



UR Medicine Stroke & Cerebrovascular Center

Stroke Education

Ischemic Stroke



The Joint Commission



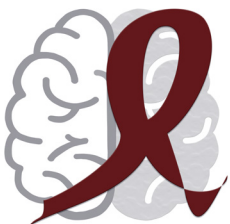
American Heart Association
American Stroke Association

STROKE CERTIFICATION

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References available upon request



Stroke

Awareness • Hope • Recovery • Support

Together to end stroke.

Stroke Care Team

Welcome to the Comprehensive Stroke Center at UR Medicine's Strong Memorial Hospital

My Medical and Rehab Care Team:

- » Attending Physician
- » Resident Physician
- » Nurse Practitioner
- » Physician Assistant
- » Nurse
- » Patient Care Technician
- » Social Worker
- » Care Coordinator
- » Physical Therapist
- » Occupational Therapist
- » Speech Therapist
- » Students



Our medical, surgical, and rehabilitation team will work together to:

- Evaluate
- Diagnose the type of stroke
- Start treatment
- Provide therapy services
- Make a comprehensive discharge plan

My Stroke Sheet

The type of stroke I had was:

My signs and symptoms were:

My stroke risk factors:

- High Blood Pressure
- High Cholesterol
- Atrial Fibrillation
- Coronary Artery Disease
- Diabetes
- Obesity or Overweight
- Physical Inactivity
- Smoking
- Clotting Disorders
- Carotid Artery Disease
- Excessive Alcohol Use
- Illegal Drug Use
- Sleep Apnea
- Oral Contraceptives
- Hormone Replacement Therapy
- Previous Stroke or TIA
- Family History of Stroke <65 years

My Goal Blood Pressure: _____

My LDL Cholesterol (Bad Cholesterol): _____

My Goal LDL: <70

My HbA1c (blood sugar/last 3 months): _____

My Goal HbA1c: <7

My Medications	What is it for?

What is a Stroke?

Your brain cells need a constant supply of blood, oxygen, and nutrients to survive. A stroke occurs when a blood vessel gets blocked or bursts. This stops the blood, oxygen, and nutrients from going to the brain.

Common Stroke Types

Ischemic:

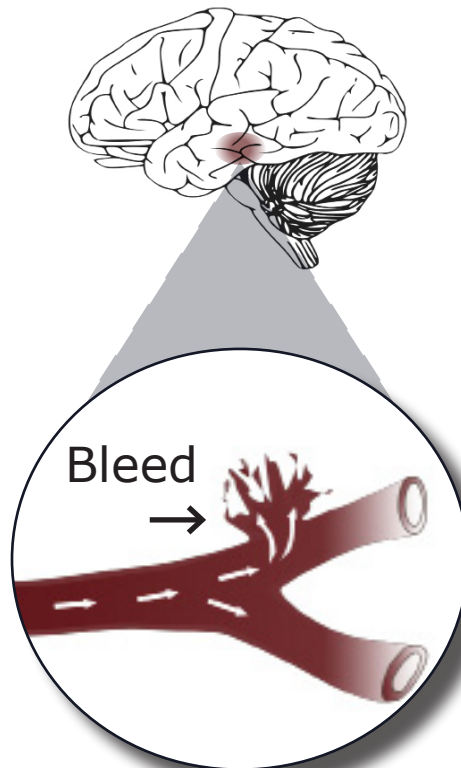
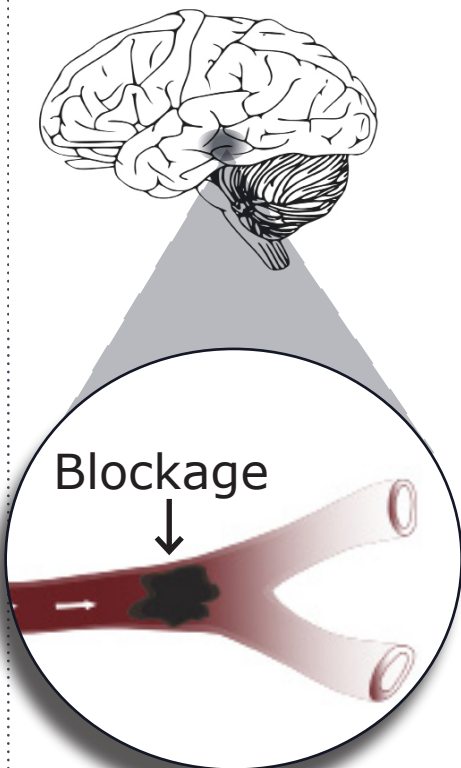
a blood vessel that supplies blood to the brain is blocked.

