Stroke Education for You and Your Family
Information and Resources
Your stroke checklist

All about stroke

- TIA (transient ischemic attack)
- Ischemic stroke
- Hemorrhagic stroke

Risk factors

- High blood pressure (hypertension)
  Recent blood pressure ______ /______    Goal blood pressure ______ /______
- Diabetes
  Hemoglobin A1C ______
- High blood cholesterol (hyperlipidemia)
  Total cholesterol ______     LDL ______     HDL ______     Triglycerides ______
- Irregular heart beat (atrial fibrillation)
- Carotid or other artery disease
- Cigarette smoking
- Poor diet
- Physical inactivity and obesity
- Stress
- Substance misuse

Stroke education

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Stroke warning signs and symptoms

Call 911.

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

What are the types of stroke?

A stroke or “brain attack” occurs when blood flow to brain tissue is disrupted. This can happen one of two ways:

- A clot develops in a blood vessel that carries blood from the heart to the brain. This prevents blood from reaching brain cells. This is called an ischemic stroke.
- A blood vessel in the brain breaks open. This causes blood to leak into the brain. This is called a hemorrhagic stroke.

When either of these things happens, brain cells begin to die, and brain damage occurs. When brain cells die during a stroke, you lose abilities that are controlled by that part of the brain. These abilities might include speech, movement and memory. How a stroke affects a patient depends on where the stroke occurred in the brain. It also depends on how much the brain was damaged.

Transient ischemic attacks
A transient ischemic attack (TIA) is an event with stroke symptoms that last fewer than 24 hours before disappearing. This is sometimes called a warning stroke. TIAs generally do not cause permanent brain damage. But they are a serious warning sign of stroke. You should not ignore them.

Symptoms go away on their own. However, more than one-third of all people who have a TIA will go on to have an actual stroke.

Ask your clinician how to prevent a stroke. Then take responsibility and enjoy a healthy lifestyle. The lifestyle tweaks you make today, such as eating nutritious foods and quitting smoking, may reduce your stroke risk tomorrow.

If you think someone may be having a stroke, do this simple test:

<table>
<thead>
<tr>
<th>Balance</th>
<th>Has the person had a sudden loss of balance?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>Is there sudden loss of vision in one or both eyes?</td>
</tr>
<tr>
<td>Face</td>
<td>Does one side of their face droop? Ask the person to smile.</td>
</tr>
<tr>
<td>Arms</td>
<td>Is one arm weak or numb? Ask the person to raise both arms. Does one drift downward?</td>
</tr>
<tr>
<td>Speech</td>
<td>Is their speech slurred? Ask the person to repeat a simple sentence. Did they repeat it correctly?</td>
</tr>
<tr>
<td>Time</td>
<td>If the person shows any of these symptoms,</td>
</tr>
</tbody>
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Stroke is an emergency! Every minute counts. BEFAST.
Hemorrhagic stroke accounts for less than 20% of all strokes. It results from a weakened blood vessel that breaks open and bleeds into the surrounding brain tissue. Hemorrhagic stroke can be caused by uncontrolled high blood pressure, aneurysms or abnormal blood vessels.

An aneurysm is a ballooning of a weakened region of a blood vessel. If left untreated, the aneurysm may continue to weaken until it breaks open and bleeds into the brain. If an aneurysm breaks open, it can cause vasospasm. This is narrowing of the blood vessels. It may be caused by irritation to the blood vessel as the blood breaks down. Vasospasm can be treated by increasing certain medications, such as those that control blood pressure. You and your clinician can discuss your risk for vasospasm and your treatment options.

Treatment of hemorrhagic stroke

Aneurysm clipping

As an aneurysm grows, the artery wall becomes thinner and weaker. It can eventually leak or break open, releasing blood into the spaces around the brain. This is called a subarachnoid hemorrhage. To stop or prevent an aneurysm from bleeding, a neurosurgeon can perform an aneurysm clipping. During this procedure, they place a tiny clip across the neck of the aneurysm to keep it from breaking open.

