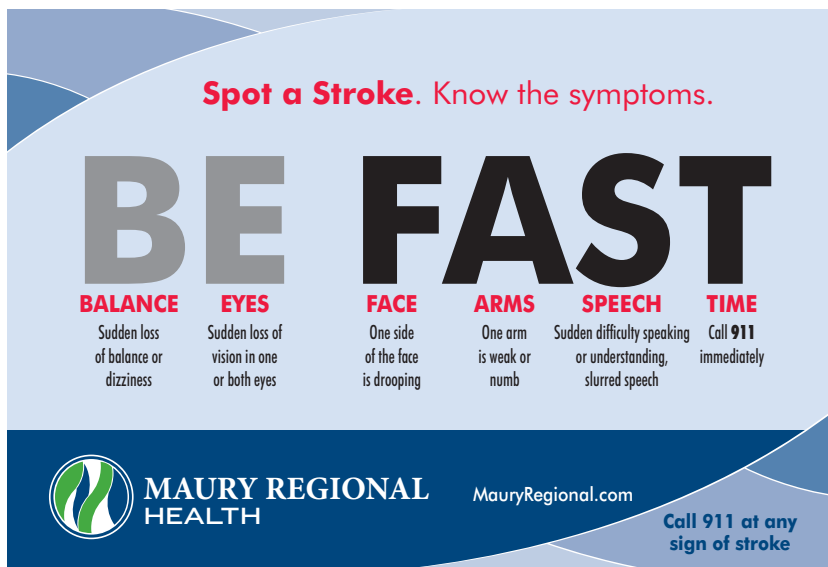
The left side of the brain is responsible for controlling the right side of the body. It also performs tasks that have to do with logic, such as in science and mathematics. The right side of the brain coordinates the left side of the body and performs tasks that have to do with creativity and the arts.



Signs and Symptoms of Stroke

-  Sudden weakness or numbness that occurs in the face, arm or leg, particularly on one side of the body
-  Sudden difficulty seeing in one or both eyes
-  Sudden confusion, difficulty speaking or difficulty understanding. May have slurred speech or confused speech.
-  Sudden problems with walking, dizziness; a loss of balance or coordination
-  Sudden, severe headache, the cause of which is unknown
-  Difficulty swallowing


BE FAST: Acronym to help identify stroke symptoms



Spot a Stroke. Know the symptoms.

BE FAST

| BALANCE | EYES | FACE | ARMS | SPEECH | TIME |
|-------------------------------------|---|----------------------------------|-------------------------|---|-----------------------------|
| Sudden loss of balance or dizziness | Sudden loss of vision in one or both eyes | One side of the face is drooping | One arm is weak or numb | Sudden difficulty speaking or understanding, slurred speech | Call 911 immediately |

 **MAURY REGIONAL HEALTH** MauryRegional.com **Call 911 at any sign of stroke**

A stroke is a medical emergency

In the event of a stroke, time equals brain cell death. Stroke is a 9-1-1 emergency, yet most people do not take action with symptoms of stroke. Remember, stroke is a “brain attack.” You need to call 9-1-1 for a “brain attack,” just like you would for a heart attack. Write down what time the symptoms started.

The importance of calling 9-1-1

Emergency Medical Services (EMS) brings life-saving equipment to you. You may think you can get the patient to the hospital quickly; however, will you prepared to take care of the patient who needs life-saving measures while driving a car? Also, EMS can notify the emergency department they have a stroke alert which puts actions in to place to speed up delivery of care once you arrive at the hospital.

What is a Stroke?

A stroke occurs when an artery that supplies blood to the brain is greatly narrowed or blocked. This interruption causes damage to the brain cells which cannot be repaired or replaced. The effects of your stroke depend on the part of the brain that was damaged and the amount of damage done. Brain damage can begin within minutes, so it is important to know the signs and act FAST. Quick treatment can help limit the damage to the brain and improve the chance of recovery. TIME LOST IS BRAIN LOST!

Other causes – In rare cases, a tumor, an infection or brain swelling due to an injury or illness can cause a stroke. Some people have irregularities in their arteries at birth that can cause a stroke later in life.

Types of Stroke

Transient Ischemic Attack (TIA)

A transient ischemic attack (TIA) is caused by a small clot that briefly blocks an artery. It is sometimes called a mini-stroke or warning stroke. TIA symptoms might last only a few minutes or hours. No lasting damage occurs, but TIAs are an important warning that a more serious stroke may occur soon.

Ischemic Stroke

Ischemic strokes are caused by an obstruction within a blood vessel that supplies blood to your brain. The blockage can be caused by the development of fatty deposits lining the vessel walls. This is called atherosclerosis. These fatty deposits can cause two types of obstruction:

- Cerebral thrombosis – a thrombus (blood clot) that develops at the clogged part of the vessel.
- Cerebral Embolus – a blood clot that forms at another location in the blood system, usually in the heart and large arteries of the upper chest and neck. A portion of the blood clot breaks loose, enters the bloodstream and travels through the brain's blood vessels until it reaches vessels too small to let it pass.

A second important cause of embolism is an irregular heartbeat, known as atrial fibrillation. It creates conditions where clots can form in the heart, dislodge and travel to the brain.

Hemorrhagic Stroke

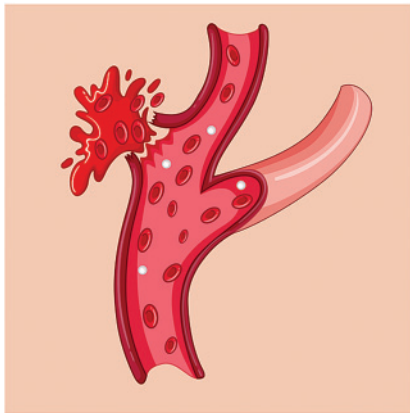
Hemorrhagic stroke is caused when a weakened artery in the brain breaks open. The interrupted blood flow causes damage to your brain.

The most common cause of hemorrhagic stroke is uncontrolled high blood pressure. There are two types of weakened blood vessels that also can cause hemorrhagic stroke. These are aneurysms and arteriovenous malformations (AVMs).

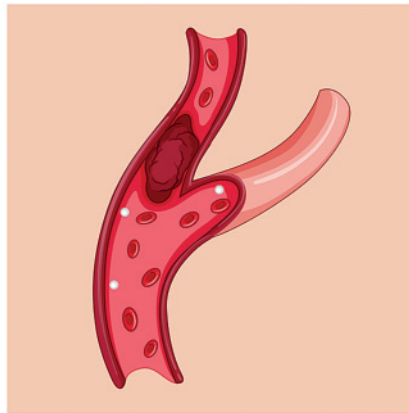
Aneurysms – An aneurysm is a weak area in a blood vessel that usually enlarges like a balloon which is caused by constant pressure from blood flow. They often enlarge slowly and become weaker as they grow, just as a balloon becomes weaker as it stretches.

Arteriovenous malformations or AVMs – Normally, arteries carry blood containing oxygen from the heart to the brain, and veins carry blood with less oxygen away from the brain and back to the heart. When an arteriovenous malformation (AVM) occurs, a tangle of blood vessels in the brain or on its surface bypasses normal brain tissue and directly diverts blood from the arteries to the veins.

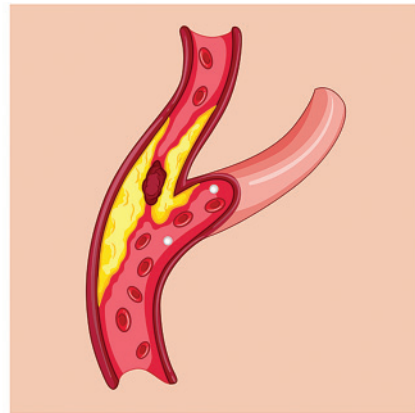
Types of human brain stroke



Hemorrhagic



Ischemic



Transient Ischemic
Attack (TIA)

How can a stroke affect my body?

The effects of stroke are different for each person. They can be mild, moderate or severe. The severity depends on factors such as:

- The type of stroke (ischemic or hemorrhagic)
- The side of the brain where the stroke occurred (right or left hemisphere)
- The lobes of the brain affected by the stroke
- The size of the damaged area in the brain
- The body functions controlled by the affected area
- The amount of time the brain had no blood flow
- The time it took to get to the hospital

Changes to your body after a stroke

The location of the stroke in your brain determines what bodily functions will be affected. Here are some things that may change:

Communication – This can include problems with:

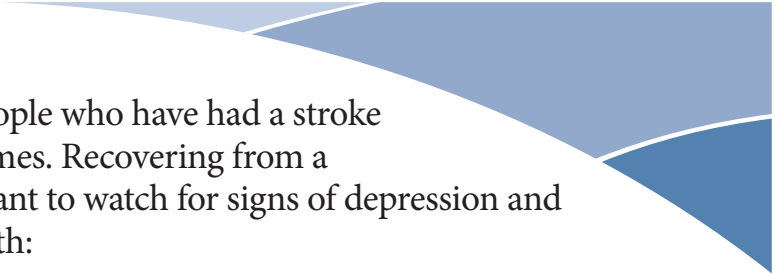
- Talking and understanding what people say
- Writing and understanding written words
- Being able to name things or find the right words
- Slurring speech

Sight – This can mean:

- Seeing less on one side or the other
- Seeing less in one eye or both eyes or double vision
- Not being able to see how far away things are
- Not being able to tell whether things are above or below, in front or behind other things

Ability to move – This may include weakness, loss of feeling or difficulty with:

- Moving parts of the body, including the mouth, arms or legs
- Swallowing and eating
- Controlling the bladder and bowels
- Knowing parts of your own body and where they are
- Coordinating movements and keeping your balance



Feelings and depression – Many people who have had a stroke feel sad, helpless and frustrated at times. Recovering from a stroke is a big challenge. It is important to watch for signs of depression and get help. This can include trouble with:

- Learning and remembering new information
- Following directions
- Paying attention

Behavior – People may sometimes act differently than before their stroke. They may:

- Talk more than normal
- Seem more nervous or cautious
- Cry or laugh for no reason

Judgment or thinking– Problems some people face include:

- Acting differently than usual or acting without thinking
- Being moody and feeling more sad than usual
- Not caring about things
- Having trouble understanding time
- Having difficulty with math
- Having trouble organizing things or understanding how things work

Emotional and behavioral changes after stroke

A stroke can cause many bewildering changes in a person's emotions and behavior. Suddenly, he or she can seem like a completely different person than before the stroke. In a way, this is true. Stroke survivors' brains have been injured. The behaviors and emotions they display are a reflection of that injury.

