



**Rhode Island Hospital**

*A Lifespan Partner*

# **Stroke: *A Guide for Patients and Families***

***Delivering Health With Care***



## Rhode Island Hospital

*A Lifespan Partner*

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In 2013, this book was revised for use at Rhode Island Hospital by Caryn Amedee BSN, RN, SCRNP

Founded in 1863, Rhode Island Hospital is a private, not-for-profit hospital and is the largest teaching hospital of Brown Medical School. With 719 beds, Rhode Island Hospital is the largest of the state's acute care hospitals. The hospital provides comprehensive diagnostic, therapeutic, and surgical services to inpatients and outpatients, with particular expertise in stroke, cancer, cardiology, diabetes, orthopedics and minimally invasive surgery, as well as pediatrics at its Hasbro Children's Hospital.

A major trauma center for southeastern New England, the hospital is dedicated to being on the cutting edge of medicine and research. Many of its 1,200 physicians are recognized as leaders in their respective fields of stroke, cancer, cardiology, diabetes, orthopedics, and minimally invasive surgery. Rhode Island Hospital is home to the New England Gamma Knife Center and the largest kidney transplant program in New England. The hospital is a founding member of the Lifespan health system.

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## What is a Stroke?

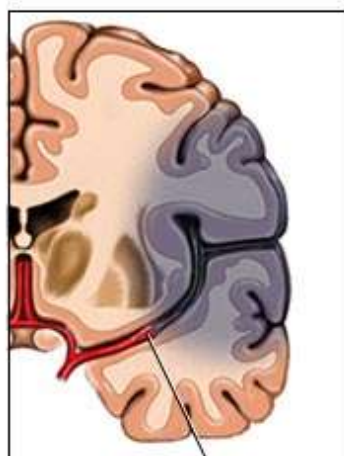
A stroke is a brain injury that occurs when a blood vessel in the brain is blocked or bursts. Without blood and the oxygen it carries, part of the brain starts to die. The part of the body controlled by the damaged area of the brain does not work properly.

## Types of Stroke:

There are two major kinds of stroke: Ischemic (i-skee-mik) Stroke and Hemorrhagic (hem-er-ah-jik) Stroke.

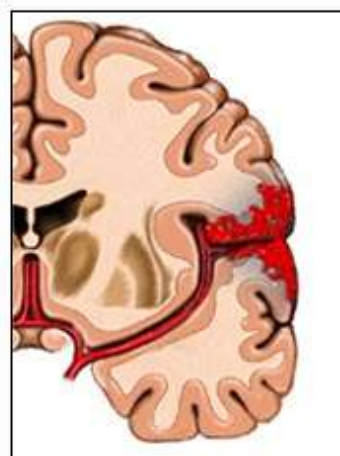
- **Ischemic Stroke:** Happens when a blood clot blocks a blood vessel in the brain. The clot may form in the blood vessel or travel from somewhere else in the bloodstream. This stops oxygen and nutrients getting to your brain, and cells begin to die within minutes. Most strokes are ischemic.
- **Hemorrhagic Stroke:** Happens when there is bleeding into or around the brain. These strokes are less common but more deadly than ischemic stroke.
- **Transient Ischemic Attack (TIA):** occurs when an artery in the brain is blocked by a clot causing symptoms of a stroke. The clot dissolves or moves away in a few minutes or hours, allowing the symptoms to resolve. The artery can also close for a short time due to the effects of high blood pressure. TIAs do not cause any permanent damage to the brain.

Ischemic stroke



A clot blocks blood flow to an area of the brain

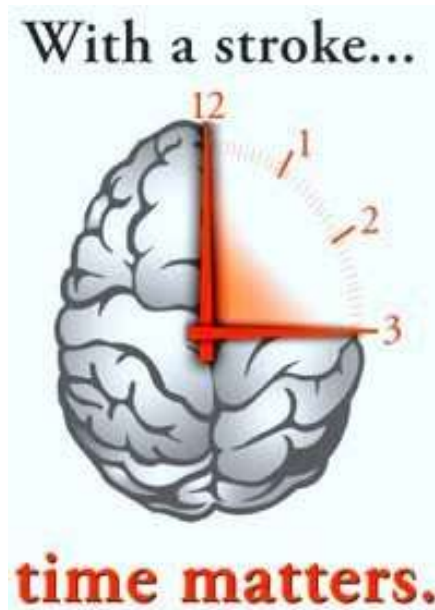
Hemorrhagic stroke



Bleeding occurs inside or around brain tissue

## What are the Signs and Symptoms?

- The five most common signs and symptoms of stroke are:
  - Sudden numbness or weakness of the face, arm, or leg
  - Sudden confusion or trouble speaking or understanding others
  - Sudden trouble seeing in one or both eyes
  - Sudden dizziness, trouble walking, or loss of balance or coordination
  - Sudden severe headache with no known cause
- If you think that you or someone you know is having a stroke, **CALL 9-1-1 IMMEDIATELY!**
- There is treatment if you act fast