- Thrombotic or Embolic
- Transient Ischemic Attack (TIA)

Hemorrhagic:

a blood vessel in the brain breaks open and bleeds into or around the brain.

- Subarachnoid Hemorrhage
- Intracerebral Hemorrhage



Stroke Facts:

5th

Leading cause of death in the U.S.

#1

Cause of long-term disability in the U.S.

Every 40 seconds

Someone in the U.S. has a stroke.

2 Million

Brain cells die each minute.

25%

More likely to have another stroke if you've had one in the past.

80%

Of strokes are preventable.

Ischemic Stroke

Ischemic Stroke

An ischemic stroke happens when a blood vessel in the brain gets blocked. The blockage causes the nearby brain tissue to die.

This can happen in two ways:

- 1. Thrombotic:** when the blockage forms inside the blood vessel in the brain
- 2. Embolic:** when the blockage forms somewhere else in the body and travels to the brain.

- ▶ **Most common type of stroke**
- ▶ **87% of strokes are ischemic**



Transient Ischemic Attack

A Transient Ischemic Attack (TIA) is caused by a temporary blockage. Symptoms happen all of a sudden, but they do not last for more than 24 hours. Most TIA's last less than 5 minutes.

- It is still important to **call 911 right away**. Do not wait to see if symptoms will go away.
- A TIA should be taken very seriously. It is a warning sign that a bigger stroke may be coming.

- ▶ **15% of people will have a stroke within 1 year after a TIA**

Signs and Symptoms

Remember to **BE-FAST!** Time is brain.

B alance	E yes	F ace	A rm	S peech	T ime
Sudden loss of balance	Loss of vision, blurry or double vision	Facial droop, numbness on one side	Weakness or numbness on one side of the body	Slurred speech or trouble speaking	Time to Call 911!

The Five Most Common Signs of Stroke:

- 1) **Sudden** numbness or weakness on one side of the body
- 2) **Sudden** confusion, trouble speaking, or understanding
- 3) **Sudden** loss of vision, double vision, or blurry vision
- 4) **Sudden** dizziness, trouble walking, loss of balance
- 5) **Sudden** severe headache without a cause

Stroke Don'ts

- Ø **Don't** drive yourself to the hospital. Instead, **Call 9-1-1**
- Ø **Don't** eat or drink anything
- Ø **Don't** wait to get treatment
- Ø **Don't** take aspirin or any medication



Risk Factors

Non-Modifiable Risk Factors:

Things I cannot change

- Age
- Sex
- Family History
- Race
- Prior Stroke or TIA
- Clotting Disorder

Modifiable Risk Factors:

Things I can change or treat

- High Blood Pressure
- High Cholesterol
- Diabetes
- Atrial Fibrillation
- Carotid or other Artery Disease
- Smoking
- Obesity or Overweight
- Physical Inactivity
- Excessive Alcohol Use
- Illegal Drug Use
- Sleep Apnea
- Oral Contraceptives
- Hormone Replacement Therapy



**80% of strokes can be prevented!
Control your risk factors and
reduce your chances of having
another stroke.**

Common Stroke Risk Factors

Hypertension, also known as high blood pressure, is the number one cause of stroke. It is the most important risk factor to control.