The loss of a person's former identity can result in depression, anger and frustration. Loss and the grieving process are closely linked. The stroke patient and family members may find themselves going through the stages of grief (denial, anger, bargaining and acceptance). Family members may also experience grief as they have lost the previous relationship with the patient.

Understanding and dealing with these changes and losses are just as important as the physical issues that are dealt with in the rehabilitation process.

Communication Disorders

Stroke survivors may have difficulty with their communication skills following a stroke. They can be broadly classified in two general categories:

1. Aphasia

Simply defined, aphasia is the loss of ability to communicate normally resulting from damage typically to the left side of the brain, which houses the communication center. It may affect a person's verbal expression (getting words out) and/or auditory comprehension (understanding what is being said to them). It may also affect their ability to read, write and deal with numbers.

Additional information regarding aphasia can be obtained from a speech language pathologist or from the following websites:

American Speech-Language Hearing Association (ASHA): www.asha.org

American Stroke Association: www.strokeassociation.org

2. Motor Speech Disorders

Some stroke survivors may have slurred or garbled speech as a result of muscle weakness or incoordination (called dysarthria) or motor programming of speech muscles (called apraxia). A Speech-Language Pathologist will be asked to assess the patient's communication skills and discuss with the family ways to help improve communication with the stroke survivor. The speech language pathologist will also recommend any further follow-up after discharge from the hospital.



"You may feel like an island, alone and secluded, but come to the stroke support group and realize that you are really one island of a chain."

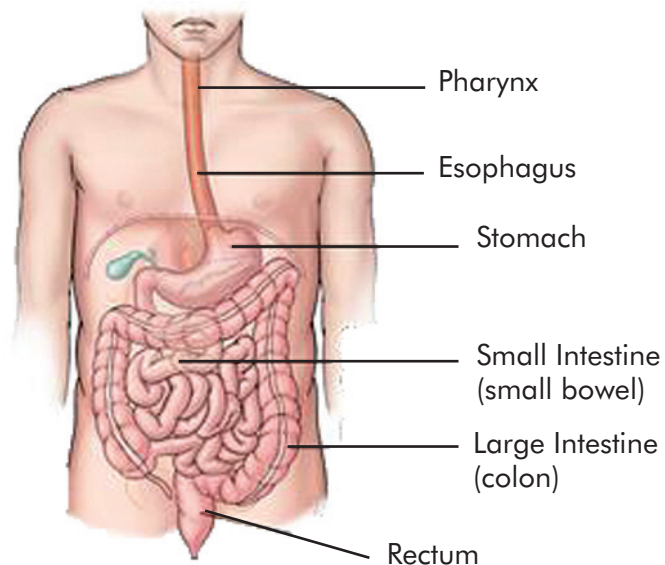
— Renee Cantrell, stroke survivor.

Dysphagia

Dysphagia is simply defined as a swallowing disorder. It can occur in any of the three phases of swallowing:

1. Oral
2. Pharyngeal
3. Esophageal

Dysphagia is often noted in stroke survivors. Usually, dysphagia affects the oral and/or pharyngeal phase of swallowing. The patient may cough or choke while attempting to swallow saliva, liquids or food. A phenomenon called silent aspiration also may occur, whereby saliva, food and liquids enter into the lungs without any coughing or choking. In these patients, there are no outward signs or symptoms of a swallowing problem. A speech-language pathologist often evaluates a patient's ability to swallow safely, without food or liquid going into his or her airway/lungs and potentially causing bronchitis or pneumonia.



Depression

It is common for stroke survivors to experience feelings of anger, frustration, anxiety, sadness, fear and hopelessness in varying degrees. These emotions are common with post-stroke depression.

Your emotional health is just as important as your physical health and can promote or disrupt post-stroke recovery. Post-stroke depression is frequently described as a feeling of hopelessness that interferes with functioning and quality of life. If not treated and managed appropriately, post-stroke depression can slow down your recovery.

Depression can set in weeks, months, or even years after your stroke and can stop your progress of recovery and rehabilitation, impacting your quality of life. A combination of factors can lead to post-stroke depression. The sudden nature of stroke can have a life-changing impact. Also, the damage to your brain after a stroke, genetics and social factors can also contribute to depression.

Symptoms of Depression

Symptoms of post-stroke depression vary in severity, frequency and duration. Signs and symptoms of depression include:

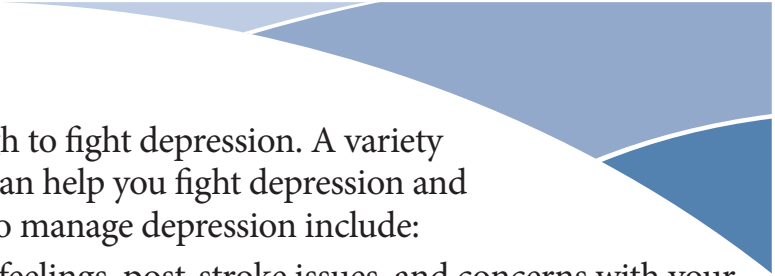
- Persistent sad, anxious or empty feelings
- Sleep disturbances
- Increase or decrease in appetite and eating patterns
- Feelings of helplessness, hopelessness and/or worthlessness
- Social withdrawal
- Loss of interest in activities or hobbies
- Irritability
- Fatigue
- Difficulty concentrating or remembering details
- Aches, pains, headaches and digestive problems that do not ease with treatment
- Suicidal thoughts

Caregivers, family members, friends and co-workers can be very helpful in recognizing post-stroke depression symptoms and encouraging you to consult with a health care professional.

If your depression is left untreated and unmanaged, it can worsen a number of other common post-stroke conditions such as malnutrition, incontinence, pain, fatigue and sleep issues. Depressive emotions can increase when you are frustrated about not making progress in recovery. There are a variety of treatment options for post-stroke depression. Consult with your health care professional to determine the best course of action.

Common treatments include:

- Medication – Medications known as antidepressants are common treatments for post-stroke depression and may be prescribed by your psychiatrist, primary care doctor or other doctor. Antidepressant medications interact with chemicals in the brain called neurotransmitters to improve mood.
- Mental Health Therapy – Medication is often combined with mental health therapy provided by a psychologist, psychiatrist, social worker or counselor.
- Cognitive behavioral therapy focuses on helping you identify thoughts and feelings that lead to undesirable behavior.
- Other Therapy – Sometimes post-stroke depression is fueled by other after effects of stroke, such as spasticity or aphasia. Physical or speech therapy can improve those conditions, and in turn help you with post-stroke depression.



Treatment alone is not always enough to fight depression. A variety of practical management strategies can help you fight depression and other difficult emotions. Some tips to manage depression include:

- Communicate – Talk about your feelings, post-stroke issues, and concerns with your caregivers, family, and friends. Relationships may change after a stroke and it may take time to adjust to new roles.
- Improve nutrition – Foods rich in omega-3 fatty acids, folic acid, vitamin B and complex carbohydrates can help improve mood and fight depression.
 - Omega-3 fatty acids (fish, flaxseed, walnuts) promote brain health.
 - Complex carbohydrates (brown rice, oatmeal and whole wheat) boost neurotransmitter chemicals in the brain that affect mood.
 - Dark chocolate helps fight fatigue and reduce stress.
 - A deficiency in folic acid (found in beans, oranges, and broccoli) is linked to depression; folic acid boosts neurotransmitters and promotes cognition.
 - Vitamin B12 (eggs, milk, liver) increases energy and alertness.
- Attend a stroke support group. Maury Regional’s Stroke Support Group meets the fourth Thursday of every month (combined November and December meeting). See meeting flyer under Other Resources at the back of this manual.
- Set realistic goals and prioritize. Break up larger tasks or projects into smaller ones.
- Practice stress and anxiety management techniques. Deep breathing, squeezing a stress ball, guided imagery, aromatherapy, meditation and taking a walk or journaling can be very helpful.
- Be patient with yourself and loved ones. Stroke can be traumatic and recovery takes time.
- Stay as active as possible. Adaptive equipment and aids such as canes, braces and walkers can help stroke survivors improve physical fitness. Walking, yoga and swimming are low-impact and promote recovery.
- Get out into the community. Volunteering for a cause you believe in, returning to work, taking cooking classes or joining a club can be exciting.
- Minimize or eliminate alcohol consumption and smoking.

