



# **Your Care after a Stroke**



**THE OHIO STATE UNIVERSITY**

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WEXNER MEDICAL CENTER

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# Stroke

A stroke is a sudden loss of brain function due to a change in the blood flow to the brain. Cerebral vascular accident (CVA) is another name for a stroke.

There are 2 main types of stroke:

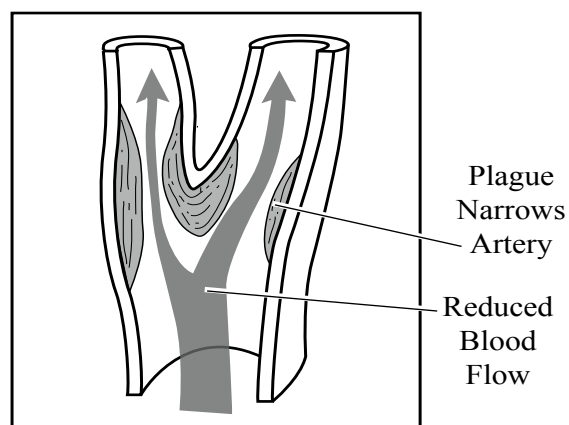
- ❑ **Ischemic stroke** caused by a clot that blocks blood flow to brain tissue. This is the more common type of stroke.
- ❑ **Hemorrhagic stroke** caused by bleeding that puts pressure on brain cells. This causes a loss of oxygen to brain tissue. This type of stroke is less common, but it can cause serious injury or death.
  - **Intracerebral hemorrhage (ICH)** is bleeding inside the brain.
  - **Subarachnoid hemorrhage (SAH)** is bleeding around the brain or into the space between the brain and the skull.

## Causes - ischemic stroke

When an artery that supplies blood flow to the brain is blocked, a stroke happens. The blockage may be from fatty deposits, called plaque, or from blood clots. Pieces of the plaque or clots can break loose and travel to the brain to cause a stroke.

Your care team may talk about your stroke based on whether the blockage or clot formed in your brain or moved to your brain.

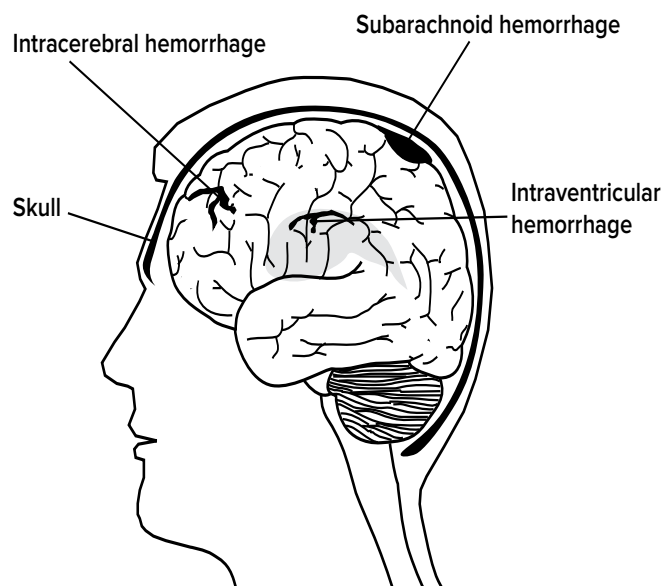
- **Thrombus** is a clot that forms on the wall of a blood vessel in the brain.
- **Embolus** is a clot in a blood vessel that moves or travels through the bloodstream to the brain.



## Causes - hemorrhagic stroke

The main causes are:

- High blood pressure, also called hypertension.
- Ruptured aneurysm - a bulging or weak spot in an artery wall in the brain that bleeds.
- Smoking, alcohol or drug abuse.
- Other causes may include trauma, infections, tumors, blood clotting or blood vessel problems.



## Risk factors

- High blood pressure
- Diabetes
- Diet too high in cholesterol and fat
- Atrial fibrillation
- Smoking or tobacco use
- Alcohol use- more than 2 drinks/day for men or more than 1 drink/day for women
- Drug abuse or recreational drug use
- Obesity
- Lack of exercise
- Heart Disease
- Stress
- Previous strokes
- Family history of stroke

## Know the warning signs of stroke - BE FAST

- **B - Balance:** Sudden loss of balance or coordination
- **E - Eyes:** Sudden vision changes
- **F - Face:** Face droops on one side or uneven smile
- **A - Arms:** Arm numbness or weakness on one side
- **S - Speech:** Slurred speech, difficulty speaking or understanding
- **T - Time:** Call 911 and get to the hospital right away

## Ways to prevent stroke

- Visit your doctor regularly to check your blood pressure, blood sugar and cholesterol.
- Take medicines as ordered. Do not change or stop taking your medicine without talking to your doctor.
- Control high blood pressure. Have your blood pressure checked often and talk with your doctor about treatment options.
- Keep your blood sugar in the recommended range if you have diabetes.
- Follow a low cholesterol, low fat diet.
- Manage your blood thinning medicines. If you take blood thinners, called anticoagulants, check with your doctor and have your blood work done as ordered to be sure you are taking the right amount of medicine.
- Quit smoking or using other tobacco products.
- Avoid alcohol.
- Avoid drug abuse or recreational drug use.
- Exercise for 30 minutes most days of the week.
- Keep your weight at the right amount for your height.
- Control blood clotting diseases, such as hemophilia or sickle cell anemia. Talk to your doctor about what you can do to control the disease to lower your risk of stroke.
- Lower your stress level by using relaxation exercises and recreation.
- Be aware of your family history.
- **Call 911 if you have any of the BE FAST warning signs.**

## Effects of a stroke

The effects of a stroke depend on the location in the brain and amount of damage to the brain. There may be changes in behavior or in your ability to do daily activities, such as:

- Loss of movement to one side of the body, called hemiplegia
- Quick and impulsive behavior
- Problems with memory
- Lack of attention to where one side of the body is positioned, called neglect
- Problems with swallowing
- Problems with remembering how to do daily activities
- Problems with language
- Problems with talking and understanding or aphasia
- Slow and cautious behavior

## To learn more

This book provides basic information about stroke. We believe it will help decrease your fear and anxiety. Please read and share this book with your family and friends.