## **What is the Treatment for Ischemic Stroke?**

- You will be asked a lot of questions about your symptoms and your past medical problems
- It is especially important to know when you were last normal (not having any stroke symptoms)
- The doctor will perform a physical exam including lab tests on your blood and urine
- You will have a CT scan or MRI of your brain to check for bleeding
- If your stroke is ischemic, you may be eligible to receive a clot-busting medication (t-PA) or a procedure to remove the blood clot with a special device

## **What is t-PA?**

- t-PA is a clot-busting medication
- If your stroke is ischemic (caused by a blood clot), this medicine can help break up the clot and restore blood flow to your brain
- It may help prevent disability from your stroke
- It must be given within 4½ hours from when you were last feeling normal
- If the medicine is given quickly, it is more likely to work
- t-PA is not safe for everyone and cannot be given if your stroke is caused by bleeding in your brain

## **Advanced Stroke Treatment**

- If your stroke is severe, you may be offered a treatment to remove the blood clot
  - This procedure is done with x-ray guidance
  - The doctor will place a catheter (a type of specialized tube) in your femoral artery (the artery in your groin)
  - They will inject a special dye to make your blood vessels visible on the x-ray images
  - Using the x-ray images to guide them, they will thread the catheter to the arteries in your brain
  - Once they find the clot, they will use a special device at the end of the catheter to try to remove the clot

# Treatment for Hemorrhagic Stroke

- A hemorrhagic stroke is caused by bleeding in your brain
- There are not as many treatment options for hemorrhagic stroke
- You will be monitored very closely for a worsening mental status and signs of swelling in your brain
- It may be necessary to give you medicines to reduce brain swelling
- If the swelling is severe, the doctor may place a tube into your brain (called an external ventricular drain) to measure the pressure inside your skull and allow fluid to drain
- Depending on the location and severity of the bleeding, you may be offered surgery to remove the collection of blood (hematoma)
- If your blood pressure is elevated, you will be given medicine to lower it

# Hospital Admission

- You will be admitted to the hospital for close monitoring
- The doctors will order several tests to help determine the cause of your stroke
- A nurse will screen you for swallowing difficulties before giving you any liquids or food by mouth
- You may be started on medicines to help reduce your risk of having a second stroke
- Before being discharged, you will be evaluated for rehabilitation needs
- Many people develop depression after surviving a stroke, a nurse will ask you some questions to screen for depression, in some cases a social worker may perform a more detailed screen
- An occupational therapist will perform a cognitive assessment (a test to see if you have any problems thinking, learning, or remembering things)
- You may receive a post discharge follow-up phone call from a Rhode Island Hospital Stroke Program representative to assess your progress, these occur at or around days 7 and 90 after discharge

## Stroke Recovery

- Stroke rehabilitation begins right away
- You may need physical, occupational, or speech therapy
- Stroke patients often recover at a faster rate in the first 3 months and may continue to improve for years

## Tips for Successful Recovery

- Be involved as much as possible in your care
- Participate in a stroke rehabilitation program as soon as possible
- Have at least one family member go to therapy sessions with you
- Ask for help if you are feeling sad, depressed or helpless

## The Rehabilitation Team

Type of Rehabilitation Specialist	Goal of Therapy
Dietitian	Plan a healthy diet
Occupational Therapist (OT)	Relearn how to perform activities of daily living; bathing, dressing, cooking, cleaning, etc. Reeducate muscles, and learn to care for arms, hands, and fingers. Improve vision and thinking
Physical Therapist (PT)	Relearn movement to sit, stand, walk; improve patient's strength, balance and coordination
Psychological/Psychiatric Therapist	Reduce some mental and emotional problems
Recreational Therapist (RT)	Help patient return to activities
Speech Therapist (SLP/ST)	Relearn language and swallowing Learn ways to improve memory and cope with reduced memory
Vocational Counselor	Get the patient back to work



