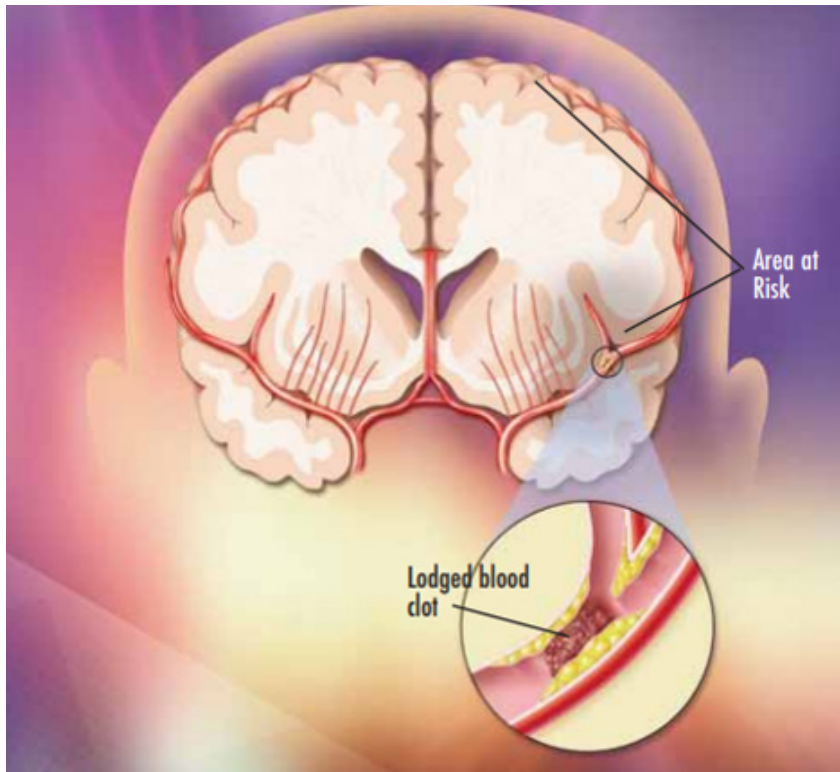




Stroke Patient Education



Saint Francis Hospital
Trinity Health



What is a Stroke?

A medical emergency.

A stroke is an interruption in the normal blood flow to parts of the brain which results in the death of brain cells.

There are two types of stroke:

- Ischemic
- Hemorrhagic

Ischemic Stroke

- Ischemic stroke represents 87% of all strokes
- Caused when blood vessels leading to the brain become blocked, preventing oxygen from reaching sections of the brain

There are two types of ischemic stroke:

Embolic Stroke

- Blood clot or plaque fragment forms, usually in the heart or the large arteries leading to the brain and travels through the arteries to the brain.
- Once in the brain, the clot blocks blood flow through an artery within specific section of the brain.

Thrombotic Stroke

- Blood clot that does not travel but forms inside an artery that supplies blood to the brain. The clot may prevent blood flow to the brain and cause a stroke.

Transient Ischemic Attack (TIA)

If an artery leading to the brain, or inside the brain, becomes blocked for a short period of time, the blood flow to that area of the brain slows or stops. This lack of blood (and oxygen) can cause a transient ischemic attack (TIA) or mini stroke.

- Symptoms come on rapidly
- Last for a very short period of time and then disappears
- Causes no permanent brain damage
- TIAs are early warning signs of stroke and should not be ignored
- **Call 911 even if symptoms resolve**

Hemorrhagic Stroke

This type of stroke occurs when a blood vessel bursts and spills blood into the brain. High blood pressure and brain aneurysms are leading causes for this type of stroke. Symptoms typically occur suddenly and require immediate medical attention.