Be sure to ask a member of your care team if you have any questions about your care or if there is anything you do not understand.

Talk to your doctor and others on your care team to learn more about your type of stroke. You may also want to ask for additional handouts, such as:

- Basal Ganglia Stroke
- Brainstem Stroke
- Effects of Anterior Cerebral Artery Stroke
- Effects of Cerebellar Stroke
- Effects of Left Middle Cerebral Artery Stroke
- Effects of Right Middle Cerebral Artery Stroke
- Posterior Cerebral Artery (PCA) Stroke

You can also find out more about strokes at:

- **American Stroke Association**, 1-888-478-7653 or online at [www.strokeassociation.org](http://www.strokeassociation.org)
- **National Stroke Association**, 1-800-787-6537 or online at [www.stroke.org](http://www.stroke.org)
- **Stroke Survivors Empowering Each Other (SSEEO)**, 1-800-988-8047 or online at [www.sseeo.org](http://www.sseeo.org)

# Your Stroke Risk Factors

**A person who has had a stroke has a higher risk of having a second stroke.**

Work with your doctor to manage the health problems that put you at risk for a stroke, called risk factors, so you can reduce your risk.

- There are some risk factors that you cannot change, such as your age, sex, race, family history and your own history of a stroke, TIA or heart attack.
- Some risk factors you can change or control to prevent a stroke.

Your health problems that are **risk factors for stroke** are checked:

- High blood pressure.
- Diabetes. Your hemoglobin A1C (HbA1C) value is \_\_\_\_\_. Your goal is 4.0 to 6.0.
- High bad cholesterol. Your low density cholesterol (LDL) called bad cholesterol is \_\_\_\_\_. The goal is less than 70 for someone who has had a stroke.
- Atrial fibrillation. This is an irregular heartbeat that can cause blood to pool in parts of your heart.
- Blood thinning medicines and dietary supplements need to be managed. Talk to your doctor about any dietary supplements you are taking, including fish oil and garlic. Both can have a blood thinning effect if taken in large amounts.
- Tobacco use.
- Alcohol use.
- Drug abuse or recreational drug use.
- Being overweight.
- Being inactive.
- Circulation problems, such as carotid stenosis, coronary artery disease and peripheral vascular disease.
- Blood clotting problems such as hemophilia or sickle cell anemia.
- Other: \_\_\_\_\_  
\_\_\_\_\_

# Guidelines to Prevent Stroke

Everyone has some stroke risk. Risk factors are traits or lifestyle habits that increase a person's chances of having a stroke. Some risk factors you cannot change, but there are lifestyle and health problems that you can change or control to prevent stroke. Follow these guidelines from the National Stroke Association to help control your risk of stroke.

## Know your blood pressure

- High blood pressure is a leading cause of stroke. If your blood pressure is high, work with your doctor to keep it under control.
- Have your blood pressure checked at least one time each year and more often if you have a history of high blood pressure.
- See your doctor if the top or higher number (your systolic blood pressure) is often over 120 or if the bottom or lower number (your diastolic blood pressure) is often over 80.

## If you have diabetes, control your blood sugar

- Having diabetes puts you at increased risk for stroke.
- Talk to your doctor, diabetes educator, nurse or dietitian to help you learn to control and manage your diabetes.

## Lower your bad cholesterol

- If your bad cholesterol (LDL) level is over 70, work with your doctor to control it.
- High cholesterol can increase stroke risk by putting you at greater risk of heart disease.

- Often high cholesterol can be controlled with diet and exercise, but some people may need to take medicine, called **statins**. These medicines block the production of cholesterol in the liver to lower LDL cholesterol levels.

## Eat less fat in your diet

Limit the saturated and trans fats in your diet.

- Saturated fats come from high fat animal products, such as fatty meats and high fat dairy products.
- Trans fats are partially hydrogenated oils and are found in cookies, crackers, commercially baked goods and many deep fried foods.

Use healthier fats from vegetable sources such as olives, nuts, soybeans, corn and safflower. Read more on page .

Talk to a registered dietitian (RD) for help in changing your diet and eating habits to lower your fat intake.

## Find out if you have atrial fibrillation (AF or atrial fib)

- If you have atrial fib, work with your doctor to manage it.
- Atrial fib can cause blood to collect in the chambers of your heart. This blood can form clots and cause a stroke.
- Your doctor can detect atrial fib by carefully checking your pulse.

## Stop smoking or other tobacco use

Smoking doubles the risk for stroke. If you stop smoking today, your risk for stroke will begin to decrease. Any tobacco use can increase your risk.

## Limit the amount of alcohol you drink

- **If you don't drink, don't start.**
- Drinking should be limited to no more than 2 drinks a day for men or 1 drink a day for women, provided that there is no other medical reason you should avoid alcohol.
- Alcohol is a drug, and it can interact with other drugs you are taking.
- Alcohol is harmful if taken in large doses.
- A serving size for 1 drink is equal to 12 ounces of beer, 5 ounces of wine or 1½ ounces of distilled spirits (vodka, rum, gin or whiskey).

## Exercise daily

A brisk walk, swim or other exercise activity for as little as 30 minutes a day can improve your health in many ways and may reduce your risk for stroke.

## Eat a lower salt diet

By cutting down on the salt, also called sodium, and fat in your diet, you may be able to lower your blood pressure and your risk of stroke. It can also improve the health of your heart.

## Blood thinner medicines

You may also need to take a blood thinner medicine, called an anticoagulant. Ask your doctor or nurse for information about the medicine.

- Be sure you continue to take your medicine for the entire time prescribed. Have your blood checked if directed to do so by your doctor.
- Report any unusual bleeding or bruising to your doctor right away.