Diabetes can damage your blood vessels and put you at risk for stroke.

Atrial Fibrillation: the heart vibrates instead of pumping effectively. This can cause the blood to pool and clot. A stroke could happen if the clot travels to the brain.

Hyperlipidemia, also known as high cholesterol levels, can cause fatty buildup in your arteries. This can block an artery and cause a stroke. A combination of medications, diet, exercise, and weight loss can help control your cholesterol.



Coronary Artery Disease increases your risk for stroke because the buildup of plaque in coronary arteries blocks the flow of blood to the brain.

Sleep Apnea is a disorder where you stop breathing or your breathing becomes shallow for many seconds to minutes when you are sleeping. Sleep apnea doubles your stroke risk.

Carotid Stenosis or Other Carotid Diseases: The carotid arteries in your neck supply most of the blood in your brain. If the arteries become narrow or blocked it is called stenosis.

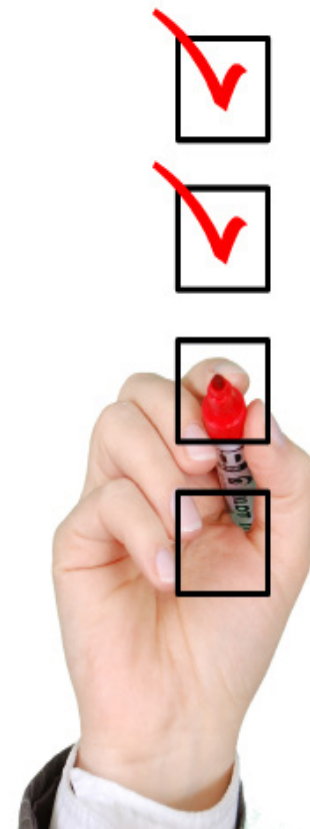
Smoking doubles your risk for stroke.
NYS Quitline: 1-866-697-8487.

- Ask your nurse or doctor about nicotine replacement.

Drinking Excessive Amounts of Alcohol can cause an abnormal heart rhythm. It can also affect the way your blood clots and raise your blood pressure. More than two drinks per day can increase your risk for stroke by 50%.

Work with your health care provider to control your risk factors with medical treatment and lifestyle changes. Stroke prevention starts here!

Illegal Drug Use can increase the risk for sudden heart attack and stroke.



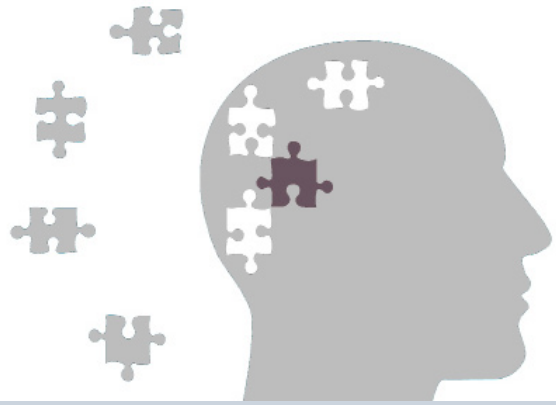
Birth Control Pills and Hormone Replacement Therapy that have estrogen in them can increase your risk for developing a blood clot. This risk is even higher if you also are a smoker, have high blood pressure, have diabetes, have high cholesterol, or are overweight.

Physical Inactivity & Obesity put stress on the heart and blood vessels. Regular exercise can lower your risk for stroke by 35%.

Changes with Stroke

Effects of a stroke can impact:

- Physical Health
- Mental Health
- Emotional Health
- Behavioral Health



Stroke Vocabulary

Hemiparesis	Weakness on one side of the body
Hemiplegia	No movement on one side of the body
Dysphagia	Trouble swallowing
Aphasia	Trouble speaking or understanding
Dysarthria	Slurred speech
One-sided neglect	Ignoring or forgetting your weak or paralyzed side
Visual changes	Decreased area of vision or trouble with perception
Emotions	Loss of emotional control and changes in mood
Cognitive changes	Problems with memory, judgement, or problem-solving
Behavior changes	Personality changes, improper language or actions

Fatigue is the most common change after a stroke. It may last for months, but will get better.