Let your health care provider know if you think you may be suffering from depression.

Know the risk factors for stroke

What is a risk factor?

A risk factor is anything that increases your chance of illness, accidents or other negative events. Risk factors may include:

- Medical history
- Genetic make-up
- Personal habits
- Lifestyle
- Aspects of the environment

Stroke and Risk Factors

There are a number of risk factors that increase the chances of having a stroke. Some risk factors cannot be reversed or changed. They are uncontrollable. But you can do something about most of the risk factors for stroke, they are controllable. Some risk factors you can get rid of – like smoking. There are other risk factors you can't get rid of, but can control – like diabetes.

Risk Factors you cannot change (uncontrollable)

You cannot reverse the following risk factors for stroke. You should be aware of how these risk factors apply to you.

Age

For every 10 years you live, your risk of having a stroke increases.

Gender

Men have two times more risk for stroke than women have. But more women die of stroke than breast cancer.

Race

African Americans have two times more risk of stroke than other races have. Hispanics and Asians have the greatest risk for stroke from burst blood vessels. This type of stroke is called hemorrhagic (hem-er-RAJ-ik).

Past Stroke or TIA

If you've already had a stroke or mini-stroke (TIA), your risk for stroke is now greater. TIA stands for transient (TRANS-yent) ischemic (iss-KEY-mik) attack. TIAs do not cause lasting damage; however, they are a warning sign that a more serious stroke may occur.

Family history

Your risk for stroke is greater when heart attack, stroke or TIA runs in your family.

Risk Factors you can control (controllable)

You can lower your risk of stroke when you cut out or reduce the other risk factors.

Smoking

Smoking is a major risk for stroke for these reasons:

- Smoking causes your blood to clot easier.
- Smoking increases the build-up of plaque in your arteries.
- Every time you smoke, your arteries narrow and your blood pressure increases as a result of the nicotine.

When you quit smoking, you decrease your risk of stroke. Ask your nurse for help to stop smoking.

High Blood Pressure

The number one risk factor for stroke is high blood pressure. Another name for high blood pressure is hypertension (hi-per-TEN-shun). When you control your blood pressure, you can greatly reduce your risk of stroke.

Talk to your doctor to learn what your blood pressure should be. Starting at age 55, you should get your blood pressure checked twice a year, unless your doctor advises more frequent checks. This helps you keep your blood pressure in the range set by your doctor. You should know your blood pressure numbers. In general, the top number should be less than 120, and the bottom number should be less than 80. The way to say a blood pressure would be “120 over 80,” for example. The top number is called systolic (sis-TOLL-ik) pressure. The bottom number is diastolic (die-es-TOLL-ik) pressure.

High Cholesterol

An unhealthy cholesterol (co-LESS-ter-all) balance can lead to fat deposits in the arteries. These deposits are called plaque (PLAK). Plaque narrows the arteries and can lead to stroke. You should have your cholesterol checked at age 20. After that, follow your doctor’s guidelines for regular cholesterol testing. The best time for a cholesterol check is after you have not eaten for several hours.

You should learn what your cholesterol numbers are. Here is what your numbers should be:

- Total cholesterol should be lower than 200.
- Good cholesterol (HDL) should be higher than 35.
- Bad cholesterol (LDL) should be between 100 and 160, based on your health history.
- Triglycerides (try-GLISS-er-rides), which are fats, should be below 200.

To reach your goal, you may need diet, exercise and medicine. If you had a stroke or TIA in the past, it’s *very important* to work hard to control your cholesterol to prevent stroke or a second stroke.

Carotid Artery Disease

The carotid (kuh-RAW-tid) arteries are the two main arteries that carry blood to your brain and neck. When plaque build-up narrows these arteries, carotid disease results. Medicine or surgery to clean out plaque in the carotid arteries can reduce the risk for stroke.

Atrial Fibrillation (AFib)

Atrial (AY-tree-ol) fibrillation (fib-ril-LAYshun) is a type of irregular heartbeat. It is called “AFib” for short. AFib is a common cause of stroke. This irregular heartbeat makes blood flow through the heart in a sluggish way. Blood clots may form and lead to a stroke.

As with high blood pressure, you can have AFib and not know it. You should check your own heart beat regularly. Place the palm of your hand up. On the wrist just below the thumb, place two fingers and press lightly. Move the tips of your fingers until you find your pulse. Now count the number of beats for one full minute. Feel if the beats come at an even pace or if they are irregular. If you suspect your heart beat is irregular, call your doctor.

When you have AFib, the goal of treatment is to restore a regular heartbeat. When this is not possible, blood thinners may be prescribed. Getting treatment for AFib helps reduce your risk of stroke.

Diabetes

Diabetes greatly increases your risk for an ischemic stroke. Some types of diabetes prevent the body from using its insulin to break down blood glucose (sugar). This is called insulin resistance. The result is lower levels of good cholesterol (HDL), which can cause blood clots to form. The blood clots may travel to the brain and cause a stroke.

Diabetes also causes plaque to build up in the arteries at a faster rate. Plaque narrows the arteries. This is called hardening of the arteries, or atherosclerosis (ATH-er-oh-skler-OHsis). In time, plaque build-up can block an artery and cause a stroke.

People with diabetes also tend to gain weight. Obesity can lead to high blood pressure and high cholesterol, which are both risk factors for stroke. When blood glucose levels are high, damage from a stroke can be even worse. Good control of diabetes can reduce your risk for stroke. For good control, it's important to monitor and control blood glucose levels, follow your diet plan and exercise.

Obesity

Excess weight increases your risk of stroke. People who have a stroke or heart disease often have excess body fat around their lower belly, or abdomen. This is sometimes called an “apple shape.” Obesity also can bring other risk factors with it, such as high blood pressure, higher bad cholesterol and diabetes. Weight control and exercise improve your circulation and help reduce other risk factors.

Lack of Physical Activity

Exercise is important to help control weight, blood pressure, cholesterol and diabetes – all risk factors for stroke.

Alcohol, Coffee and Drug Use

Heavy alcohol use increases risk for stroke. Drinking three or more cups of coffee a day may increase risk of stroke in older men with high blood pressure. Use of street drugs, especially cocaine and amphetamines, is a major stroke risk for young adults. Using steroids for body-building increases risk of stroke.

Poor Nutrition

A diet high in fat, sugar and salt puts you at risk for stroke. Studies show that eating five servings of fruit and vegetables a day will reduce your risk of stroke by 30 percent.

Stress

Studies show a link between mental stress and narrowing of the carotid arteries. Learning and practicing ways to reduce stress may help reduce your stroke risk.

Estrogen

Birth control pills and hormone replacement therapy (HRT) contain estrogen. The hormone estrogen may change the blood's clotting ability. Blood clots may then form, which can cause stroke.



“Believe in yourself. Never give in or give up. Can’t...not in your vocabulary anymore.”

— Suzi Stohl, stroke survivor.

Today's Date _____

Your Personal Risk Factors for Stroke

The risk factors checked below are stroke risk factors that apply to you. Post this sheet in a place that you will see every day to remind you of your daily lifestyle choices and strategies you can use to reduce stroke risk factors.

| | |
|--|--|
| | High blood pressure – Take your blood pressure medication as prescribed. Avoid using salt when cooking and seasoning food. Limit salt to one tsp/day. Monitor your blood pressure at home. Refrain from buying pre-packaged foods. |
| | Smoking – Decide to quit. Enlist a family member or friends for support. Discuss with your doctor resources that can help you. |
| | Heart disease or carotid disease – Increase your intake of fresh fruits and vegetables. Eat more fiber. Select lean meats such as chicken or fish. |
| | Diabetes – Good control of diabetes can reduce your risk for stroke. For good control, it's important to monitor and control blood glucose levels, follow your diet plan and exercise. |
| | High cholesterol – Read food labels. Reduce trans fatty acid or saturated fats to less than 10% of your daily calories. Replace fried foods with baked/broiled foods |
| | Alcohol and drug use – Limit your alcohol intake to no more than two drinks per day if you are male and one drink per day if you are female. Excessive alcohol can raise blood pressure. Use of street drugs, especially cocaine and methamphetamines, is a major stroke riser for young adults. Also, use of steroids for body-building increases risk of stroke. |
| | Being overweight – Increase your activity. Take the steps instead of the elevator, take walks and try to get 30 minutes of physical activity per day. Drink eight 8-ounce glasses of water per day. Try to lose one pound per week. |
| | Stress – Learn and practice ways to reduce stress to help reduce your stroke risk. |
| | Estrogen – Birth control pills and hormone replacement therapy (HRT) contain estrogen. The hormone estrogen may change the blood's clotting ability. Blood clots may then form, which can cause stroke. |

Bring this sheet with you when you visit your doctor and discuss your progress in reducing risk factors.

Nurse signature _____

Your Risk Factor Numbers

| | Ideal | Your Results |
|------------------------|---------------------|--------------|
| Blood Pressure | < or = 120/80 | |
| Total Cholesterol | < 200 | |
| Good Cholesterol (HDL) | > 35 | |
| Bad Cholesterol (LDL) | Between 100 and 160 | |
| Triglycerides | < 200 | |

NOTES





Section 2

Stroke Care in the Hospital

- Initial Stroke Care
- Emergency Treatment of Stroke
- General Stroke Care
- Common Diagnostic Tests
- Medications
- Preventing Complications
- A note to family and friends



Initial Stroke Care

The Emergency Department

It is likely that you arrived in the hospital with your stroke diagnosis through the Emergency Department (ED). Stroke is an emergency and the health care professionals will be acting with a sense of urgency to evaluate the condition of patients with stroke to determine the proper course of treatment. Things move fast here because “time equals brain” in acute (sudden onset) stroke. We will explain the actions you can expect in the ED and why these actions are taken to provide the best care for you or your family member during stroke.