## Ask if you have circulation problems

- If so, work with your doctor to control them.
- Fatty deposits can block the arteries that carry blood from your heart to your brain. This kind of blockage can cause a stroke.
- Sickle cell disease, severe anemia or other diseases can cause stroke if left untreated.

## Take your medicines as directed

Do not stop taking your medicines because you feel better or because you have no more refills on the prescription. Check with your doctor before you stop any medicine. Many medicines will need to be taken long term. Read “Medicines after Stroke” on page in this book for more information.

**If you have questions about your stroke risk, please ask your doctor or nurse.**



# Your Care Team

Your care team includes the doctors and nurses who work together to manage your care needs. They work with other health care professionals to address your needs. Members of your care team will teach you and your family about your care, so you are able to understand your condition and how to manage your health after you leave the hospital.

## Speech language pathologist (SLP)

**Your nurse will do a screening to check your ability to swallow.** If there are any concerns, you will be seen by a speech language pathologist (SLP), also called a speech therapist. The SLP will complete a **Bedside Swallowing Evaluation (BSE)**. You will be asked questions about your medical history and ability to swallow. The SLP will examine your mouth and may ask you to eat different foods or liquids to find out what type of swallowing problem(s) you may have. Based on the problems identified, a plan will be developed to help with your swallowing problem.

The speech language pathologist (SLP) also treats patients who have problems in understanding or expressing spoken or written words.

## Physical therapy (PT)

The physical therapist (PT) helps people be mobile. This may include:

- Moving in bed
- Range of motion exercises
- Transferring into or out of a wheelchair
- Walking alone or with a walker or cane

The PT may also help improve strength, balance and coordination.

## Occupational therapy (OT)

The occupational therapist (OT) checks your ability to perform daily living skills. The OT helps the person with a stroke cope with:

- Limited use of their arms
- Visual problems
- Problems in thinking, such as memory, concentration and being safe
- Grooming and dressing
- Special equipment, such as using a wheelchair, splints or casts

## Case manager

The case manager is a link between the insurance provider, equipment vendors, doctors, other team members and the patient. The case manager works with the care team and doctors to plan your discharge and follow up care.

## Social worker (SW)

The social worker (SW) provides support and counseling for patients and their families, such as dealing with:

- Adjustment issues
- Interpersonal relationships
- Financial concerns
- Educational and vocational needs
- Selecting a nursing facility if placement is needed

# Tests, Procedures, and Treatments

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## Head CT (computed tomography)

A head CT (computed tomography) is an x-ray scan using a special x-ray machine and computer. This scan creates pictures of thin slices or segments of the brain. Your doctor has ordered this scan to help diagnose a problem that you may be having. In some cases, a medicine, called contrast, is injected through a small needle or an intravenous (IV) line. This medicine allows certain structures to show on the CT scan, such as veins and arteries.

## MRI (magnetic resonance imaging)

This test is a safe, painless way for your doctor to look into your brain. The pictures taken during the test look at soft tissue and organs. They provide information that can help your doctor diagnose the problem that you are having. The test uses radio waves and a magnetic field. An MRI is a long tube-like machine that is open on both ends. During the test, you lie on a padded table in the middle of this machine. We will try to make your position comfortable.

## Echocardiogram or TTE (transthoracic echo)

This test takes moving pictures of your heart using sound waves. The doctor is able to see your heart beating, the size and shape of your heart, and how the heart's valves and chambers are working. After a stroke, your doctor may use this test to look for clots. A wand, called a transducer, is moved across your chest. It sends sound waves that make pictures on the computer screen.

## Angiogram

An angiogram is a test of the blood vessels in the body. Using x-rays and a medicine, called contrast, pictures of the blood flow in your body are taken, so the doctor can see if there is a problem with the blood vessel. An angiogram may be done to check:

- Blockage of an artery
- Your vessels for the surgeon before an operation
- For internal bleeding

## External ventricular drain (EVD)

This drain, also called a ventriculostomy, is a small tube placed into part of the brain, called a ventricle. It is attached to a collection device outside the body. This device can be used to measure the pressure inside your brain, called intracranial pressure (ICP). Fluid, known as cerebrospinal fluid (CSF), can build up inside the brain after a stroke or head injury causing pressure on the brain. The drain allows fluid to be removed to keep the pressure controlled.

This drain may be put in during surgery or at the bedside. The collection device may be placed at the head of the bed or on an IV pole. The amount of fluid draining will be measured. When the pressure is controlled without removing fluid, the drain will be removed.

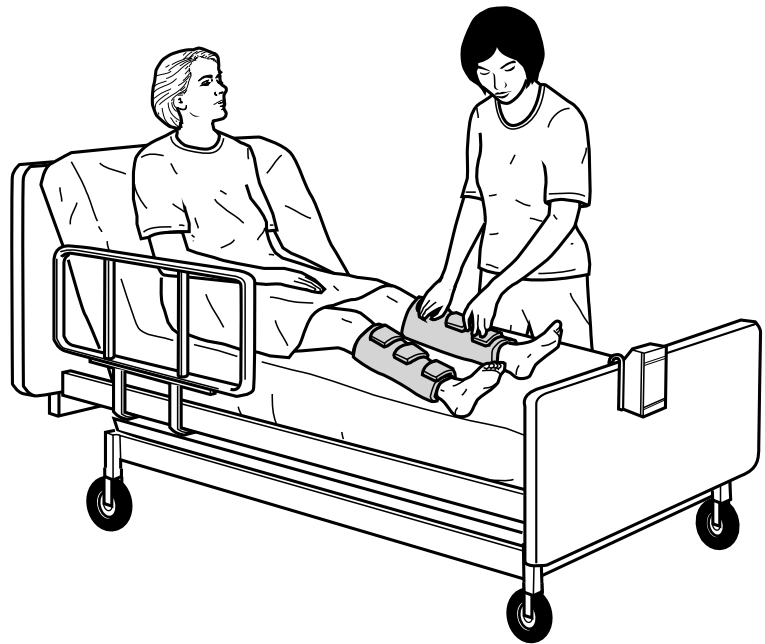
## Preventing deep vein thrombosis (DVT)

To prevent DVT, your doctor may have you wear compression devices. Compression devices are wraps that are placed around your legs or feet. A pump pushes air into the wrap through tubes to put pressure on your muscles and then releases the air to help your blood flow.