Post-Stroke Depression

$\frac{1}{3}$

Post-stroke depression (PSD) affects more than 1/3 of stroke patients.

When can it happen?

PSD can occur in weeks, months, or even years after your stroke.

What is the cause?

A combination of genetics, social factors, and damage to your brain after a stroke can lead to depression.

What are the symptoms?

- » Persistent sad or anxious feelings; irritability
- » Trouble sleeping and fatigue; trouble staying focused
- » Appetite changes or digestive issues
- » Feeling hopeless, helpless, and/or worthless
- » Loss of interest in activities, hobbies, or being social
- » Suicidal thoughts

What are the treatment options?

Medication. Antidepressants can be prescribed to improve mood.

Mental Health Therapy. Medication can be combined with mental health therapy to improve outcomes.

What if it's left untreated?

Post-stroke depression can stop progress of recovery and rehabilitation, which can lower your quality of life.

Stroke Prevention

Medications

Anti-platelets

Anti-platelets help prevent blood clots from forming by keeping platelets, a part of your blood that forms clots, from sticking together.

Common names: aspirin, clopidogrel (Plavix)

Anti-coagulants

Anti-coagulants prevent your blood from clotting or stop clots already there from getting bigger.

Common names: dabigatran etexilate (Pradaxa), apixaban (Eliquis), rivaroxaban (Xarelto), warfarin (Coumadin)

Anti-hypertensives

Anti-hypertensives are medications that lower your blood pressure and/or heart rate. There are many different kinds.

Common names: amlodipine (Norvasc), carvedilol (Coreg), diltiazem (Cardizem), hydrochlorothiazide (Microzide), lisinopril (Zestril), losartan (Cozaar), and metoprolol (Lopressor) are just a few of the most frequently prescribed.

Medications are needed in order to prevent another stroke.



Cholesterol Lowering Medications

These medications are used to lower your bad cholesterol, or LDL. We want this number <70. Medication plus a healthy diet, exercise, and quitting smoking are the best ways to lower cholesterol levels.

Diabetes Medications

If your blood test called Hemoglobin A1c is elevated (>6.5), you have diabetes. *(Pre-diabetes A1c 5.7-6.4). Diet, exercise and medications may be needed to control your blood sugar.

Common Names:

- **Statins:** atorvastatin (Lipitor), pravastatin (Pravachol), rosuvastatin (Crestor), simvastatin (Zocor)
- **Fibric acids:** genfibrozil (Lopid), clofibrate (Atromid-S), fenofibrate (Trilipix)

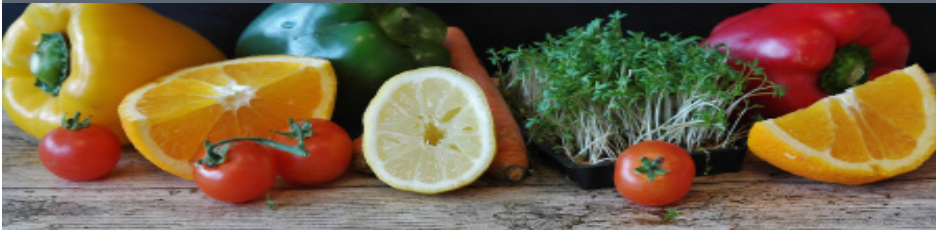
Common Names:

- **Insulin:** Rapid-acting: insulin lispro (Humalog), Short-acting: Humilin R, Intermediate-acting: NPH, Long-acting: insulin glargine (Lantus)
- **Other Injectables:** liraglutide (Victoza)
- **Pills:** glipizide (Glucotrol), metformin (Glucophage), pioglitazone (Actos)



Stroke Prevention

Lifestyle Modification



Healthy & Balanced Diet

Small changes can make a big difference.