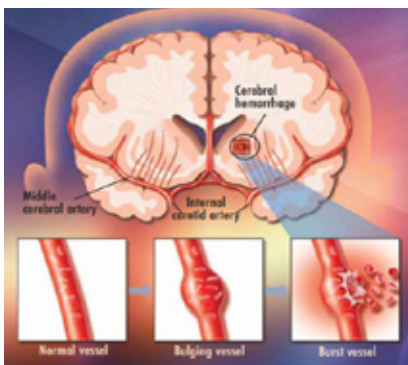
There are two types of hemorrhagic stroke:

Intracerebral Hemorrhage

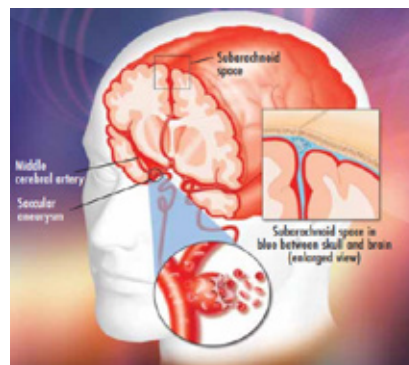
- Caused when a blood vessel leaks or ruptures into the brain.
- High blood pressure, also called hypertension, is the most common cause of this type of stroke.
- The bleeding causes brain cells to die, and that part of the brain no longer works correctly.

Subarachnoid Hemorrhage

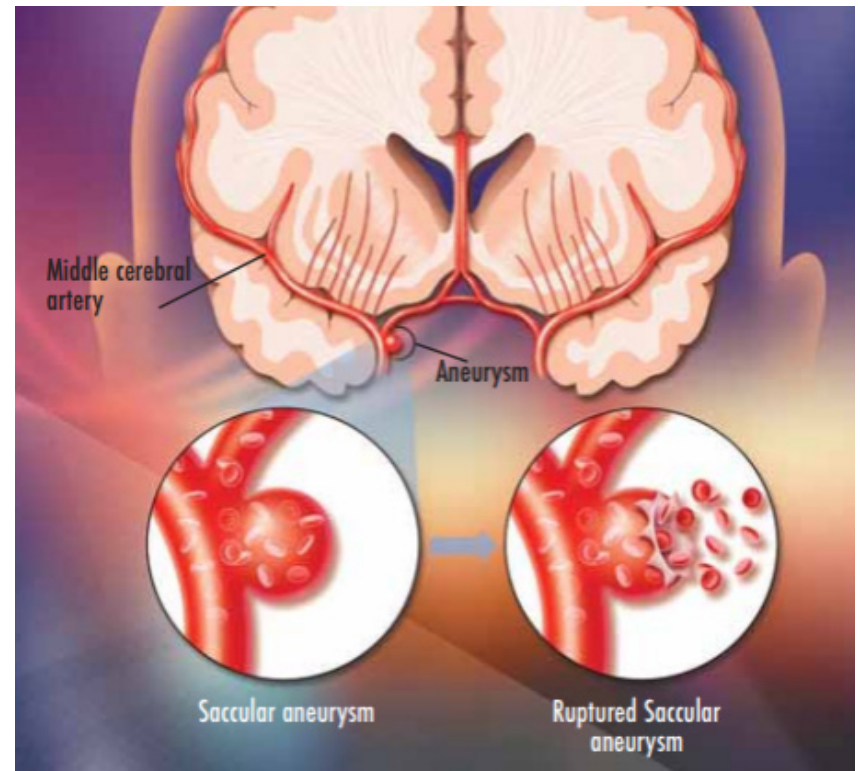
- An artery located on the outer surface of the brain ruptures, allowing blood to leak into the fluid filled space between the brain and the skull.
- Bleeding may increase pressure in the brain, resulting in injury to the brain cells.
- A common cause is a ruptured cerebral aneurysm.
- A common symptom is a severe headache that comes on suddenly.



Intracerebral Hemorrhage



Subarachnoid Hemorrhage



Aneurysm

A weak area within the blood vessel wall that balloons out and fills with blood.

Some aneurysms leak or rupture, allowing blood to seep directly into the brain (intracerebral) or into the space between the brain and the skull (subarachnoid).