## Where Does Stroke Rehabilitation Take Place?

- **Acute rehabilitation:** many acute stroke patients will benefit from a stay in a rehabilitation hospital which offers:
  - 24 hour nursing care
  - Daily physician care
  - Average of 3 hours of therapy each day
- **Skilled nursing facility:** Rehabilitation can take place in nursing facilities that have small rehabilitation units. This less intense rehabilitation is for patients who:
  - Require 24 hour nursing care
  - Do not require daily physician visits
  - Cannot tolerate 3 hours of therapy each day
- **Home therapy:** Patients may benefit from nursing and therapy services within their own home
  - Usually this takes place a few days a week and can help them return to a more normal life
  - An important part of home therapy is the exercises patients do alone or with a caregiver
  - Having a family member or other caregiver participate in sessions with the therapist helps the caregiver understand the exercises so they can help the patient at home
- **Outpatient therapy:** To receive outpatient therapy, patients must be able to be transported to a clinic
  - During therapy, patients may work to improve or regain their ability to do community activities, recreational activities and return to driving and work
- **Beyond therapy:** Recovery will continue beyond these services
  - Patients are often able to get better and better and do more activities as recovery continues for years after their stroke
  - Community resources can help through recreation, exercise and socializing

# Complications of Stroke

After a stroke **the most important thing** is to prevent complications from the stroke **AND** to prevent another stroke. Remember, each stroke is different, depending on the part of the brain that has been injured.

## Common Complications

Talk with your doctor, nurse, or therapists if you have any of these complications:

- **Blood clots** – These can be prevented through blood thinning medications, compression devices and exercise
- **Depression** – Many stroke survivors experience mood changes, emotional distress, and in some cases depression
  - Talk with your doctor or nurse if you think you might be depressed
  - Treating depression can improve your recovery
- **Muscle tightness** – Less exercise and movement can lead to muscle tightness
  - Daily exercises can help, talk with your doctor and therapist
- **Pain** – Pain can often be reduced through medication and other therapies
- **Seizures** – Changes in the brain can cause convulsions
  - These can be treated with medication
- **Infection of the urinary tract** – This can often be prevented or treated successfully
- **Aspiration pneumonia** – This happens sometimes with swallowing problems
  - Therapy can often improve your ability to swallow properly.
- **Bedsore and skin breakdown** – Talk with your doctor or nurse to learn how you can prevent sores caused by decreased ability to move

# Communication and Swallowing Difficulties

**Communication:** When a person has a stroke, he or she may experience speech or language difficulties.

- Aphasia is a condition that affects the ability to understand language and/or speak
- Reading, writing, and/or using numbers may also be affected
- Dysarthria is when a person's speech is slurred or garbled and difficult to understand
- Aphasia and dysarthria can be very frustrating to patients and their families

## What Can You Do to Help?

- Have a card handy to let other people know you have had a stroke and have difficulty talking
- Do the speech exercises you learn with your therapist
- Try a word or picture book or board
- Use gestures and point to help get your message across

## How Can Caregivers Help?

- Find a quiet place and have only one person talking at a time
- Speak slowly and clearly using your normal voice
- Avoid finishing sentences, interrupting or correcting
- Be patient – give the person time
- Pay close attention to gestures and facial expressions

## Difficulty Swallowing (Dysphagia)

- Sometimes stroke effects a person's ability to eat, drink, and/or swallow
- This may include difficulty chewing, moving food from the mouth to the throat, squeezing it down the throat and closing off the airway to prevent choking or aspiration (food or liquids entering the lungs).
- Should problems with swallowing occur, a comprehensive swallowing examination by a speech language pathologist will be completed

## Medications and Stroke

- Most patients who survive a stroke are prescribed medications by their healthcare provider
- **It is important that you and your family understand each of the medications prescribed**
  - What is it for?
  - When and how often should I take it?
  - What kinds of side effects could it cause?
  - What should I do if I have a problem taking the medication?
- If you do not know the answers to the above questions, contact your healthcare provider or pharmacist
- It is important to know which medications are prescribed for you as well as the dose and frequency
- Many patients keep a medication list in their wallet
- You should take your medications exactly how they are prescribed

## Types of Medicine You Might Be Prescribed

- Medicine to prevent blood clotting
- Medicine to reduce cholesterol
- Medicine to reduce blood pressure



### **Tips to Help You Remember to Take Your Medicine:**

- Take medicines at the same time each day
- Use a weekly pill box
- Use a calendar or drug reminder chart
- Wear a wrist watch with an alarm
- Ask a friend or family member to remind you

# Stroke Risk Factors

A stroke risk factor is something that raises your risk of having a stroke. There are two types of risk factors; controllable and uncontrollable.