Ischemic stroke accounts for more than 80% of all strokes. Ischemic strokes occur when blood supply to part of the brain is blocked. Cerebral thrombosis refers to a thrombus (blood clot) that develops at the clogged part of the blood vessel. The blood clot develops due to atherosclerosis. This is a condition in which fatty deposits or plaque builds up inside the vessel walls. Cerebral embolism refers to a condition caused by a blood clot that forms in another part of the body, usually the heart or large arteries of the upper chest and neck. A cerebral embolism occurs when a part 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. In addition to atherosclerosis, patients with an irregular heartbeat, known as atrial fibrillation, also have a higher risk of a stroke. Atrial fibrillation creates conditions where clots can form more easily in the heart, then come loose and travel to the brain.

Treatment of ischemic stroke

Thrombolytics

Tissue plasminogen activator (tPA) is an enzyme found naturally in the body that helps dissolve a clot. Approved by the Food and Drug Administration (FDA) in 1996, tPA was the first acute treatment for ischemic stroke. tPA is not appropriate for all patients. The most common complication associated with tPA is brain hemorrhage, or bleeding in the brain. However, studies show that tPA does not increase the death rate of patients following a stroke.

Mechanical thrombectomy system

A mechanical thrombectomy device may be able to reopen blocked vessels after an ischemic stroke in some patients. These devices help restore brain blood flow by removing blood clots in the brain. They are not appropriate for all patients.
Aneurysm coiling

Endovascular therapy is a minimally invasive procedure that accesses the treatment area from within the blood vessel. In the case of aneurysms, this treatment is called endovascular coiling.

Endovascular coiling does not require open surgery. Instead, physicians use real-time X-ray technology, called fluoroscopic imaging, to view the patient's blood vessels. That way, they can treat the disease from inside the blood vessel. They insert a catheter (small plastic tube) into the femoral artery of the patient's leg. They carefully push it through the patient's blood vessels into the head and into the aneurysm. They thread tiny metal coils through the catheter and into the aneurysm. The coils block blood flow into the aneurysm, preventing it from breaking open. The coils are made of platinum, so they are visible on X-ray and flexible enough to bend into the shape of the aneurysm.

Coiling is not recommended for all patients. You and your physician will discuss your treatment options.
Arteries deliver blood that supplies oxygen to all areas of the brain, so any area can be affected by a stroke. If a stroke occurs in the right side of the brain, you will have symptoms on the left side of the body. If a stroke occurs in the left side of the brain, you will have symptoms on the right side of the body. The amount of damage depends on the size of the stroke, the area of the brain that is impacted and the amount of time it takes to receive treatment. You may have weakness or be unable to move one side of the body in the face, arm and/or leg. You may not be able to think clearly. You may have trouble with vision, speech or understanding. You may feel helpless, frustrated, irritable or depressed. The effects are worse right after the stroke. They may fade or completely disappear over time.
To lower your cholesterol, your clinician may recommend changes, such as:

- Reduce saturated fat intake to 7% of your daily calories
- Reduce total fat intake to 25% to 35% of your daily calories
- Limit dietary cholesterol to less than 200 milligrams per day
- Eat 20 to 30 grams a day of soluble fiber, which is found in oats, peas, beans and certain fruits
- Take medications as directed

Tips to control your diabetes

- Take medications as prescribed
- Monitor your blood glucose
- Reach and maintain a healthy weight
- Improve your diet by eating more vegetables, fruits, complex carbohydrates and whole grains, and fewer processed, fatty, starchy and sugary foods
- Get regular exercise

Tips to help prevent carotid artery disease

- Quit smoking
- Exercise regularly
- Eat a healthy diet
- Maintain a healthy weight
- Control factors that increase your risk, such as diabetes, high blood pressure and high cholesterol

Tips to lower your blood pressure

- Maintain a healthy weight
- Be physically active
- Follow a healthy eating plan that includes foods lower in salt
- If you drink alcoholic beverages, do so in moderation
- If you have high blood pressure and take medication, take it as directed

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Tips to help prevent carotid artery disease

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Physical inactivity and obesity
Being inactive and/or obese can increase your risk of high blood pressure, high blood cholesterol, diabetes, heart disease and stroke. Go on a brisk walk, take the stairs and do whatever you can to make your life more active. Try to get in at least 30 minutes of activity on most or all days of the week.