**Wear the compression devices while in bed** or if you are sitting up in a chair for a longer period of time.

**Other things you can do to reduce your risk of DVT:**

- Walk every day and do leg and arm exercises to help your circulation. Ask your doctor or therapist what type of exercise is best for you. They will give you information about range of motion exercises.
- Avoid sitting or lying in one position for long periods of time. Do not sit with your legs crossed or with constant pressure on the back of the knee.
- If your legs tend to swell, prop them on a stool when sitting.
- Avoid smoking and tobacco use.
- Drink at least 6 to 8 cups of liquid daily unless you are to limit your fluids.



Compression Devices

# Medicines after Stroke

There are many medicines to treat stroke and conditions that may increase your risk for stroke. Ask your doctor, nurse or pharmacist if you have questions about your medicines.

- Take your medicines as directed.
- **Do NOT stop taking your medicines because you feel better or because you have no more refills on the prescription.** Check with your doctor before you stop taking any medicine. Many medicines will need to be taken long term.
- Tell your doctor or nurse if you are taking any over the counter medicines or herbal supplements. They may interact with medicines.
- Talk with your doctor or nurse if you have side effects from your medicines. Side effects are an unwanted effect of a drug.

## Anti-platelets

These medicines prevent platelets in the blood from clumping or clotting. They are often used after a heart attack or stroke, or after stent procedures to prevent platelets from blocking the stent.

**Do not stop taking this medicine without talking to the doctor who ordered it.**

Stopping your anti-platelet medicine puts you at risk for forming clots or for the stent to get blocked.

**Medicine side effects may include:**

allergic reaction, black, bloody or tarry stools, nausea, vomiting, abdominal pain, skin bruising, dizziness, confusion, hallucinations, loss of hearing or ringing in the ears.

**Anti-platelet medicine names include:**

- aspirin (Bayer, Bufferin, Ecotrin, St. Joseph's or other generic brands)
- clopidogrel (Plavix)
- ticagrelor (Brilinta)
- Other \_\_\_\_\_

## Statins (HMG-CoA Reductase inhibitors)

Statins block the production of cholesterol in the liver. This lowers total cholesterol and bad LDL cholesterol levels, but raises good HDL cholesterol levels. High levels of bad cholesterol in the body increase the risk of heart disease and stroke.

Your cholesterol levels should be checked with blood tests 1 to 2 times each year.

**Medicine side effects may include:** muscle weakness or pain, elevated liver enzymes, and upset stomach.

Your doctor will check your liver function with a blood test before starting a statin. You should also have liver function testing done if you have signs of liver problems while taking a statin, such as feeling very weak or tired, loss of appetite, upper belly pain, dark urine, yellowing of your skin or the whites of your eyes.

**Statin medicine names include:**

- atorvastatin (Lipitor)
- lovastatin (Mevacor)
- pravastatin (Pravachol)
- rosuvastatin (Crestor)
- simvastatin (Zocor)
- Other \_\_\_\_\_

## Blood pressure medicines

### Beta blockers

Beta blockers improve the heart's ability to relax and block the effect of other hormones in the body (adrenaline/norepinephrine). They slow the heart rate and help control blood pressure. These medicines are used to treat high blood pressure, heart failure, angina (chest pain) and may be used after heart attack or stroke.

**Side effects may include:** dizziness, slow heart rate, fatigue, shortness of breath when first starting medicine, and sexual dysfunction.

**Beta blocker medicine names include:**

- metoprolol (Toprol-XL, Lopressor)
- carvedilol (Coreg)
- atenolol (Tenormin)
- propranolol (Inderal)
- bisoprolol (Zebeta)
- Other \_\_\_\_\_

### Angiotensin-converting enzyme (ACE) inhibitors

ACE inhibitors widen the blood vessels and help increase blood flow by blocking the production of a hormone in your body that tightens blood vessels. They help lower blood pressure, lessen the amount of work the heart needs to do and protect the kidneys. These medicines are used to treat high blood pressure, heart failure and may be used after heart attack or stroke.

**Medicine side effects may include:**

dizziness, weakness, cough and decreased ability to taste. **If you have swelling throughout face, tongue or lips, stop taking the medicine right away and call your doctor.**

**ACE inhibitor medicine names include:**

- enalapril (Vasotec)
- lisinopril (Prinivil, Zestril)
- benazepril (Lotensin)
- captopril (Capoten)
- ramipril (Altace)
- Other \_\_\_\_\_

## Other medicines

### Anticoagulants

Another type of blood thinner, these medicines increase the time it takes for blood to clot and makes it harder for a blood clot to form.

**Medicine side effects may include:**

bleeding, diarrhea or constipation, dizziness, headaches, indigestion, rashes. **If you have severe bleeding, call 911 and get medical attention right away.**

**Anticoagulant medicine names include:**

- warfarin (Coumadin or Jantoven)
- enoxaparin (Lovenox)
- heparin
- dabigatran (Pradaxa)
- rivaroxaban (Xarelto)
- fondaparinux (Arixtra)
- dalteparin (Fragmin)
- Other \_\_\_\_\_

## Nimodipine

This medicine helps reduce brain damage caused by bleeding in the brain from a burst blood vessel. This medicine is from a group of medicines called calcium channel blockers.

This medicine is often given for 21 days after a hemorrhagic stroke.

**Medicine side effects may include:**

dizziness, fast, pounding or uneven heart rate, fatigue or weakness, diarrhea, nausea or headache.