Time is of great importance in the ED during a stroke. The activity may seem chaotic, but there is a purpose for every action. Blood tests, heart monitoring, X-rays and a CT exam will happen very quickly. The key question for your family will be the “time of last known normal.” This is very important, as it helps determine the type of treatment for the stroke patient. This will be a question that is repeated several times because of its importance.

Because of the effects of stroke on a patient, no food, water or medications can be given by mouth until after the ED visit. Because of the risk of choking, **DO NOT EAT OR DRINK ANYTHING** until a nurse verifies that you can safely swallow food and liquids.

Maury Regional Medical Center has developed a care system for stroke patients to ensure the highest quality of care in the most efficient time. We utilize telemedicine to communicate with neurologists, which helps determine the course of treatment in acute stroke. We may roll our camera cart up to your bedside so that the neurologist can speak to you directly.

A CT scan is one of the most important tests performed in the ED. CT stands for computed tomography. It is an X-ray that helps detect the kind of stroke the patient has had. The doctor needs to know the type of stroke to decide on the best treatment for the patient. The stroke patient may also have blood tests and an EKG (electrocardiogram). More tests may be done over the next few days to learn the extent and the effects of the stroke.



“Do as the doctors say and remember—the past has gone away. The future—we do not know what’s ahead. It’s the present. Let’s deal with that. Embrace it with your family and friends and with God’s support.”

— Jennifer Freyler, stroke survivor.

Emergency Treatment of Strokes

The most common type of stroke is ischemic stroke. When the CT scan shows no sign of bleeding, many patients with ischemic stroke can safely receive drug therapy.

Powerful drugs called “clot busters” can dissolve blood clots that caused the stroke. Clot buster therapy must begin within three hours after the start of the stroke. This is one reason it’s urgent to get to a hospital emergency room immediately for stroke symptoms.

t-PA (clot busting medication) – The clot busting medication we use is called t-PA. It is short of tissue plasminogen activator. The brand name is Activase. t-PA helps restore blood flow to the damaged area of the brain. For many patients, t-PA can stop or lessen brain damage from the stroke.

There is some risk for bleeding with t-PA. A patient receiving t-PA must be monitored in the Critical Care Unit. This drug is given by IV over one hour.

Mechanical Thrombectomy – Another treatment option for ischemic stroke patients is called mechanical thrombectomy. It is a treatment for strokes that removes clots that block large blood vessels. Some patients may be candidates for this procedure using an angiogram or catheterization and a device that grabs clots and removes them to reestablish blood flow to the brain. If the stroke patient is a candidate for this procedure, they will need to be transferred to a Comprehensive Stroke Center in Nashville. We use a test called a CT Angiogram to detect large vessel occlusions. This test is a CT scan that shows blood flow in arterial vessels. Contrast material is used to make the blood vessels more pronounced as the basic process of a CT scan is taking place.

For Blockages in the Neck – The main arteries of the neck help supply the brain with blood. They are called the carotid arteries. When patients have a serious blockage in these arteries, surgery may be done to prevent a stroke or a mini-stroke, called a TIA. The operation is called carotid endarterectomy.

This procedure cleans out and opens up the narrowed artery. During the operation the surgeon removes the plaque from the wall of the artery. Blood can then flow freely through the artery to the brain. A patient usually stays in the hospital for this operation.

General Stroke Care

Critical Care Unit (CCU)

Some acute stroke patients will be admitted directly to the Critical Care Unit. If your blood pressure is too high, you are having problems with your heart rhythm (heartbeat), or if you received the clot busting medication, you will be admitted to a specialty care unit where the nursing staff is skilled at caring for the acute stroke patient.

You will go into the CCU after receiving the clot busting drug so the nursing staff can monitor you closely.

The nursing staff will perform frequent checks, monitoring vital signs and neurological checks that may seem redundant and disruptive. However, this is how our health care professionals monitor your status and is for your safety.

After emergency treatment for stroke, medical treatment aims to prevent the stroke from getting worse. It also aims to prevent other problems that can develop from the stroke. These types of problems are called complications. The health care team will continue to monitor the stroke patient. The doctor may also prescribe more tests for the patient. The tests help to find what caused the stroke and how to prevent another one. These tests are called diagnostic tests.

Common Diagnostic Tests

Brain and Vascular Imaging

- **Computerized Axial Tomography (CT or CAT) Scan** uses X-rays to create a picture of the brain and is often the first imaging test of the brain done in the Emergency Department. CT scan is best used to identify hemorrhage and large ischemic strokes. Damage from an ischemic stroke may not show up on the CT scan for several hours or days. CT Scan is fast, painless and simple.
- **CTA – CT Angiography (CTA)** is a CT scan that shows blood flow in arterial vessels. Contrast material is used to make the blood vessels more pronounced as the basic process of a CT scan is taking place. Tell your technologist and your doctor if you are:
 - Pregnant
 - Allergic to iodine and/or shellfish or any medications
 - Undergoing radiation therapy
 - Over 60 years old or have a history of kidney problems (you may be required to have a blood test to evaluate your kidney function prior to receiving any contrast agent)
- **Magnetic Resonance Imaging (MRI)** uses magnetic fields, instead of X-rays, to create a picture of the brain as the patient lies inside a large scanning machine. A brain MRI takes longer to perform than a CT scan; however, it gives much more detailed images of the brain. MRI can diagnose both ischemic and hemorrhagic strokes, determine the size and location of the stroke, and help rule out other problems such as tumors.
- **Carotid Ultrasound Scan** – Carotid ultrasound is a non-invasive ultrasound method used to examine blood circulation. During a carotid ultrasound, sound waves are transmitted through the tissues of the area being examined. These sound waves reflect off blood cells moving within the blood vessels, allowing the radiologist to calculate their speed. The sound waves are recorded and displayed on a computer screen. Doctors use this test to evaluate the blood flow in the carotid arteries.

- **EEG** – electroencephalogram – a test used to find problems related to electrical activity of the brain. It tracks and records brain wave patterns. Small metal discs with thin wires (electrodes) are placed on the scalp and send signals to a computer to record the results.

Cardiac Testing

- **Electrocardiogram (EKG)** – a test using electrodes placed across your chest and on your limbs that record electrical activity of the heart.
- **TEE** – transesophageal echocardiogram – An echocardiogram (often called “echo”) is a graphic outline of the heart’s movement. During the transesophageal echocardiogram (TEE) test, an ultrasound transducer (which produces high frequency sound waves) provides pictures of the heart’s valves and chambers and helps the doctor evaluate the pumping action of the heart.

The ultrasound transducer is positioned on an endoscope (a long, thin flexible instrument about one-half inch in diameter). The endoscope is placed into your mouth and passed into your esophagus (the “food pipe” leading from your mouth into your stomach) to provide a close look at your heart’s valves and chambers without interference from the ribs or heart. TEE may be combined with Doppler ultrasound and color Doppler to evaluate blood flow across the heart’s valves. TEE is often used when the results from standard echo studies are not sufficient or when your doctor wants a closer look at your heart.

- **TTE** – transthoracic echocardiogram – During a transthoracic echocardiogram (TTE), a technician obtains views of the heart by moving a small instrument called a transducer to different locations on the chest or abdominal wall. A transducer, which resembles a microphone, sends sound waves into the chest and picks up echoes that reflect off different parts of the heart. There is no special preparation for the TTE.

Medications

The most common type of stroke is ischemic stroke. Drug therapy may be given to patients with ischemic stroke or those at risk of having ischemic stroke.

Anticoagulant medications – Anticoagulants help keep blood clots from forming. These drugs are sometimes called anti-clotting agents or blood thinners. They work by making your blood take longer to clot. There is some risk of bleeding when you take anticoagulants, so you will be monitored closely.

Antiplatelet medications – Platelets are the blood cells that are sticky and help the blood to clot. Antiplatelet are drugs that keep platelets in the blood from sticking together. This helps to prevent blood clots that could cause a stroke. These drugs can help patients who have had a mini-stroke (TIA) or a past stroke. These drugs may also be given to patients who are at risk for a stroke. Take these drugs with food because they

may irritate your stomach. Antiplatelets give you less risk for bleeding than anticoagulants do.

High Blood Pressure Medication – This medication will lower your blood pressure. You may be on more than one medication to lower your blood pressure, as they may work in different ways to help keep your blood pressure lower. Do NOT stop taking your medicine on your own. Keeping your blood pressure normal is important in helping prevent a future stroke.

Cholesterol Lowering Medication – Since most strokes are caused by a buildup of fat, cholesterol and other substances called plaque in the inner walls of your arteries, these medicines are used to help reduce further buildup.

Preventing Complications

Complications after a stroke can be life-threatening and your care team's highest priority will be to prevent these complications as well as prevent another stroke.