- Controllable risk factors can be reduced or even eliminated by lifestyle changes
  - High blood pressure
  - High cholesterol
  - Tobacco use (smoking and second hand exposure)
  - Overweight
  - Unhealthy diet
  - Not getting enough exercise
  - Excess alcohol use
  - Illegal drug use
  - High blood sugar (diabetes)
  - Atrial fibrillation (an abnormal heart rhythm)
  - Use of hormonal contraceptives or hormone replacement therapy
- Uncontrollable risk factors cannot be changed
  - Age – Though stroke can occur at any age, stroke risk is higher in older people
  - Gender – Women are at higher risk for stroke
  - Race – African American, Native American, and Native Alaskan people are at higher risk for stroke
  - A family history of heart disease and stroke also increases the risk of stroke
  - Previous stroke or TIA

## Ways to Reduce Stroke Risk

- If your blood pressure is high, work with your doctor to lower it, this can be done by:
  - Medication – take your medicines exactly as prescribed
  - Diet – Low salt diet (less than 2000 milligrams of sodium daily)
  - Stress reduction
  - Exercise (talk with your doctor before starting a new exercise routine)
- If your cholesterol is high, lower it
  - Medication – your doctor may prescribe medicine to lower your cholesterol
  - Low-fat diet and exercise
- Quit smoking and avoid second hand smoke exposure
  - Ask your doctor or nurse if you need help quitting
- Maintain a healthy weight
  - If you are overweight your doctor or nurse may request a nutrition consult with a dietician
  - Work with your dietician to create a weight-loss plan
- Exercise at least 30 minutes 3 – 5 days each week unless restricted by your doctor
- Limit alcohol use
  - Men: 2 drinks or less per day
  - Women: 1 drink or less per day
- Do not use illegal street drugs, many drugs increase your stroke risk and some directly cause stroke
- If you have diabetes (sugar), keep your blood sugar controlled
  - Follow the diet recommended by your doctor and take all medications as prescribed
- Atrial Fibrillation is an abnormal heart rhythm which can cause stroke
  - Talk to your doctor about stroke risk and take all medications as prescribed, especially any anticoagulants (“blood thinners”)
- Talk to your doctor about your stroke risk if you take hormonal contraceptives or hormone replacement therapy

## **Regaining Your Life**

Many stroke patients are able to live a fulfilling life. Taking care of your heart and blood vessels is one of the most important things you can do for your health and well-being. This involves changing daily habits, so it can require some real effort.

- Create an action plan (see page 16 for a sample action plan)
- Choose healthy foods
  - Visit [www.choosemyplate.gov](http://www.choosemyplate.gov) for more information on current USDA recommendations, food and activity trackers, and weight-loss tips
- After your discharge, follow-up with your primary care physician and neurologist

## **Sexual Activity**

Many people who have had a stroke or other serious condition wonder if they can still have sex. The answer is yes. Check with your doctor before leaving the hospital to find out when you can safely resume sexual activity.

## **Driving**

Driving uses many skills that can be affected by stroke. Luckily, most stroke survivors can regain the ability to drive safely by getting new training or using special equipment. Talk with your doctor and therapists about returning to driving. Your doctor may order an evaluation by a driver rehabilitation specialist (DRS). The evaluation will include a vision exam and a test to see if you can react in ways to keep you safe on the road. The DRS may offer tips to improve your driving skills and can train you on equipment that will make driving easier and safer.

### **Rhode Island Hospital Driving Evaluation Program**

Contact 401-793-8610 for further information or to request Driver Evaluation Referral Form which needs to be completed by your physician.

# MY ACTION PLAN

Name: \_\_\_\_\_

Date: \_\_\_\_\_

I have worked with a healthcare provider to set a goal.

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## What I Will Do

**Choose One Goal:**

I will

\_\_\_\_\_  
*(Examples: increase my physical activity; take my medications; make healthier food choices; reduce my stress; reduce my tobacco use)*

**Choose One Action:**

I will

\_\_\_\_\_  
*(Examples: walk more; eat more fruits and vegetables)*

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## How Much/How Often

How much:

\_\_\_\_\_  
*(Example: 20 minutes)*

How often:

\_\_\_\_\_  
*(Example: three times a week on Monday, Wednesday, and Friday)*

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## Confidence

Circle a number to show how sure you are about doing the activity.

Try to choose an activity on which you score a 7 or above.