Tips for increasing activity
Talk to your physician before starting an exercise program
Incorporate activity into your everyday life — park farther away, take the stairs, take short walks at lunch or after dinner
Encourage your loved ones to join you in adopting a more active lifestyle
Warm up for 5 to 10 minutes before exercise
Strive to get at least 30 minutes of exercise daily — sweating is a good indicator that you are exercising hard enough
Cool down 10 for minutes after exercising
Consider adding light weight training to your routine

Tips to improve your diet
Eat a variety of foods
Eat frequent, small meals
Avoid skipping meals, especially breakfast
Increase your intake of fruits and vegetables
Increase your intake of fiber (beans, whole-grain breads and cereals)
Stay hydrated with non-caffeinated beverages
Decrease your alcohol intake
Eat fewer processed convenience foods
Decrease your intake of sweets
Read labels and be mindful of portion size
Decrease your saturated fat intake: eat more lean cuts of meat
Keep a food journal of everything you eat

Tips for quitting smoking
Get lots of rest; you will feel tired for a while
Exercise
Maintain a positive attitude about the benefits of not smoking
Eat regular meals; hunger may be mistaken for a need to smoke
Start a money jar with the money you save from not smoking
Seek support and encouragement from family and friends
If you slip, do not get discouraged; it may take a few attempts to stay smoke-free

Tips to improve your diet
Tips for increasing activity

Tips for quitting smoking

Tips for improving your diet

Tips for increasing activity

Tips for quitting smoking

Tips for improving your diet
Here are phone numbers you may need after being discharged.

Northwestern Medicine Central DuPage Hospital
630.933.1600
25 North Winfield Road, Winfield

Northwestern Medicine Neurology
630.933.4056
25 North Winfield Road, Suite 424, Winfield

Northwestern Medicine Rehabilitation Services
630.933.1500

Diabetes Education Services
630.933.5000
7 Blanchard Circle, Suite 202, Wheaton

Physician Finder
630.933.4234

Follow-up testing
630.933.5000
If you need further tests, such as an MRI or bloodwork, please call this registration line to schedule.

Medical records
630.933.1900
If you need copies of your medical records for yourself or another clinician, please contact our Medical Records Department. The department is located on the lower level of the main hospital.

Northwestern Medicine Delnor Hospital
630.208.3000
300 Randall Road, Geneva

Northwestern Medicine Neurology
630.933.4056
302 Randall Road, Suite 104A, Geneva

Northwestern Medicine Rehabilitation Services
630.938.6400

Diabetes Education Services
630.938.5000

Northwestern Medicine Delnor Health & Fitness Center
296 Randall Road, Geneva

Physician Finder
630.933.4234

Follow-up testing
630.933.5000
If you need further tests, such as an MRI or bloodwork, please call this registration line to schedule.

Medical records
630.933.1900
If you need copies of your medical records for yourself or another clinician, please contact our Medical Records Department.

Marianjoy Rehabilitation Hospital, part of Northwestern Medicine
Inpatient Rehabilitation
630.909.8000
26w171 Roosevelt Road, Wheaton

Outpatient Rehabilitation Services
630.909.7150
26w171 Roosevelt Road, Wheaton

Regional Medical Group at Marianjoy
630.909.7000
26w171 Roosevelt Road, Wheaton

Northwestern Medicine Kishwaukee Hospital
815.756.1521
1 Kish Hospital Drive, DeKalb

Northwestern Medicine Neurology
630.933.4056
5 Kish Hospital Drive, Suite 203, DeKalb

Northwestern Medicine Rehabilitation Services
815.748.8900
2111 Midlands Court, Sycamore

Diabetes Education Services
815.748.8378
5 Kish Hospital Drive, Suite 202, DeKalb

Physician Finder
815.748.2974

Follow-up testing
815.756.1521
If you need further tests, such as an MRI or bloodwork, please call the registration line to schedule.

Medical records
815.756.1521 ext. 153365
If you need copies of your medical records for yourself or another clinician, please contact our Medical Records Department.