Swallowing – Your ability to swallow and eat will be evaluated. Nearly half of stroke patients will have some level of difficulty with swallowing, which can lead to pneumonia, malnutrition and poor outcomes if undetected. For this reason, your nurse will test your ability to swallow by completing a swallowing screen. If you are not able to complete this screen or if you fail it, a more involved test will be ordered to evaluate your swallowing ability.

Depending on your ability to swallow and chew, your diet may be changed. The dietitian will work with you and your doctors and to help ensure you receive proper nutrition that you can eat safely, limiting your choking risks.

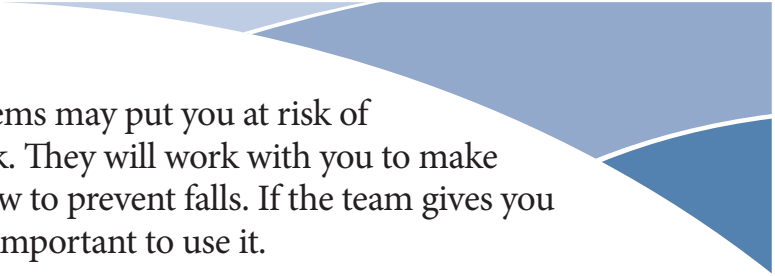
Problems swallowing, if not identified, can lead to complications such as:

- Pneumonia
- Not getting enough to eat (malnutrition)
- Not drinking enough (dehydration)

Bowel and Bladder Control – The team will want to identify any problems with bowel and bladder control early so that training programs can start as soon as possible.

Blood Clots – If you are unable to move around in bed, the team will be working to prevent clots (deep vein thrombosis) from forming in your legs. They will do this with the use of medications and/or sequential compression devices (SCDs). SCDs are placed on the lower legs and blow up intermittently to assist with blood flow in the legs.

Pressure injuries – They will also try to prevent pressure injuries (bed sores) on your skin. As soon as you are able, the team will work with you to get you standing, sitting and walking safely.



Falls – Weakness and balance problems may put you at risk of falling. The team will assess your risk. They will work with you to make sure you understand the risk and how to prevent falls. If the team gives you a mobility device, like a walker, it is important to use it.

Tips to keep you safe from a fall:

- Keep things within reach. Keep things that you use often, within easy reach (tissues, water, remote control and the light cord).
- With the nurse present, practice using the call button before you really need it, keep it within reach and don't be afraid to use it when you need to!
- Know how to turn the light on and off from your bed. Also, know how to use the bed control. Get help to move around.
- Don't get up on your own.
- Sit up slowly with help.
- Don't try to move the IV poles on your own.
- Use your walking aid as instructed by the staff. Be sure to use handrails in the bathroom and the hallways.
- The staff may use a gait belt to keep you safe as you move around. This fits snugly around your waist. It allows another person to support you as you walk together.

A note to family and friends

When someone is ill or in the hospital, falling is more likely to occur. YOU can help your loved ones reduce the risk.

- Keep personal items in the same place. Stick with a routine.
- Learn about the guidelines that the staff has in place to prevent falls and FOLLOW THEM!
- When you are directing your loved one, keep it simple; one step at a time.
- You may be asked to stay with your loved one to help prevent falls and injury. Notify staff of any mental OR physical changes that you notice in your loved one.



Section 3

Rehabilitation and Recovery

- Your Health Care Team
- Palliative Care
- How your brain recovers from stroke
- Rehabilitation and Recovery



Your Health Care Team

Neurologist – A doctor who specializes in evaluating and treating a variety of brain and nervous system diseases.

Hospitalist or Intensivist – A doctor who specializes in managing the care of hospitalized patients and/or critically ill patients.

Nurse – Works closely with you, your family and the health care team during the initial stages following a stroke. Until you can do more for yourself, nurses will help you with daily care such as taking medications, bathing, dressing and toileting. They can also help organize community services you may need after you go home.

Occupational Therapist – Occupational therapists will work with you to improve your independence with daily living. They will help you regain function and control of your upper body. They will help you “re-learn” skills such as personal grooming, preparing meals and housecleaning. Occupational therapists also help you and your family by making changes at home to increase safety, such as grab bars.

Physical Therapist – The physical therapists focus on evaluating physical function, applying therapeutic treatments to reduce pain and maintain, improve or restore physical functioning. They provide one-on-one training with walking, transferring and other exercises. The physical therapist will work with other team members to create a realistic plan with you that emphasizes activities to improve your strength, endurance, range of motion, gait, balance and senses.

Speech Therapist – Speech Therapists will focus on evaluating your communication abilities and swallowing functions. They will work with you to restore your verbal and written communication and difficulties with memory and problem solving. If you have swallowing difficulties, they help you with exercises to restore your swallowing abilities to keep you safe during meals.

Case Manager or Social Worker – Helps you and your family deal with feelings of anger, sadness, depression, confusion and anxiety; can arrange community services, family finances, work and discharge plans.

Palliative Care

Palliative care is a specialized form of medicine that aims to enhance the quality of life of patients and their families who are faced with serious illness.

These providers focus on increasing comfort through prevention and treatment of distressing symptoms. In addition to expert symptom management, palliative care focuses on clear communication, advance planning and coordination of care.

Receiving palliative care, which should not be confused with hospice, does not mean you have to stop treatment. The goal is to prevent and relieve your troublesome symptoms so you can get on with daily life. This type of care can be offered any time in the course of an illness and ideally should begin at the time of diagnosis.

How your brain recovers from stroke

Recovery after a stroke is possible because the human brain is capable of reorganizing and retraining itself through neuroplasticity.

When you perform repetitive physical tasks, you tap into this ability by retraining unaffected parts of your brain to perform functions that your damaged brain cells once performed. In simple terms, neuroplasticity is the process of “rewiring” the brain to perform tasks through different neural pathways.

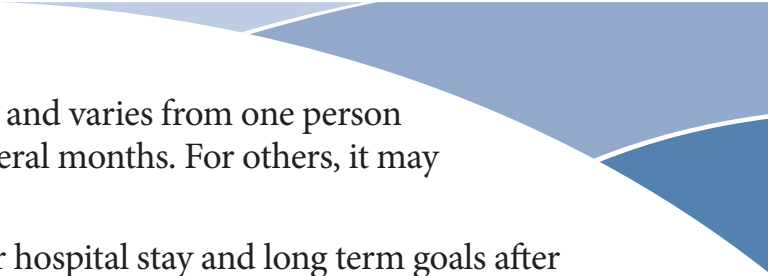
Some “spontaneous” recovery does occur after a stroke, but it doesn’t continue forever. According to a study published in the Journal of the American Physical Therapy Association, spontaneous motor recovery only occurs during the first six months of recovery. Afterwards, rehabilitation is necessary to make further progress, especially if you need to learn new skills and coping mechanisms.

To overcome the leading cause of disability, a consistent exercise program is critical. By using the power of neuroplasticity, stroke survivors can regain mobility and function.

Rehabilitation and Recovery

The goal of your care during your hospital stay after your stroke is to move you toward self-care and begin your rehabilitation process. Your stroke care team will work with you and your family to help you understand the steps of recovery, your medications, safety measures and help you set goals for your discharge from the hospital.

Your recovery starts as soon as you are stabilized. Rehab is the process and approach that helps you to recover as many abilities as possible.



Recovery can be a long term process and varies from one person to the next. For some, it can take several months. For others, it may take years.

You will set short term goals for your hospital stay and long term goals after discharge from the hospital.

How long will it take?

There is no schedule for stroke recovery. Your stroke is unique to you and your recovery will move at your own pace, based on your own situation.

You will likely find that you keep making progress for many months and even years after your stroke. The more you practice doing the tasks of everyday life, the easier they become over time.

Your stroke recovery will depend on the extent of damage to your brain tissue and the location of the damage in the brain. Many of the brain's functions seem to be localized in specific regions. Therefore, the injury will affect the body functions governed by a particular region. Damage the size of a pea in another area may cause paralysis of the arm and leg. Your health before the stroke may also impact your stroke recovery. Rehabilitation will help to regain function in your physical body and your mental functions.

Neurological Recovery

This term is used to describe the healing of brain tissue. If you think of the brain, with its electrical impulses, like your fuse box in your home, it really controls the functions of your body. A stroke can have the same effect in your brain as a lightning strike in your home - it may be difficult to determine the circuits that are affected. Additionally, the appliances may also be affected. A stroke has a similar affect in the body. Neurological rehabilitation is focused on undamaged brain tissue assumption of the functions of the dead or damaged brain tissue. Time is necessary to allow for swelling (edema) in the brain to diminish. Just as your thumb swells after it is struck by a hammer, the brain will swell as a result of stroke. This causes pressure in your brain, and the living nerves do not work well under this pressure. Therefore, it can take days to weeks for nerve function to be restored to optimal levels. This will play a role in your progressive improvement as you work through rehabilitation.

Functional Recovery

This term refers to your physical function, your ability to regain activities of daily living (ADLs). Your functional recovery is a combination of neurological recovery and physical rehabilitation. One of the best ways to optimize your recovery is to start rehabilitation as soon as medically possible following stroke. Those who begin therapy right away, rather than weeks or months later, will make more progress. Just as important as starting therapy early is your attitude about therapy. A positive attitude is the most important determinant to success. Friends and family can help provide a supportive environment after stroke.