- ↓ Reduce saturated fats
- ↓ Reduce sugar intake
- ↓ Reduce salt intake

Diets for Brain and Heart Health:

- The DASH (Dietary Approaches to Stop Hypertension) Diet
- Mediterranean Diet

American Heart Association

Recipes:

[recipes.heart.org](https://www.heart.org/recipes)

Meal assistance?

Check for Meals On Wheels or online food delivery.

Healthy Eating Shopping List

Fruits & Vegetables: bananas, apples, oranges, strawberries, blueberries, sweet potatoes, spinach, broccoli, carrots, eggplant, kale

Dairy, Cheese, & eggs: low-fat or fat-free dairy products

Meat & Seafood: skinless poultry and fish rich in omega 3 fatty acids (salmon, tuna, trout), beans

Bread, Pasta, & Cereal:

whole wheat pasta and breads, quinoa, couscous, oatmeal, brown rice, high-fiber cereal

Weight Loss & Physical Activity

Regular exercise strengthens the body and helps you lose weight. It can also lower your risk of heart disease, high cholesterol, diabetes, and stroke.

American Heart Association Recommendations:

30 minutes of exercise daily

▶ or 150 minutes of moderate-intensity exercise per week

2 days of strength training per week

▶ Use resistance or weights



Stroke Prevention Checklist

- Eat a healthy, balanced diet
- Exercise 30 minutes per day
- Limit alcohol intake:
Men: 1-2 drinks/day
Women: 1 drink/day
- Take all medications as prescribed
- Lower blood pressure
- Manage diabetes
- Lower LDL cholesterol
- Quit smoking
- Manage atrial fibrillation
- Attend follow-up appointments
- Do not use illegal drugs
- Get enough sleep
- Reduce stress



Join a Support Group

strokeassociation.org/

Find a support group in your area. Support groups are available for both patients and caregivers!

Help
Support
Connect

Patient and Family Resources

Social workers provide services both in the hospital and the community setting.

UR Medicine Social Work

585-275-2851

urmc.rochester.edu/social-work/

Monday-Friday 8am-5pm

Social work can help with:

- Respite care or caregiver relief
- Adult day care programs
- Transportation programs
- Community resources



**Call
911**

**for any new
stroke symptoms!**



American Stroke Association Resources:

American Stroke Association

strokeassociation.org

Support Group Registry

Support groups by ZIP Code

strokeassociation.org/strokegroup

1-888-4-STROKE (888-478-7653)

Support Network

Online support community

[strokeassociation.org/](http://strokeassociation.org/supportnetwork)

[supportnetwork](http://strokeassociation.org/supportnetwork)

Stroke Connection Magazine

strokeconnection.org

Warmline

Ask questions and get support

1-888-4-STROKE (888-478-7653)

Tips for Daily Living Library

strokeassociation.org/tips

Finger Lakes 211 Lifeline

Finding Local Resources

Connecting people with community, social, health, and government services for help with housing, food, mental health, employment, and financial resources.

Contact Information:

211lifeline.org

Dial 2-1-1 or

1-877-356-9211



UR Medicine Outpatient Stroke Center

- **Neurology:**
(585) 275-2530
- **Neurosurgery:**
(585) 273-1900

Additional Resources:

Internet Stroke Center

strokecenter.org

National Institute of Health

stroke.nih.gov

ninds.nih.gov

National Rehabilitation Information Center

Stroke rehabilitation and disability resources

naric.com

Centers for Disease Control

cdc.gov/stroke

Aphasia hope Foundation

Aphasia information and resources
aphasiahope.org

Respite Care

eldercare.gov

Caregiver Action Network

http://caregiveraction.org

Family Caregiver Alliance

https://www.caregiver.org