Functions of the Right and Left Brain

LEFT

- Controls right side of body
- Problem solving, knowledge, facts
- Numbers and letters
- Understanding words

Effects of Left-Side Stroke

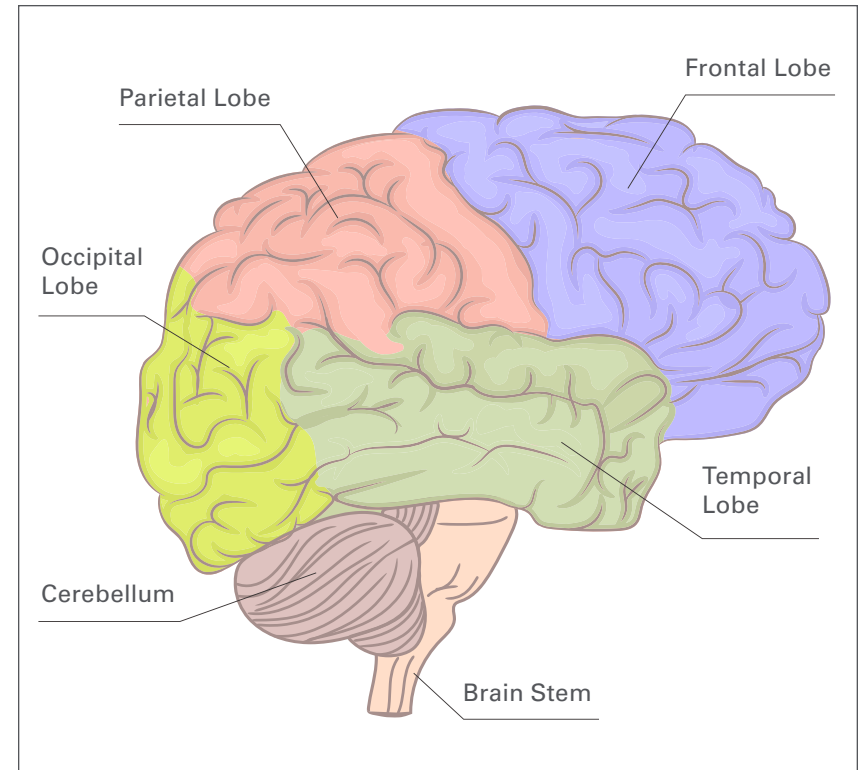
- Weakness on right side of body
- Sensation
- Problems seeing objects to right
- Communication problems
- Slow cautious behavior
- Memory loss
- Behavioral changes

RIGHT

- Controls left side of body
- Creativity, imagination, intuition
- Shapes and symbols
- Recognizing emotion

Effects of Right-Side Stroke

- Weakness on left side of body
- Problems seeing objects to left
- Problems with depth perception
- Difficulty with concentration
- Impulsive behavior and poor judgment



Sections of the Brain

- | | |
|---|---|
| Parietal Lobe
Sensation | Occipital Lobe
Vision |
| Frontal Lobe
Behavior and expressive language | Cerebellum
Balance and coordination |
| Temporal Lobe
Ability to understand language | Brain Stem
Breathing, heart activity, and alertness |

Ischemic Stroke Treatment

During the onset of an ischemic stroke, the goal of treatment is to restore blood flow to the affected area of the brain as quickly as possible.

Some early treatments for ischemic strokes are thrombolytic therapy and mechanical thrombectomy.

Thrombolytic therapy involves giving a medication called alteplase (also known as t-PA, for "tissue plasminogen activator"), or a similar medication called tenecteplase. It works by breaking up the clot that is blocking blood flow to the brain.

Mechanical Thrombectomy is a procedure that involves a specialist placing a catheter in the blocked artery and removing the clot. This is done using a special device or suction to reopen the blocked artery.

Thrombolytic Therapy

- An IV medication that is injected through a vein.
- These medications work to dissolve clots that are blocking blood flow in arteries in the brain.
- Not all patients are eligible for t-PA.

Mechanical Thrombectomy

- Involves inserting a catheter into the artery with a device that can remove the clot.
- This procedure can be beneficial if performed as soon as possible after the start of symptoms in certain situations.
- It may be done along with thrombolytic therapy.
- Mechanical thrombectomy for stroke is a highly specialized treatment.