This medicine is sold by the brand names Nimotop and Nymalize.

## Remember

- Take your medicines as directed by your doctor. Do not stop any of your medicines because you are feeling better.
- Please tell your doctor, nurse or pharmacist if you are taking any over the counter medicines, vitamins or herbal products since they may interact with your medicines.

# Care after Leaving the Hospital

Discharge planning helps you, your family and your care team coordinate your care in and after you leave the hospital. Many people are able to leave the hospital and go home. They are able to care for themselves with the help of family and friends. Sometimes, care after the hospital stay is needed.

## Levels of care

Based on your care needs and the ability of you and your family to manage your care, you may go home or you may need to consider other levels of care. Your care team can discuss these options with you in more detail, based on your needs. Care options include:

- Self care at home** with family support.
- Home health care** - nurses and aides come to your home several times each week.
- Assisted living** - nursing home that provides help with personal care and homemaking services.
- Extended care facility** - provides care for those who need daily care and support for a longer period of time.
- Acute rehabilitation** - a hospital, such as Ohio State Dodd Rehabilitation Hospital, that provides more rehab to improve independent function.
- Long-term care or skilled nursing facility** - provides more complex medical care and rehabilitation services.

## Community resources

A wide range of community services are available. Ask your social worker or case manager for a list of resources in your area.

- **HandsOn Central Ohio** provides information and referral services. Call 211 in Franklin County or call 614-221-6766.
- **Ohio Association of Area Agencies on Aging** has a network of agencies that provide services across Ohio, 614-481-3511 or [www.ohioaging.org/Pages/Area%20Agencies](http://www.ohioaging.org/Pages/Area%20Agencies).

- **Central Ohio Area Agency on Aging** serves Delaware, Fairfield, Fayette, Franklin, Licking, Madison, Pickaway and Union Counties, 614-645-7250 or [www.coaaa.org](http://www.coaaa.org).
- Community centers and adult day care programs may offer support and services.

## Follow up care

You will be given discharge instructions when you are leaving the hospital. Be sure to ask questions if there is anything you do not understand.

You will be scheduled for a follow up visit with your doctor. Be sure to keep this appointment. Your doctor will check you and may make adjustments to your medicines to reduce your risk of another stroke.

## Remember the warning signs of stroke - BE FAST

- **B - Balance:** Sudden loss of balance or coordination
- **E - Eyes:** Sudden vision changes
- **F - Face:** Face droops on one side or uneven smile
- **A - Arms:** Arm numbness or weakness on one side
- **S - Speech:** Slurred speech, difficulty speaking or understanding
- **T - Time:** Call 911 and get to the hospital right away

# Healthy Diet Basics

For good health, eat a diet that is low in fat, cholesterol and salt. Review these guidelines to help you.

## Reduce fats

### Decrease total fat intake, especially saturated and trans fats.

- Saturated fats are mainly in animal foods like red meat, cheese and high fat milk.
- Trans fats are listed on ingredient labels as “partially hydrogenated oils.” Trans fats are often found in store bought baked goods, non-dairy whipped toppings, cream substitutes, some crackers and cookies, and many deep fried foods.

### Limit high cholesterol foods.

- Egg yolks, fatty meats, organ meats, butter, whole milk and other high fat dairy products are high cholesterol foods.

### Substitute monounsaturated fat or polyunsaturated fat for saturated fat in your diet.

- Monounsaturated fats include olive, peanut and canola oils.
- Safflower, corn and sunflower oils, and most margarines and salad dressings are examples of polyunsaturated fats.
- Fish has a higher content of polyunsaturated fat than red meat.
- Many fish are low fat. Some fish that have a higher fat content, such as salmon, are high in a kind of fat called omega 3 fatty acids. This type of fat has been shown to be very heart healthy. It is recommended to eat fish three times a week for this reason.
- Baking, broiling, grilling or poaching fish is best, so you don't add large amounts of undesired fats.

### Limit the total amount of fat in your diet.

- Avoid fried foods and limit fats, even healthier high fat foods, such as margarine, vegetable oils and salad dressings.
- Although monounsaturated and polyunsaturated fats are a better choice, these fats should also be used in moderation because all sources of fat are equally high in calories.

## Limit salt

- **Do not add salt to food at the table.**
- **Avoid food that has large amounts of salt or sodium added.** This includes frozen dinners, cured meats and lunch meats, pickles, potato chips, sauerkraut, processed cheese foods and most canned products such as soup, vegetables and pasta sauces.
- **Use herbs and spices to help flavor foods.**

## Other tips

- Keep serving sizes moderate and avoid second helpings. Portion control can help you maintain or lose weight.
- Satisfy your appetite. Raw vegetables, fresh fruit, water and other calorie free drinks can help keep you satisfied.
- Do not skip meals.
- If you have diabetes, eat to control your blood sugar levels. Limit high calorie and high carbohydrate foods.
- Be as active as you can. Lose weight, if you need to, and maintain a healthy weight.
- Read all labels to avoid fats and salt.



# Exercise

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## Benefits of exercise

Some of the benefits of exercise are to:

- Improve your heart and lungs and blood pressure control.
- Help you feel more in control.
- Help with weight control.
- Improve your body's ability to use its own insulin.
- Help you feel better and have more energy.
- Lessen your risk of health problems.
- May help lower your lipid levels (cholesterol and triglycerides).

All of these are good reasons to begin and stick with a regular exercise program.

## Getting started

If you have not been exercising, **talk with your care team before you start exercise** to ensure that you need no special precautions or limitations. For your safety, follow any limits your doctor sets.

## Your exercise plan

- **Begin slowly and increase the time you exercise and the intensity of the exercise over time.**
- The type of exercise you choose depends on what you like and what is comfortable for you.
- You do not need to spend a lot of money on exercise equipment.
- Walking, swimming, biking, running and jogging are all good choices.
- Check with your local recreation center or YMCA to see what exercise classes are offered if you think that you would do better with a group.
- Wear socks and shoes that fit well and are supportive to provide some cushioning for your feet.
- Dress in layers so as you warm up, you can remove a layer to keep from getting too warm.