Northwestern Medicine Palos Hospital

Northwestern Medicine Neurology Palos Heights
708.226.2890
12255 South 80th Avenue, Suite 203, Palos Heights

Northwestern Medicine Neurosurgery Palos Heights
708.827.2021
12255 South 80th Avenue, Suite 203, Palos Heights

Northwestern Medicine Rehabilitation Services
708.923.5050
12251 South 80th Avenue, Palos Heights

Follow-up testing
708.827.2030
12251 South 80th Avenue, Palos Heights

Medical records
708.923.4664
12251 South 80th Avenue, Palos Heights

Diabetes Education Services and Nutrition
708.226.2626
15300 West Avenue, Orland Park

Northwestern Medicine Valley West Hospital
815.786.8484
1302 North Main Street, Sandwich

Northwestern Medicine Neurology
630.933.4056
5 Kish Hospital Drive, Suite 203, DeKalb

Northwestern Medicine Rehabilitation Services
815.786.8550
1310 North Main Street, Suite 202, Sandwich

Diabetes Education Services
815.786.3684
1310 North Main Street, Suite 207, Sandwich

Physician Finder
815.786.3733

Follow-up testing
815.786.8484
If you need further tests, such as an MRI or bloodwork, please call this registration line to schedule.

Medical records
815.786.3741
If you need copies of your medical records for yourself or another clinician, please contact our Medical Records Department.

Resources
Northwestern Medicine Neurology
Northwestern Medicine offers the following rehabilitation services:

- Occupational therapy
- Physical therapy
- Speech therapy
- Aquatic therapy
- Chronic pain therapy
- Cognitive rehabilitation
- Ergonomic assessment
- Hand therapy
- Language therapy, including articulation
- Neurological rehabilitation
- Sensory integration and processing
- Northwestern Medicine Aphasia Center at Marianjoy
- Driver rehabilitation program
- Prosthetics and orthotics clinic
- Spasticity management
- Swallowing disorders assessment and treatment, including videofluoroscopic evaluation and VitalStim therapy
- Tracheotomy rehabilitation
- Ventilator-dependency rehabilitation
- Vestibular and balance disorders treatment
- Voice assessment and treatment
- Wound care

*Available only at Central DuPage Hospital, Delnor Hospital and Marianjoy Rehabilitation Hospital

**Available only at Marianjoy Rehabilitation Hospital

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Stroke Support Group
For patients and caregivers
Recovery after a stroke is often a lifelong process for everyone impacted. Some people recover fully from a stroke. Others face challenges for the rest of their lives. Just as every stroke is different, life after stroke is different for everyone. The Northwestern Medicine Stroke Support Group provides support, education and an opportunity for survivors, caregivers and family members to share their own experiences. Run by members of our comprehensive stroke team, meetings include expert discussions on different topics related to post-stroke care. There is also time for questions and an open forum.

Available sessions
Fourth Wednesday of every month
Time
4 to 5pm
Location
Northwestern Medicine Medical Offices
2900 Foxfield Road, St. Charles
RSVP
630.933.3278 (FAST)

Marianjoy Stroke Support Group
Speakers present information on improving the physical and mental health of people who have survived a stroke.
First Tuesday of each month
No meeting in January or February
Time
4 to 5pm
Location
Marianjoy Outpatient Pavilion, Conference Rooms 1 & 2
Contact
claire.vanacker@nm.org or elise.rohan@nm.org

SNAP: Stroke Network Activities and Programs
Run by a speech-language pathologist, this support group offers a friendly and accepting atmosphere to empower and motivate stroke survivors, caregivers and family members. You will learn more about recovery, rehabilitation and prevention, and meet others who have had similar experiences.
Available sessions
First Thursday of every month
Time
1:30 to 3:00pm
Location
Northwestern Medicine Kishwaukee Health & Wellness Center
Lower Level Conference Room
626 Bethany Road, DeKalb
RSVP
815.748.8900

Brain Aneurysm Support Group
Every other month, Central DuPage Hospital hosts a support group for patients diagnosed with a brain aneurysm and for their caregivers. Run by an aneurysm survivor and a nurse expert, this group provides support, education, awareness and an opportunity to share your own experience. Each meeting includes time for questions and open discussion.
Available sessions
First Wednesday of every other month
Time
6:30 to 7:30pm
Location
Central DuPage Hospital
Winfield Room
25 North Winfield Road, Winfield
RSVP
630.933.2191