Rehabilitation services after stroke

After hospitalization for stroke, many patients still have problems with physical, speech and mental functions. Rehabilitation for these problems can be provided in a variety of settings. Rehabilitation programs are critical in helping patients regain lost skills, relearn tasks and work to be independent again. In many cases, there is great potential for the brain to recover. With diligent rehabilitation, these prospects can get even better. Even if major neurological deficits do not improve, the patients' functioning can improve as they learn ways to compensate for their problems.

Some factors that play a role in success of stroke rehabilitation are:

- The extent of the brain injury - the less severe the injury, the better the chances for recovery.
- The stroke survivor's attitude - a survivor's positive attitude can help him or her cope with difficult times and focus on getting better.
- Family support – a stroke survivor's family can be the most important form of support during rehabilitation. Family members can reassure stroke survivors that they're wanted, needed and still important to the family.
- Immediate rehabilitation - rehabilitation must begin as soon after the stroke as possible. Even simple tasks such as exercising paralyzed muscles and turning the person in bed should begin very soon after the stroke. Stroke rehabilitation is most successful when it is a team effort. The stroke survivor and his or her family must work together with the doctor, nurse and other rehabilitation specialists.



Section 4

Prevention

- Lifestyle Changes
- Smoking and Stroke
- Blood Pressure Control
- Blood Cholesterol Control
- Weight Management and Activity
- Benefits of exercise
- Long-Term Complications of Diabetes
- Nutrition after stroke

Lifestyle Changes

In section one, you learned about risk factors for stroke and your personal risk factors. When we discuss prevention of future strokes, we mean the steps you need to take to prevent yourself from having another stroke in the future. This requires you taking steps to reduce your risk factors.

You can do plenty to make your heart and blood vessels healthy, even after you have had a stroke. A healthy lifestyle plays a big part in decreasing your risk for disability and death from stroke.

How can I make my lifestyle healthier?

Smoking and Stroke

Smoking is the number one cause of preventable disease and death. There is no safe amount of smoking. Smoking and tobacco use are significant risk factors for a variety of chronic disorders.

What's the link between smoking and cardiovascular disease?

Most people associate cigarette smoking and tobacco use with breathing problems and lung cancer. But smoking is also a major cause of cardiovascular (heart and blood vessel) disease. Smoking is a major cause of atherosclerosis - a buildup of fatty substances in the arteries. Atherosclerosis occurs when the normal lining of the arteries deteriorates, the walls of the arteries thicken and deposits of fat and plaque block the flow of blood through the arteries. In carotid artery disease, atherosclerosis affects the neck (carotid) arteries that carry blood to the brain. In peripheral artery disease, atherosclerosis affects the arteries that carry blood to the arms and legs. Both carotid and peripheral artery diseases increase the risk of stroke.

What's the link between smoking and oral contraceptives?

Women who smoke and also use oral contraceptives (birth control pills) increase several times their risk of coronary and peripheral artery diseases, heart attack and stroke compared with nonsmoking women who use oral contraceptives.

What other medical conditions are linked with smoking?

Cigarettes have multiple poisons, including addictive nicotine, carbon monoxide, "tars" and hydrogen cyanide. There are 4,000 other chemicals of varying toxicity, including 43 known carcinogens.

Smoking causes:

- decreased oxygen to the heart and to other tissues in the body
- decreased exercise tolerance
- decreased HDL (good) cholesterol
- increased blood pressure and heart rate
- increased risk of developing coronary artery disease and heart attack
- increased risk of developing peripheral artery disease and stroke
- increased tendency for blood clotting
- increased risk of developing a variety of other conditions including gum disease and ulcers
- increased risk of developing lung cancer, throat cancer, chronic asthma, chronic bronchitis and emphysema
- increased risk of developing diabetes
- increased risk of recurrent coronary artery disease after bypass surgery
- damage to cells that line coronary arteries and other blood vessels
- increased risk of becoming sick (especially among children—respiratory infections are more common among children exposed to second-hand smoke)

How does smoking affect others?

Cigarette smoke doesn't just affect smokers. When you smoke, the people around you—especially children—are at risk for developing health problems. Environmental tobacco smoke (also called passive smoke or second-hand smoke) affects people who are frequently around smokers. Secondhand smoke can cause chronic respiratory conditions, cancer and heart disease.

The American Heart Association estimates that each year, about 37,000 to 40,000 people die from heart and blood vessel disease caused by other people's smoke.

The benefits of quitting smoking

Now that you know how smoking can be harmful to your health and the health of those around you, here's how quitting smoking can be helpful. By quitting smoking, you will:

- Prolong your life. According to the American Heart Association, smokers who quit between ages 35-39 add an average of 6-9 years to their lives. Smokers who quit at ages 65-69 boost their life expectancy by 1-4 years.
- Reduce your risk of cardiovascular disease. Quitting smoking reduces the risk of repeat heart attacks and death from heart disease by 50 percent or more.
- Reduce your risk of high blood pressure, peripheral and carotid artery disease and stroke.
- Reduce your risk for developing a variety of other conditions including diabetes, lung cancer, throat cancer, emphysema, chronic bronchitis, chronic asthma, ulcers, gum disease and many other conditions.

- Feel healthier. After quitting, you won't cough as much, have as many sore throats and you will increase your stamina.
- Look and feel better. Quitting can help you prevent face wrinkles, get rid of stained teeth, improve your skin and even get rid of the stale smell in your clothes and hair.
- Improve your sense of taste and smell.
- Save money.

How can I quit?

There's no one way to quit that works for everyone. To quit smoking, you must be ready emotionally and mentally. You must also want to quit smoking for yourself, and not to please your friends or family. Plan ahead.

Please ask your nurse or doctor regarding smoking cessation assistance.

No Smoking Policy:

Because we care about your health, smoking is not permitted anywhere on our hospital grounds. We strongly encourage you to stop smoking.

Blood Pressure Control

Each day that your blood pressure is too high, your chance of having a stroke are increased.

What is the link between blood pressure and strokes?

- High blood pressure damages blood vessels causing them to thicken. When blood presses against a vessel wall with too much force, muscles in the wall lose their stretch. This causes the wall to thicken, which narrows the vessel passage and reduces blood flow.
- Clots form when blood pressure is too high, it can damage blood vessel walls. Fat and cholesterol (plaque) collect in the damaged spots. Blood cells stick to the plaque, forming a mass called a clot. A clot can block blood flow in the vessel.
- Vessels break: sometimes blood flows with enough force to weaken a vessel wall. If the vessel is small or damaged, the wall can break. When this happens, blood leaks into nearby tissue and kills cells. Other cells may die because blood cannot reach them.

Blood Cholesterol

The higher your blood cholesterol, the greater your risk for heart attack or stroke. That's why you need to know your cholesterol level. If it's high, you can take steps to bring it down. Eating the right foods and getting enough exercise can help. Some people also need medication to control their cholesterol. Your health care provider can help you get started on a plan to control your cholesterol.

Blood cholesterol levels will also need to be lowered after stroke. Knowing your lipid numbers is only part of the cholesterol health picture. Lowering your total cholesterol below 200 mg/dl and your LDL to less than 100 mg/dl (70 mg/dl if you are diabetic) will be a goal of your new eating plan.

Your doctor will have you on a medication to help lower your blood cholesterol; however, it will not substitute for the diet changes necessary after stroke. Knowing the different types of fats will help you make better choices for your heart and your brain.

Saturated fat is found in foods from animals, such as fatty meats, whole milk, butter, cream, and other dairy foods made with whole milk. It also includes tropical oils (palm, palm kernel and coconut). **Trans fat** is found in all foods made with hydrogenated oils. It may be in fried foods, crackers, chips and foods made with shortening or stick margarine.

Unsaturated fats are heart healthy fats, such as soybean, canola, olive or sunflower oil. Liquid or soft tub margarines are also fine. Just as you monitor the amount of sodium you eat, you will limit your fat intake to about 30 percent of your daily food intake. Limit the cholesterol (saturated fat) to 30 grams daily. Foods high in cholesterol include egg yolks, fatty meats, shrimp and dairy foods. Basically, if it comes from an animal, it has cholesterol.

Whole grains and low-fat dairy will help you decrease the fats, or lipids, in your blood stream and help your cholesterol medicine work well.

Choosing cold-water, fatty fish, like salmon, tuna, mackerel or sardines will help provide the good omega-3 fat your body needs to be heart healthy. If you choose canned fish, be sure it is the low sodium variety, packaged in water.

Walnuts and almonds are also good sources of omega-3 fat and make good snacks. An excellent benefit to eating a low cholesterol and low fat diet is the effect it will have on your body weight. Many stroke patients have a need to reduce their overall body weight. Following the cholesterol and sodium lowering tips will also help with weight loss.

Your dietitian is a great source for diet and nutrition education. They will have tools and resources to help you stay healthy with food that tastes good and satisfies. Be open to trying new seasonings to replace the salt and fat in your diet - you will be surprised how good healthy can taste! Bon Appetite!

Obesity: Weight Management and Activity

Obesity, especially abdominal obesity, has a direct effect on your stroke risk factors and increases your risk of a second stroke. This has been shown in studies as an independent association, meaning that your body weight alone can increase your risk of another stroke. Losing weight will improve blood pressure control, glucose levels, cholesterol levels and your physical endurance. Eating a diet rich in vegetables and fruits, lean meats and good quality carbohydrates can help with weight control and has been shown to reduce the risk of stroke, heart attack and death.

Benefits of exercise

Studies show that people who exercise are the most likely to lose weight and keep it off. Exercise burns calories. It helps build muscle to make your body stronger. Make exercise part of your weight management plan.