## To get the best results:

- **Get 150 minutes of moderate intensity, cardiovascular exercise each week.** You can break up this time into whatever increments work best for you, such as exercising for 30 minutes, 5 days a week.
- **If you are new to exercising,** start with 5 or 10 minutes of walking, 3 or 4 days a week. Then the second week increase to 10 minutes of walking, twice a day, 3 days a week.
- **Include a warm up and a cool down period with your exercise.** This helps prevent injury and allows your body to adjust to your activity. It is also a good idea to stretch your muscles after you cool down. This helps with flexibility and helps to reduce injury.
- Add strength training exercises to your exercise program 2 to 3 days a week for weight loss and improved balance and strength.
- Work up to a level of exercise that is comfortable for you.

## Exercise at the right pace

Do not push yourself too hard. If you are walking, you should be able to say hello to your neighbor or a person passing you on the sidewalk without feeling short of breath. Exercise at a pace that makes your body work, but does not cause you pain or exhaustion.

### **Stop exercising right away if you feel:**

- Pain or pressure in your chest, neck or jaw
- Tired even though you have been sleeping well
- Dizzy or light-headed
- Irregular heart beats

**If any of these signs persist after stopping exercise, call your doctor or seek medical help right away.**

You may see some weight loss when you first begin to exercise but then the weight loss seems to stop. Fat takes up more space than muscle. As you exercise and build up muscle, you will become more fit. You may not see many pounds come off, but you may notice that your clothes fit better and you feel better and have more energy.

Finding time to work exercise into your daily routine can be hard. Stick with it and you will see your effort rewarded. Choose something you feel good about doing. Find a friend who is willing to be your exercise buddy, so you can keep each other on track and motivated. The benefits of exercise are worth the effort. Your total body health will be better for it.

# Depression after a Stroke

Grief and feelings of loss are common after many illnesses. Dealing with life after a stroke involves adjustment. As you or a loved one learns to deal with changes in your lives, you may have feelings of sadness, anxiety, frustration or anger. When sadness changes into depression, it is important to seek help. Talk to your doctor or others on your care team if you are feeling depressed.

Depression is a common emotional reaction to stroke. Sometimes, depression is caused by the physical damage that stroke causes in the brain. Depression can start right after a stroke, during rehabilitation, or after you go home. Some studies suggest that people who have had a stroke are at greatest risk for depression 6 to 24 months after they leave the hospital.

## Signs of depression

When a person is depressed, he or she has several signs nearly everyday that last at least 2 weeks, such as:

- Increased frustration, irritability or grouchiness
- Loss of interest and pleasure in activities you used to enjoy
- Feeling sad, blue, empty or down in the dumps
- Crying more than usual
- Feeling slowed down or restless and unable to sit still
- Feeling worthless or guilty
- Feeling pessimistic or hopeless
- Feeling anxious or worried
- Changes in appetite or weight loss or gain
- Change in sleep patterns – being unable to sleep or sleeping too much
- Problems concentrating, thinking, remembering or making decisions
- Withdrawing from people / events you normally enjoy

- Loss of energy or feeling tired all of the time.
- Sexual problems

If you have any of these signs for more than 2 weeks, or if you have had thoughts of suicide or of trying to harm yourself or others, **see your doctor right away.**

## Prevention

- Learn about stroke. Information can help lessen your fears. Talk to your health care team about your questions and concerns.
- Make the most of rehabilitation and keep track of your progress. The more you recover, the better you will feel.
- Spend time with family and friends. Talk about your feelings.
- Maintain interests and hobbies.
- Exercise.
- Do not drink alcohol.
- Talk to a health care professional as soon as you notice signs of depression.

## Other resources

- **Depression and Bipolar Support Alliance**, 1-800-826-3632 or [www.dbsalliance.org](http://www.dbsalliance.org)
- **HandsOn Central Ohio**, 211 hotline, 614-221-6766 or [www.handsoncentralohio.org/public/](http://www.handsoncentralohio.org/public/)
- **Mental Health America**, 1-800-969-6642 or [www.mentalhealthamerica.net](http://www.mentalhealthamerica.net)
- **National Institute of Mental Health**, 1-866-615-6464 or [www.nimh.gov](http://www.nimh.gov)

# Quit Tobacco Use

Smoking or any tobacco use is dangerous to your health. Quitting will reduce your risk of dying from heart disease, blood vessel disease, lung problems, cancer and stroke.

## Benefits of quitting now

- In 3 months, your circulation and lung function improves.
- In 9 months, you will cough less and breathe easier.
- After 1 year, your risk of heart disease is cut in half.
- After 5 years, your stroke risk returns to normal.

Before you try to stop smoking, commit to stopping. Smoking is a learned behavior that you must unlearn. It is not easy to stop, but it can be done if you are serious about quitting. Stopping will help you live a healthier and longer life.

**Talk to your doctor about quitting.** Ask about classes and support groups in your area. Get support and encouragement and learn how to deal with stress. Talk with your doctor about medicines and other aids to help you quit. If you would like more information on stopping smoking, contact:

### Quit Lines:

- Ohio Tobacco Quit Line, 800-QUIT-NOW (784-8669)
- Quit for Life program from the American Cancer Society, 800-227-2345
- American Lung Association, 800-586-4872
- BeTobaccoFree.gov Smoking Quit Line, 877-448-7848

### Ohio State clinics:

- Ross Heart Hospital Smoking Cessation Clinic, 420 W. 10th Avenue, Columbus, OH 43210, 614-293-0932
- The Lung Center, Tobacco Dependence Clinic, 2050 Kenny Road, Suite 2200, Columbus, OH 43221, 614-293-4925

### Quitting Tobacco Use Book:

Available from your health care provider or visit <https://patienteducation.osumc.edu/Documents/QuittingTobaccoUse.pdf>.