Risk Factors

Uncontrollable Risk Factors

- Age
- Gender
- Race/Ethnicity
- Hormonal Changes
- History of Brain Aneurysm
- History of Stroke/TIA
- Family History of Stroke
- Sickle Cell Anemia

Manageable Risk Factors

- High Blood Pressure
- Cholesterol
- Diabetes
- Unhealthy Diet
- Smoking
- Not Taking Medications as Directed
- Heart Disease
- Obesity
- Physical Inactivity
- Alcohol/Substance Abuse

Post Stroke Rehabilitation

Rehabilitation is one of the most important phases of recovery and early efforts often yield positive outcomes. It is common for rehabilitation to start in the hospital as soon as 24-48 hours following a stroke.

Upon discharge many patients continue rehabilitation efforts on an inpatient or outpatient basis.

Rehabilitation specialists individualize a treatment plan to meet each patients needs.

They can consist of:

- Physical Therapist
- Occupational Therapist
- Speech/Language Pathologists
- Recreational Therapist

Rehabilitation can be a slow and frustrating endeavor. However, it is extremely valuable, so a positive outlook is essential.

Common Emotions After Stroke

A stroke may make a person forgetful, careless, annoyed, or confused. Stroke survivors may also feel anxiety, anger, or depression. Their behavior depends on which part of the brain is affected and how extensive the injury is.

Feelings of fear, sadness and anger are natural responses to a life changing event.

One of the most common emotional disorders experienced by a stroke survivor is clinical depression; a sense of hopelessness that interferes with a person's ability to function. This affects about one-third to two-thirds of all survivors.

Symptoms can be mild or severe, often starting in the early stages of stroke recovery.

SYMPTOMS OF DEPRESSION

- Feeling down, depressed, or sad most of the day
- Feelings of guilt, worthlessness, helplessness (feeling like a burden)
- Changes in sleeping habits, such as sleeping poorly or sleeping more than usual
- Loss of interest in usual activities, such as favorite hobbies, time with family, or outings with friends.
- Increase use of alcohol, drugs, or tobacco
- Decrease or increase of appetite, independent of hunger
- Strong feelings of sadness, despair, or hopelessness.
- Thoughts of suicide
- Lack of concentration or motivation



Overcoming Depression

It is important to know that depression can be treated.

Treatment Options

- Talk Therapy
- Medications
- Support Groups

If you are experiencing signs of depression, please seek help from your primary healthcare provider.

Memory Challenges After A Stroke

Stroke survivors can have trouble with memory. Planning, organizing ideas or making decisions can also be hard after a stroke. Many stroke survivors face memory challenges. But not all memory problems are the same.

A Stroke Survivor May Experience

- The inability to recall words, names, and stories.
- Difficulty learning new information.
- The need to have people repeat themselves.
- Episodes of confusing facts. They may recall an event but forget the specifics or mix up the details.
- Forgetfulness of taking their medications or eaten a meal.
- Having problems transferring learning from one setting to another.
 - For example, in the hospital the stroke survivor might be able to safely transfer from a wheelchair to a bed alone. But at home, the change in setting may make the person unable to do the same task.

Coping Strategies

- Keep notepads handy to write messages, lists, etc.
- Display key information on bulletin board.
- Use single location for keys, wallet, glasses, etc.
- Label rooms, food for expiration date, pill boxes, etc.
- Making photobook of significant people and places.

Healthy Habits

- Stay connected to other people.
- Keep your mind active – read, play games, puzzles, etc.
- Be physically active.
- Get enough sleep; generally, 7-8 hours each night.
- Have regular medical checkups.

Helpful Tips

Act With Patience

- Demonstrate. Show how to perform the task.
- Break all actions into smaller steps.
- Clarify the next step.
- Repetition. Approach the 20th time as if it were the first

Communicate With Patience







- Make eye contact.
- SLOW it down.
- E-NUN-CI-ATE.
- Minimize distractions such as loud radio or TV.
- Simple language by using short, uncomplicated words/sentences.
- Do NOT finish sentences, unless asked to.
- When questioning, multiple choice is better than yes/no.
- Allow time to respond.