Exercise increases your metabolism (the speed at which your body burns calories). Regular exercise can increase the amount of muscle in your body. Muscle burns calories faster than fat. The more muscle you have the more calories you burn. Exercise gives you energy and curbs your appetite. Exercise decreases stress and help you sleep better.

Long-term Complications of Diabetes

Managing diabetes can help you avoid these and other complications:

- Eye problems, including damage to the blood vessels in the eyes (retinopathy), pressure in the eye (glaucoma), and clouding of the eye's lens (a cataract)
- Tooth and gum problems causing loss of teeth and bones
- Blood vessel disease leading to circulation problems, heart attack or stroke
- Problems with sexual function
- Kidney disease
- Nerve problems (neuropathy) causing pain or loss of feeling in your feet and other parts of your body.
- High blood pressure (hypertension) putting strain on your heart and blood vessels.
- Serious infections, possibly leading to loss of toes, feet and limbs.

Nutrition after stroke

Building strength, function and mobility will take lots of energy. Registered dietitians will prepare an appropriate program for you and may recommend supplements, texture modifications and other adaptations to help you maintain your health. Since high blood pressure is directly associated with stroke, an eating plan that supports blood pressure health is essential after stroke.

Sodium

Sodium, or salt intake, will be decreased to help with blood pressure health. Most Americans consume more salt than they need, disguised in prepared foods and drinks. The current recommendation is to consume less than 2,400 milligrams (mg) of sodium a day. That is about one teaspoon of salt a day. For someone with high blood pressure, the doctor may advise eating less salt, around 1,500 mg of sodium a day. This will help keep your blood pressure from rising and help blood pressure medicines work well. Your dietitian will help you with tips on reducing sodium in your diet, shopping ideas and teach you how to read and use food labels. They can also teach you alternative ways to flavor your food, so you don't miss the taste, just the sodium!

Fruits and vegetables will definitely be on the menu. Learning how to prepare the produce that is in season will add to the flavor of your meals and save you money at the market. Choosing fresh fruits and vegetables high in potassium will help curb salt cravings and are important to help you meet your calcium and potassium needs.

Eat Less Fat

A gram of fat has almost twice the calories of a gram of protein or carbohydrates. Try to balance your food choices so that 20 percent to 35 percent of your calories come from total fat. This means an average of 2½ to 3½ grams of fat for each 100 calories you eat.



Eat More Fiber

High fiber foods are digested more slowly than low fiber foods, so you feel full longer. Try to get 31 grams of fiber each day. Foods high in fiber include:

- Vegetables and fruit
- Whole grain or bran breads, pastas and cereals
 - Legumes (beans) and peas

As you begin to eat more fiber, be sure to drink plenty of water to keep your digestive system working smoothly.



Section 5

Discharge Planning

- Preparing for Discharge
- Stroke Rehabilitation Decisions
- Life after Stroke
- Tips for Caregivers
- Making your Discharge Plan

Preparing for Discharge

Discharge planning is the process of preparing you to live independently in your home. The purpose is to help maintain the benefits of rehabilitation after you have been released from the hospital. It begins early during rehabilitation and involves you, your family and the stroke rehabilitation team.

Your care manager or social worker will be working with you during your stay on your plan for discharge. We will set up follow up appointments with your primary care provider and a neurologist follow up visit as well. Your care manager will work with you to set up your therapy appointments (if needed), referral for home health rehab or inpatient rehab.

You will have a lot of questions during your stay – write notes and jot down your questions as they come up so you will be prepared to ask your health care team members when they come to your room.

Stroke Rehabilitation Decisions

Stroke rehabilitation is provided in a number of settings. Doctors, therapists and case managers will determine what setting would provide the most appropriate treatment based primarily on the stroke disability and prognosis for improvement. Sayings like “no pain, no gain” and “use it or lose it” do not apply for stroke patients. More exercise is not necessarily better.

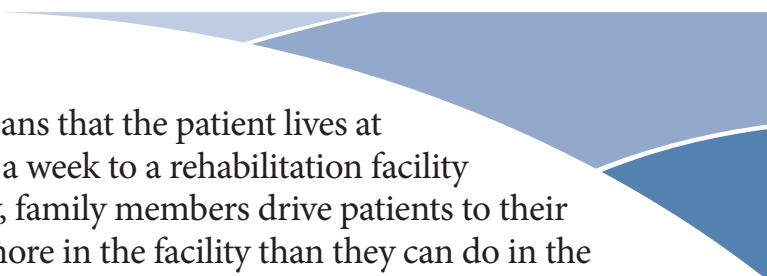
A safe and effective rehabilitation program allows patients to recover at a pace that fits their needs and abilities. Patients usually move among various levels of care during their recovery. Deciding on the right setting for rehabilitation involves many elements:

- the severity and unique characteristics of the physical problems caused by the stroke
- the presence of other medical conditions like arthritis, kidney disease or heart disease
- availability and location of family and friends
- insurance coverage for rehabilitation services

What are the choices for stroke rehabilitation?

Acute rehabilitation – Three or more hours of therapy are provided five days a week, and sometimes over the weekend. Doctors may visit the patient five or more days a week. Patients at this level of care must demonstrate the ability to tolerate and benefit from intensive exercise and training.

Sub-acute or skilled nursing rehabilitation – In this type of rehabilitation, one or two hours of rehabilitation treatment are provided five days a week. Patients in this setting are often recovering from difficult medical problems, and are able to tolerate a moderate pace of exercise. Doctors supervise the medical and rehabilitative care, and visit the patient as needed, usually three times a week.



Outpatient rehabilitation – This means that the patient lives at home and travels two or three times a week to a rehabilitation facility for a few hours of treatment. Usually, family members drive patients to their treatments. Therapists can do a lot more in the facility than they can do in the patient's home.

Rehabilitation in the home – This kind of rehabilitation usually is for home bound patients with very mild problems and extensive family support. Members of the therapy team come to the home of the patient, usually for two or three hours of therapy per week. Simple therapy services are provided.

Long-term acute care (LTAC) hospital rehabilitation – These rehabilitation services are provided in special hospital units that are designed to care for patients with major medical problems requiring intense treatment (patients that require ventilators for breathing, dialysis, drugs that support heart function). Doctors visit the patient frequently.

Nursing home restorative care – This kind of care is the least intensive level of rehabilitation care in an institutional setting. Patients participate in an exercise program a few hours a week, generally in a group setting.

Is the family involved?

Yes. The time that rehabilitation specialists spend with the patient in rehabilitation is just a “blink of the eye” in that patient's lifetime. Family and friends' active involvement in the patient's rehabilitation process helps the patient achieve success. The patient's loved ones can help specialists understand what the patient was like before the stroke and help plan for the best outcome after the patient goes home.

Life after Stroke

Regaining your independence will be the focus of your rehabilitation and will be the long-term goal of your life after stroke. Developing a healthy lifestyle with diet, exercise, medication regimen and regular doctor visits can help reduce your chance of having another stroke. There is a 10-18 percent risk of having a second stroke in the first year immediately following a stroke. Maintaining your lifestyle changes can reduce this risk. Many stroke survivors have found a new lease on life, a new chance at relationships that the busy life before stroke would not allow. Reaching out to stroke groups and becoming involved with stroke survivors can help you learn new ways to adapt and offers you opportunities to help others.

Home safety is an important part of your return home. Many of the common activities prior to stroke can be problematic after stroke. Cooking over hot stoves or handling sharp knives are a couple of common kitchen tasks that may have to be altered. Throw rugs are hazardous for you if you have trouble with balance or eyesight. Driving skills may have been lost or impaired to the point that alternate transportation service is

required. Hand rails, seat extensions and other devices may be needed to provide for your safety.

Regular and appropriate exercise not only increases circulation and lung capacity but fights cholesterol buildup. Stroke often affects balance, strength and coordination. If you have an indoor pool or natatorium available, swimming or water exercise classes are an excellent exercise choice.

Most importantly, recognize your improvements and give your body time. You can learn. Your body can adapt. Many stroke survivors start out in a wheelchair, but with a positive attitude and hard work during rehabilitation, can regain much of their previous activity.

Returning to work

Your doctor will tell you how soon you can return to work after are released. Your return to work will be based on your overall health, symptoms and your rate of recovery.

You should try to work as long as you are able. If you have a job that requires a lot of physical work, you may need to change some of your job-related activities. This may involve job re-training or taking disability.

Talk to you doctor about the type of job you have. Your doctor can help you decide if your job will affect your condition and if you need to make changes.

Plan periods of rest – Be sure to get plenty of rest. You may need to plan at least one rest period every day. Make sure that you rest during any non-work activities.

Conserve your energy – Using less energy with daily tasks can help you have more energy to do more activities during the day. You may need to cut down on some of your activities or use energy-saving devices or techniques. If daily self-care or home care activities are too tiring, discuss this with your doctor.

Here are some energy conserving tips:

- Simplify your tasks and set realistic goals. Remember, you do not have to do things the same way you've always done them.
- Plan your activities ahead of time. Do not schedule too many things to do in one day. Do the things that take more energy when you are feeling your best.
- If necessary, rest before and after activities.
- Do not plan activities right after a meal.
- Get a good night's sleep. Be careful not to nap too much during the day or you might not be able to sleep at night.
- Ask for help. Divide tasks among family and friends.
- If needed, use devices and tools to assist you such as a walker, shower chair, hand-held shower head, bedside commodes or long-handled tools for dressing.
 - Wear clothes with zippers and buttons in the front so you don't have to reach behind.
 - Do all of your grooming (shaving, drying your hair, etc.) while sitting.