### Mobile apps:

Search your mobile device's app store for quit smoking apps, such as **QuitGuide** and **QuitSTART**.

# Stroke Support Groups

These are support groups in central Ohio and online support groups to help you to learn more about stroke and how to manage your care. If you need other resources, talk to your social worker, case manager or others on your care team.

## Support groups in central Ohio

- **Ohio State's Stroke Support Group - Worthington**

Group is led by rehabilitation psychologist. Stroke survivors, family members and friends welcome.

Meets every Friday from 12 noon to 1 PM in the Worthington Senior Center (Griswold Center) at 777 High Street, Worthington, OH 43085.

For more information, contact Dr. Wanda McEntyre at 614-293-3830.
- **Cerebral Aneurysm and AVM Support Group**

Support for person, family and friends affected by cerebral aneurysm or AVM.

For more information, contact Marissa DeJesus at 614-293-0689 or by email at [marissa.dejesus@osumc.edu](mailto:marissa.dejesus@osumc.edu).
- **Columbus Aphasia Group**

Education and support for people dealing with aphasia.

Meets the first Friday of the month from 10 AM to 11 AM at OSU Department of Speech and Hearing Sciences, 1070 Carmack Road, Columbus, OH 43210.

For more information, contact Shannon Hand by email at [hand.21@osu.edu](mailto:hand.21@osu.edu).
- **Mount Carmel Stroke Support Group**

Meets the 3rd Tuesday of the month, except January at Westley Glen.

For more information, call 614-234-3905 for time and directions.
- **Central Ohio Young Empowerment Stroke Support Survivor Group (CO-YESSS)**

For young adults and their families, offered at the branches of the Worthington Library on the second Tuesday of the month from 10 AM to 11:30 AM.

For more information, contact Brie at 614-788-6161.
- **SWAT (Stroke, Wound, Aneurysm, Tumor) Support Group - OhioHealth Neuroscience Center**

Riverside Methodist Hospital, 3535 Olentangy River Road, Columbus, OH 43214.

Call 614-566-1124 for more information.

## Online support groups

- **The Stroke Network, [www.strokenetwork.org](http://www.strokenetwork.org)**
- **Internet Stroke Center, [www.strokecenter.org](http://www.strokecenter.org)**
- **National Stroke Association, [www.stroke.org](http://www.stroke.org)**