Other Tips

- Help person become involved in activities inside or outside of the home
- Utilize support groups as needed
- “Never give up!”
- Celebrate the tiny steps of progress.
- Important to be patient with all the attempts (successful or not).

Do not face this alone, support groups can be located by contacting your local Town Hall, Senior Centers, Community Centers, the American Stroke Association, or your neurologist.

Spot a Stroke: BE FAST

B		Balance Loss	Is the person suffering from a sudden loss of balance or coordination?
E		Eyesight Loss	Do they have sudden double vision, or loss of vision in one or both eyes?
F		Facial Drooping	Is one side of their face drooping?
A		Arm Weakness	Can they keep their arms up, or does one arm drift down?
S		Speech Difficulty	Do they suddenly have difficulty speaking or is their speech slurred or strange?
T		Time to Call 911	If they have any one of these signs, it's time to call 9-1-1 immediately.

If you notice any one or all of these sudden signs, BE FAST - call 911.

Other Signs and Symptoms of Stroke

Confusion: Unable to understand what is happening, cannot think clearly. Trouble making decision and/or focusing.

Difficulty understanding: Unable to comprehend speech or language

Dizziness: A feeling of faint, lightheaded, room spinning feeling like they are drunk, or motion sickness. May see unsteady movement.

Loss of Balance: Unsteady with less coordination. Grabbing on to stationary objects.

Numbness: A tingling feeling i.e., face, arms, legs. Similar to pins/needle.

Severe Headache: Pain or discomfort in head, scalp, or neck with no known cause. Sensitivity to light.

Trouble Speaking: Unable to speak, slurred speech and/or sentences that cannot be understood.

Trouble Walking: Stumbling or inability to walk straight, tripping over nothing.

Vision Changes: New change in vision i.e., blurred, double, or loss of vision in one or both eyes. Trouble with eyesight

Weakness: Lack of strength in arm and/or leg especially one side of body. Facial droop and/or numbness to one side. Trouble doing simple tasks.



What To Do If You Are Having Symptoms

- Not all the warning signs occur in every stroke. Don't ignore signs of stroke, even if they go away.
- Note the time. When did the first warning sign or symptom start? Important information to provide to medical personnel.
- If you have one or more symptoms - **Do Not Delay!**
- **Immediately call 911** – Do not drive yourself to the hospital.
- Expect the person experiencing symptoms to resist going to the hospital. Don't take "no" for an answer. **Time Lost is Brain Lost.**
- When communicating with 911 operator make sure to say **"I think I am having a STROKE."**

Support and Resources

Helpful Websites

- supportnetwork.heart.org
- stroke.org
- heart.org
- thestrokefoundation.org

Additional Resources

- Your Primary Care Provider
- Your Neurologist
- Area Support Groups

Trinity Health Of New England Locations

Johnson Memorial Hospital

210 Chestnut Hill Road
Stafford Springs, CT 06076

860-684-4251

Mercy Medical Center

271 Carew Street
Springfield, MA 01104

413-748-9000

Mount Sinai Rehabilitation Hospital

490 Blue Hills Avenue
Hartford, CT 06112

860-714-3500

Saint Francis Hospital

114 Woodland Street
Hartford, CT 06105

860-714-4000

Saint Mary's Hospital

56 Franklin Street
Waterbury, CT 06706

203-709-6000

Stroke/Neurology Clinic

1000 Asylum Street, Suite 2112
Hartford, CT 06051

860-714 -7509

www.trinityhealthofne.org/stroke

SOURCES:

AHA/ASA pages

Know the Facts About Stroke - CDC

Things You Should Know, Your Risk of Stroke, and
How to be Prepared - ASA, a division of AHA

Department of Health and Human Services

National Institute of Health

Life After Stroke pamphlet - AHA

Understanding Stroke - Penumbra, Inc 2018



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The Stroke Center

114 Woodland Street, Hartford, CT 06105
TrinityHealthOfNE.org