Tips for Caregivers

Some tips to help family and friends cope with a loved one's stroke:

- Ask the doctor questions if you accompany your loved one to appointments. Talk with your loved one before the appointment about the questions you will ask and be sensitive when asking questions, especially those questions to which the patient may not want to hear the answer.
- Be prepared for changes in your loved ones behavior and mood. Medications, discomforts and stress can cause your loved one to become depressed or angry.
- Encourage your loved one to be active and independent, as much as possible, to help him or her regain a sense of self-reliance and confidence.
- Be realistic about your own needs. If you take care of your needs, it may be easier to meet the needs of your loved one.
- Be sure you are sleeping enough, eating properly and taking some time off for yourself. It is hard to offer much help when you are exhausted.
- Don't hesitate to ask other family members and friends for help. They may appreciate the opportunity to help.
- Keep a positive attitude.
- Accept that there are events you cannot control.
- Be assertive instead of aggressive. Assert your feelings, opinions or beliefs instead of becoming angry, combative or passive.
- Learn how to manage stress.
- Exercise regularly. Your body can fight stress better when you are physically fit.
- Don't rely on alcohol or drugs to relieve stress.
- Use the resource of support groups. Talking with people who are in similar situations can help you to feel that you are not alone.

Making Your Discharge Plan

Your role in making a good transition


Before you leave any level of care, you need to have a plan for the near future. Your team should work with you and your family to set realistic goals for the next weeks and months. Make sure all of your questions and those of your care partner and family have been answered. Make sure that you have all of the following written down:

Where are you going

- Home, inpatient rehabilitation, long-term care or some other location

Your health care contact

- List of your appointments, the reason for each appointment, the location, contact name and phone number

- 
- Names of your therapists, their contact information and why you are seeing them
 - Who to contact if you have any questions

Recovery and rehabilitation needs

- Your recovery needs – what do you need to continue to recover?
- List of devices that may help you and where to find them
- Any safety concerns
- Description of the types of rehab you need and where you will receive it
- What you can do on your own
- A list of services in your community for people with stroke and their care partners

A plan to prevent another stroke

- A review of your risk factors
- Your goals and plan for reducing risk
- A follow-up appointment about managing your risk factors
- A list of signs of stroke and what to do if they occur

A list of your medications, including

- Names
- What they are for
- When to take them
- How to take them
- Possible side effects
- Foods you might need to avoid

Daily life routines

- A list of assistive devices to help you
- A list of strategies you can use right now for daily routines such as getting around, eating, bathing and going to the toilet





Section 6

Other Stroke Resources

- Resources for Information on Stroke
- Stroke Medications Fact Sheet
- Stroke Support Group Meeting Flyer
- Notes Pages





Resources for Information on Stroke

Maury Regional's Stroke Support Group
931.840.4446
www.mauryregional.com

American Stroke Association
Toll-free 888.4.STROKE (888.478.7653)
www.strokeassociation.org

National Stroke Association
Toll-free 800.STROKES (800.787.6537)
www.stroke.org

American Diabetic Association
Toll Free 800.877.1600
www.eatright.org

National Aphasia Association
www.aphasia.org

National Council on Disability
1.202.272.2004
www.ncd.gov

National Institute of Neurological Disorders
www.ninds.nih.gov



STROKE MEDICATIONS FACT SHEET

For patient education purposes ONLY. Check with your doctor or pharmacist before starting any new medications or if you experience any side effects after starting a new medication. This is NOT an all-inclusive list.

| MEDICATION | WHAT IT'S FOR | THINGS TO REMEMBER | WHAT TO WATCH FOR/EXPECT |
|---|--|--|---|
| Antiplatelets | | | |
| <p>Aspirin</p> <p>Aspirin/ extended-release dipyridamole (Aggrenox®)</p> <p>Clopidogrel (Plavix®)</p> | <p>Keep blood clots from forming by preventing blood platelets from sticking together.</p> | <ul style="list-style-type: none"> • Avoid over-the-counter medications that may increase bleeding or decrease effectiveness unless approved by doctor (see below). • Take with a full glass of water. • Do not suddenly stop taking Clopidogrel (Plavix®) without asking your doctor as this may increase your risk for stroke. | <ul style="list-style-type: none"> • Symptoms of bleeding (see below). Call your doctor if this occurs. • Heartburn, abdominal pain and bruising. • Aggrenox® can cause headaches and dizziness. Stand up slowly. |
| Anticoagulants (blood thinners) | | | |
| <p>Warfarin (Coumadin®)</p> <p>Dabigatran (Pradaxa®)</p> <p>Rivaroxaban (Xarelto®)</p> <p>Apixaban (Eliquis®)</p> | <p>Prevent blood clots from forming and keep existing blood clots from getting bigger.</p> | <ul style="list-style-type: none"> • Talk to your doctor or pharmacist before using <u>ANY</u> new medications, including over-the-counter and herbal products. • Take at the same time each day and do not skip doses. • Do not take 2 doses at once, change the dose, or stop taking this drug without talking to the doctor. • Avoid activities where cuts, bruising or injury is likely to occur. • Store Pradaxa® in the original bottle or blister packs. • Xarelto® should be taken with food. • Tell dentists, surgeons and other doctors you are taking this drug. | <ul style="list-style-type: none"> • Symptoms of bleeding (see below). Call your doctor if this occurs. • Have your kidney function checked when taking Pradaxa®, Xarelto® or Eliquis®. • Have your INR checked while taking Warfarin (Coumadin®). • Pradaxa® may cause upset stomach and may be taken with food. |

| MEDICATION | WHAT IT'S FOR | THINGS TO REMEMBER | WHAT TO WATCH FOR/EXPECT |
|--|---|---|---|
| Statins | | | |
| Simvastatin (Zocor®) Atorvastatin (Lipitor®) Pravastatin (Pravachol®) Rosuvastatin (Crestor®) Fluvastatin (Lescol®) Pitavastatin (Livalo®) Lovastatin (Mevacor®) | Lowers cholesterol and can greatly reduce the risk of heart attack and stroke. | <ul style="list-style-type: none"> • Talk to your doctor or pharmacist before using <u>ANY</u> new medications, including over-the-counter and herbal products. • Talk to your doctor if you drink alcohol or grapefruit juice. | <ul style="list-style-type: none"> • Talk to your doctor if you have unexplained muscle pain, weakness, fever or brown colored urine or upset stomach. • Statins may cause diarrhea, muscle pain or runny nose. • Have your liver function and cholesterol levels checked. |
| Antihypertensives | | | |
| ACE Inhibitors Lisinopril (Prinivil®, Zestril®) Ramipril (Altace®) Enalapril (Vasotec®) Benazepril (Lotensin®) | Lower blood pressure which reduces the risk of stroke and other serious problems. | <ul style="list-style-type: none"> • Do not stop taking this medication abruptly. • Talk to your doctor or pharmacist before using potassium-containing products (ACE Inhibitors, ARBs). • Avoid activities requiring coordination until drug effects are realized, as drug may cause dizziness. • If you miss a dose, take it as soon as possible. If it has been more than 12 hours since the dose was missed, skip the dose. | <ul style="list-style-type: none"> • Antihypertensives may cause dizziness and headache. • Other side effects include cough (ACE Inhibitors), diarrhea (ARBs), and swelling (calcium channel blockers). Talk to your doctor if these do not go away. • Diuretics may cause increased risk of sunburn. Use sunscreen. |
| ARBs Losartan (Cozaar®) Valsartan (Diovan®) Olmesartan (Benicar®) | | | |
| Calcium Channel Blockers Amlodipine (Norvasc®) Diltiazem (Cardizem®) | | | |
| Diuretics ("water pills") Hydrochlorothiazide Chlorthalidone | | | |

Signs of bleeding (call your doctor):

- Bleeding from the gums or nose that does not stop quickly.
- Dark red or brown urine.
- Bowel movements that are red or look like tar.
- Vomit that is brown or bright red.
- Unusual bruising.

Medications that may increase bleeding:

- Alcohol
- Ibuprofen (Advil®, Motrin®)
- Naproxen (Aleve®)
- Alka-Seltzer®
- Excedrin®
- Pepto Bismol®
- Garlic, Ginkgo Biloba, Ginseng



Maury Regional Medical Center
Stroke Survivor Support Group

STROKE SUPPORT GROUP

2019 Meeting Dates Thursdays - 6 p.m.

| | |
|-------------|--------------|
| January 24 | June 27 |
| February 28 | July 25 |
| March 28 | August 22 |
| April 25 | September 26 |
| May 23 | October 24 |

December 5

(Combined November/December Meeting)

William R. Walter
Educational Conference Center

Maury Regional Annex
1223 Trotwood Avenue
Columbia, TN 38401

This support group is for those who have experienced a stroke as well as their family, friends and caregivers. Meetings are held the fourth Thursday of each month (except for a combined November/December meeting).

If you or someone you know has experienced a stroke, please join us. Our goal is to grow a support group that will assist those impacted by stroke in our region. For more information, call 931.840.4446.



**MAURY REGIONAL
MEDICAL CENTER**

MauryRegional.com



NOTES

Lined area for taking notes, consisting of 22 horizontal lines.