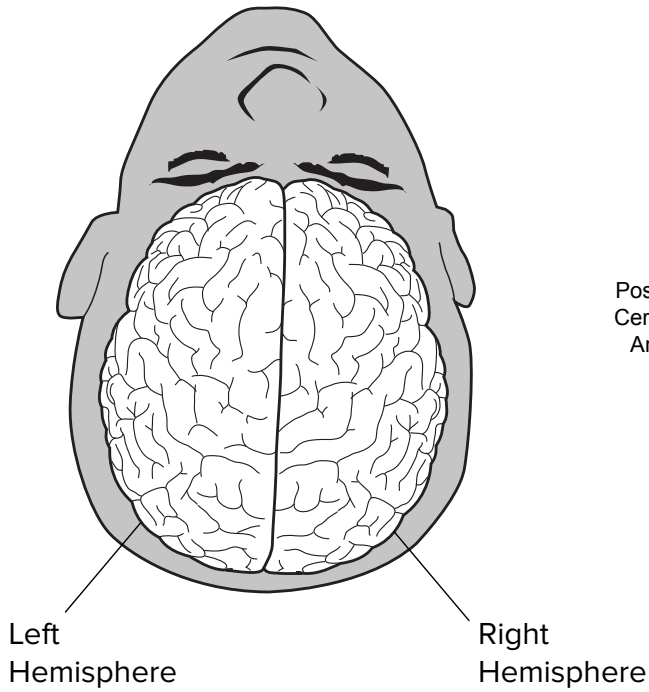




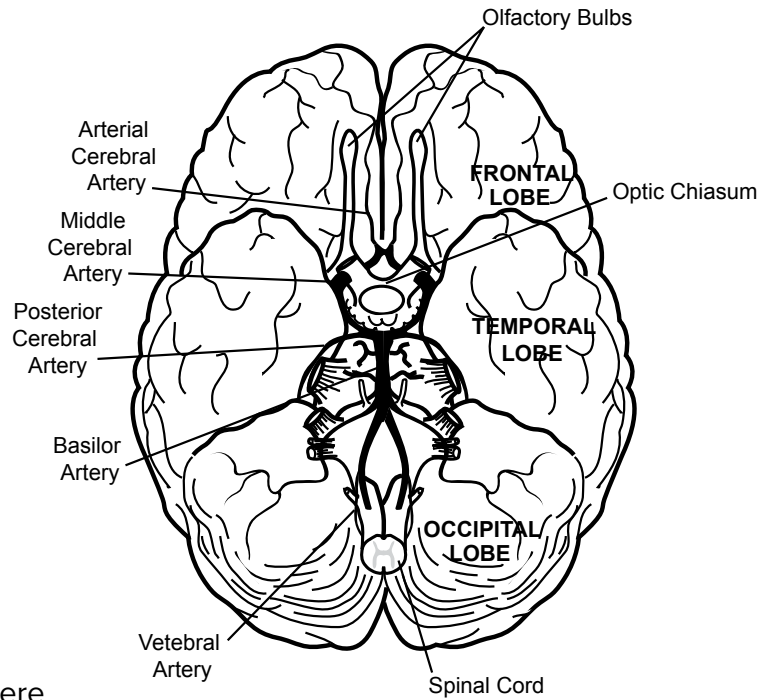


# The Brain

Top View

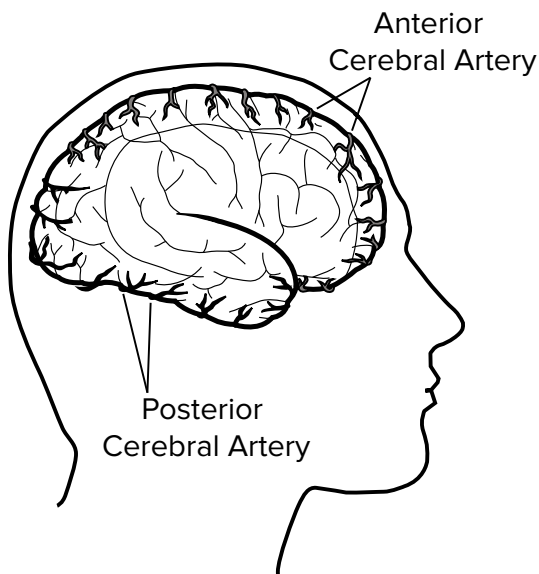


Bottom View

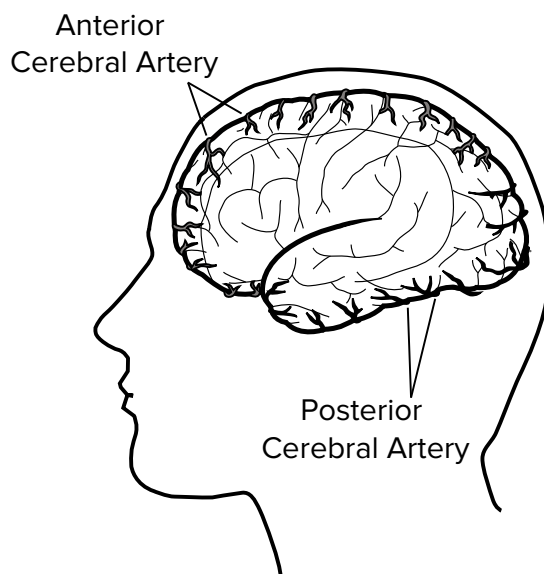


Outside View

Right side of brain

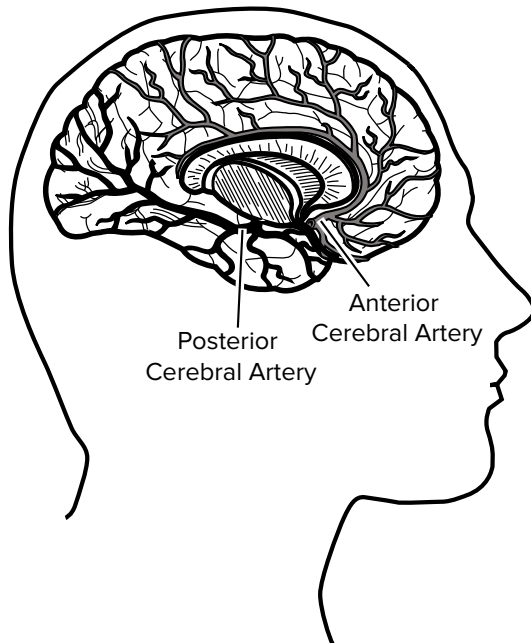


Left side of brain

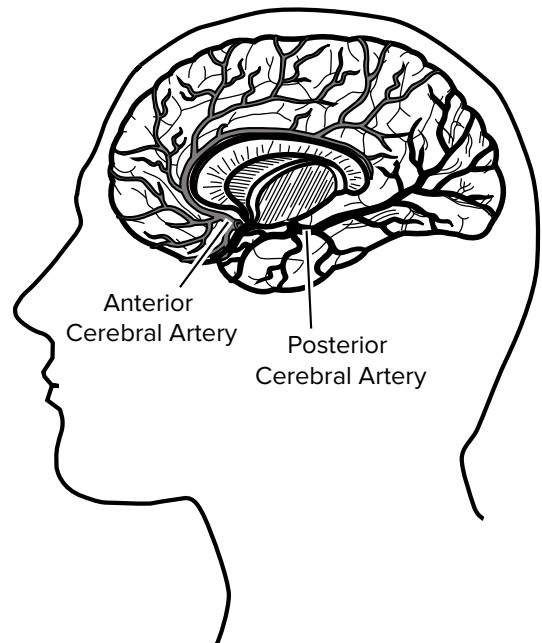


## Inside View

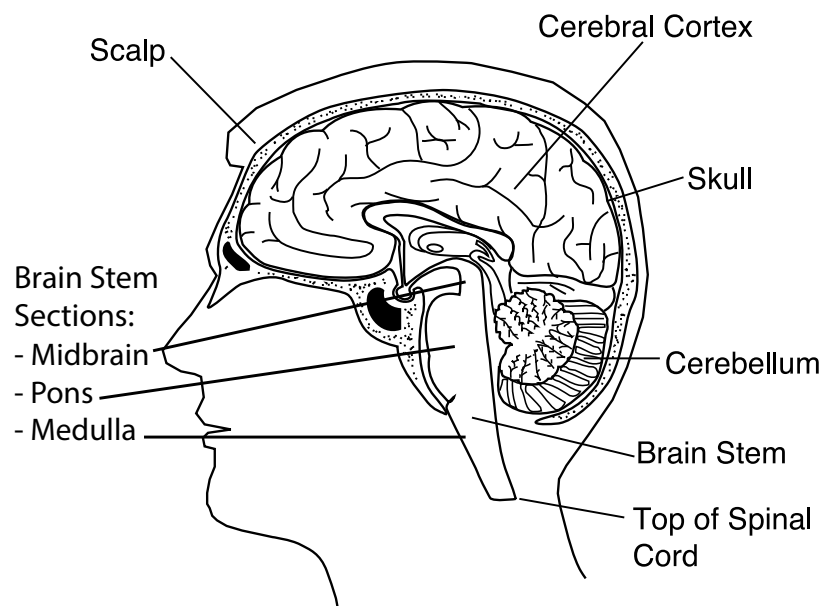
Left side of brain



Right side of brain



## Cross Section of the Center







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WEXNER MEDICAL CENTER