**1            2            3            4            5            6            7            8            9            10**

**Not sure at all**

**Somewhat sure**

**Very sure**

\_\_\_\_\_  
MY SIGNATURE

\_\_\_\_\_  
HEALTHCARE PROVIDER SIGNATURE



# Guidelines for Stroke Patients

(Discuss and fill this chart out with your doctor or nurse)

Risk Factor	Goal	How Often	Why it is Important	My Numbers	My Numbers
<b>Blood Pressure</b>	Optimal less than 120/80 <sup>1</sup>	Every visit	High blood pressure can cause kidney damage and strokes.	Date:	Date:
<b>Overweight</b>	Healthy Weight	Every visit	Healthy weight reduces stroke risk.	Date:	Date:
<b>Tobacco Use</b>	No tobacco use	Every visit	Quitting lowers your risk of premature death.	Date:	Date:
<b>Cholesterol</b>	Less than 200	Every year	It is used to estimate your risk of developing heart disease.	Date:	Date:
<b>LDL “Bad” Low Density Lipoproteins</b>	Less than 70 <sup>2</sup> (stroke patients)	Every year	It checks for “bad” cholesterol. High LDL can cause heart disease and strokes.	Date:	Date:
<b>HDL “Good” High Density Lipoproteins</b>	Greater than 40	Every year	It checks for “good” cholesterol. HDL helps keep LDL from building up in the arteries.	Date:	Date:
<b>Triglycerides</b>	Less than 150	Every year	It is a form of fat in your blood that can raise your risk of heart disease.	Date:	Date:
<b>Blood Sugar</b>	Less than 100	Every 3 years	It checks blood sugar levels in the blood.	Date:	Date:
<b>Hemoglobin A1C (for diabetics)</b>	Less than 7.0	Every 3 – 6 months	It checks for blood glucose control over the previous 2 – 3 months.	Date:	Date:

<sup>1</sup> If you are being treated for hypertension and/or diabetes, the treatment goal is less than 130/80.

<sup>2</sup> Further reduction to less than 70 may be reasonable. Talk with your healthcare provider.

# HIGH BLOOD PRESSURE: UNDERSTANDING THE NUMBERS

There are three categories of blood pressure; normal, pre-hypertension, and high blood pressure. Your systolic (top number) pressure is measured when your heart beats. Your diastolic (bottom number) pressure is when your heart is at rest between beats. The chart below shows how your category is determined.

	Systolic (top number)		Diastolic (bottom number)
<b>Normal Blood Pressure</b>	Less than 120	And	Less than 80
<b>Pre-hypertension</b>	120 – 139	Or	80 – 89
<b>Hypertension (high blood pressure)</b>	140 or higher	Or	90 or higher

## What Is Pre-hypertension?

If your blood pressure is between 120/80 and 139/89, then you have pre-hypertension. This means that you don't have high blood pressure now, but you are likely to have high blood pressure in the future. You can help prevent high blood pressure by eating a healthy diet, getting regular exercise, and living a healthy lifestyle. If you are in the pre-hypertensive range, talk to your doctor about lowering your blood pressure now.

Please join us

# Stroke Support Group

For stroke survivors and caregivers

Sponsored by Rhode Island Hospital

Stroke Center

**WHERE: Leone Conference Room ~  
Comprehensive Cancer Center at RIH**

(Free parking is available in the APC parking lot with direct access to this conference room; please note that parking in this area is open and not subject to any restrictions when this group meets.)

**WHEN: 2<sup>nd</sup> Wednesday evening of the month  
from 6:00 – 7:30 PM**

**For more information, please call:  
401-444-8806**



## Stroke Resources:

- **RIH Stroke & Vascular Neurology Clinic:** 401-444-8806
- **American Stroke Association:** 1-888-4-STROKE (1-888-478-7653) [www.strokeassociation.org](http://www.strokeassociation.org)  
Provides information on stroke issues; a division of the American Heart association
- **National Stroke Association:** 1-800-STROKES (1-800-787-6537) [www.stroke.org](http://www.stroke.org)  
Provides information and support to people who want to learn more about stroke  
For *Stroke Connection* (free magazine for stroke survivors and caregivers) call: 1-888-478-7653
- **National Institute of Neurological Disorders and Stroke (NINDS)**  
1-800-352-9424 or [www.ninds.nih.gov/](http://www.ninds.nih.gov/)  
Provides free information about stroke
- **Smoking Cessation**  
National Cancer Institute – 1-800-QUITNOW (1-800-784-8669) [www.smokefree.gov](http://www.smokefree.gov)
- **Eat Right**  
[www.eatright.org](http://www.eatright.org) – Provides information on health and nutrition by the American Dietetic Association
- **Shape Up America!**  
[www.shapeup.org](http://www.shapeup.org) – Offers information regarding fitness and weight management
- **Online Stroke Support**  
[www.strokenetwork.org](http://www.strokenetwork.org) – An online stroke community and other stroke resources
- **The Internet Stroke Center**  
[www.strokecenter.org](http://www.strokecenter.org) – An independent web resource for information about stroke care and research

# NOTES

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