

Signs and Symptoms of Stroke



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3300 Whitehaven Street NW, Suite 3300, Washington, DC 20007

Presented by:
Michael Sigelman MSN, RN
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Forward



The following training was produced by Georgetown University's Center for Child & Human Development as part of the the DDA Health Initiative project. This project supports the mission of the District of Columbia's Developmental Disabilities Administration, and focuses on improving the physical, behavioral and mental health supports that affect the quality of living for people with intellectual and other disabilities.

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Reason for this round table topic

- MRC meeting
- Requested



Summary

This nursing round table will provide information regarding recognizing and responding to signs and symptoms of stroke, and the process of critical thinking in this emergent situation. We will discuss the expectations of the DDA nurse, including: recognition, response, delegation, and follow-up during the following hospitalization, and list possible prescribed medication(s) and treatment(s).



Objectives

By the end of this session, learners will be able to:

1. List three research-supported findings after examining the relationship between risk for stroke and family history, diet, and exercise.
2. Compare and contrast at least two signs/symptoms that might be considered a stroke versus another medical problem.
3. Design a potential plan of care when providing services post- hospitalization to someone who has experienced a stroke.



Stroke

- CVA
- Cerebrovascular accident



Overview of Stroke

- When the blood supply to areas of your brain is interrupted or reduced, thereby depriving brain tissue of oxygen and nutrients.
- Brain cell death begins in minutes.



Overview of Stroke

- It is a medical emergency. Prompt treatment is crucial. Acting quickly and efficiently can minimize brain damage and potential complications.



Overview of Stroke

- Treatment and prevention are available.
- Death due to stroke has decreased.



Signs and Symptoms of Stroke

- Watch for signs and symptoms.
- Pay attention to the exact time when you observe the signs and symptoms. The length of time they have been present can affect your treatment options:
 - Trouble with speaking and understanding.
 - Paralysis or numbness of the face, arm or leg.
 - Trouble with seeing in one or both eyes.
 - Headache.
 - Trouble with walking.



Signs and Symptoms of Stroke

- Watch for signs and symptoms.
- Pay attention to the exact time when you observe the signs and symptoms. The length of time they have been present can affect your treatment options:
 - Trouble with speaking and understanding. You may experience confusion. You may slur your words or have difficulty understanding speech.
 - Paralysis or numbness of the face, arm or leg. You may develop sudden numbness, weakness or paralysis in your face, arm or leg. This often happens just on one side of your body. Try to raise both your arms over your head at the same time. If one arm begins to fall, you may be having a stroke. Also, one side of your mouth may droop when you try to smile.
 - Trouble with seeing in one or both eyes. You may suddenly have blurred or blackened vision in one or both eyes, or you may see double.
 - Headache. A sudden, severe headache, which may be accompanied by vomiting, dizziness or altered consciousness, may indicate you're having a stroke.
 - Trouble with walking. You may stumble or experience sudden dizziness, loss of balance or loss of coordination.



When to see a doctor

- **Seek immediate medical attention** if you notice any signs or symptoms of a stroke, even if they seem to fluctuate or disappear.
- Think "FAST"



When to see a doctor

- **Face.** Ask the person to smile. Does one side of the face droop?
- **Arms.** Ask the person to raise both arms. Does one arm drift downward? Or is one arm unable to rise up?
- **Speech.** Ask the person to repeat a simple phrase. Is his or her speech slurred or strange?
- **Time.** If you observe any of these signs, call 911 immediately.



Visuals

TIA and stroke: Warning signs and symptoms



Face drooping:
Does one side of the face droop or is it numb? Ask the person to smile. Is the person's smile uneven?

Arm weakness:
Is one arm weak or numb? Ask the person to raise both arms. Does one arm drift downward?

Speech difficulty:
Is speech slurred? Is the person unable to speak or hard to understand? Ask the person to repeat a simple sentence, like "The sky is blue." Is the sentence repeated correctly?

Time: Time to call 911. If someone shows any of these symptoms, even if the symptoms go away, call 911 and get the person to the hospital immediately. Check the time so you'll know when the first symptoms appeared.

When to see a doctor

- Call 911 or your local emergency number right away.
- Don't wait to see if symptoms stop.
- Every minute counts. The longer a stroke goes untreated, the greater the potential for brain damage and disability.
- If you're with someone you suspect is having a stroke, watch the person carefully while waiting for emergency assistance.

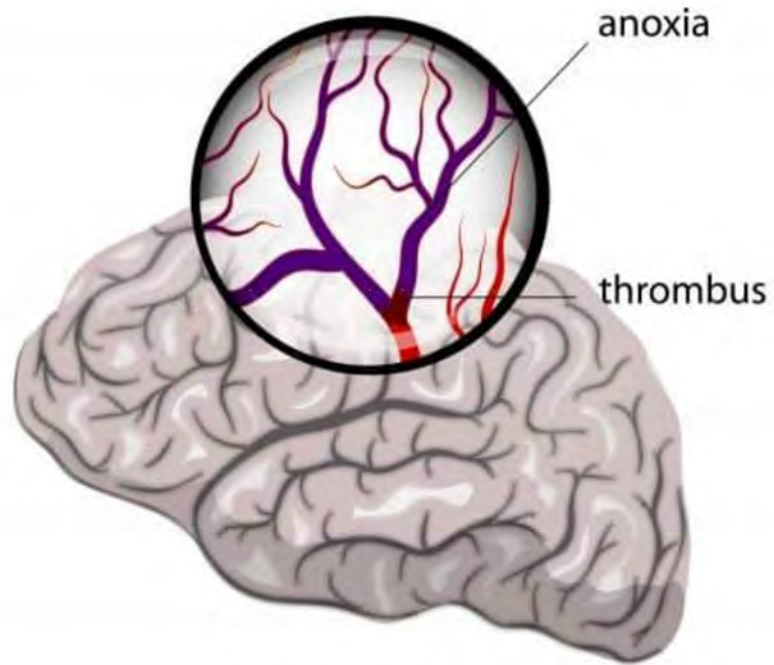


Causes

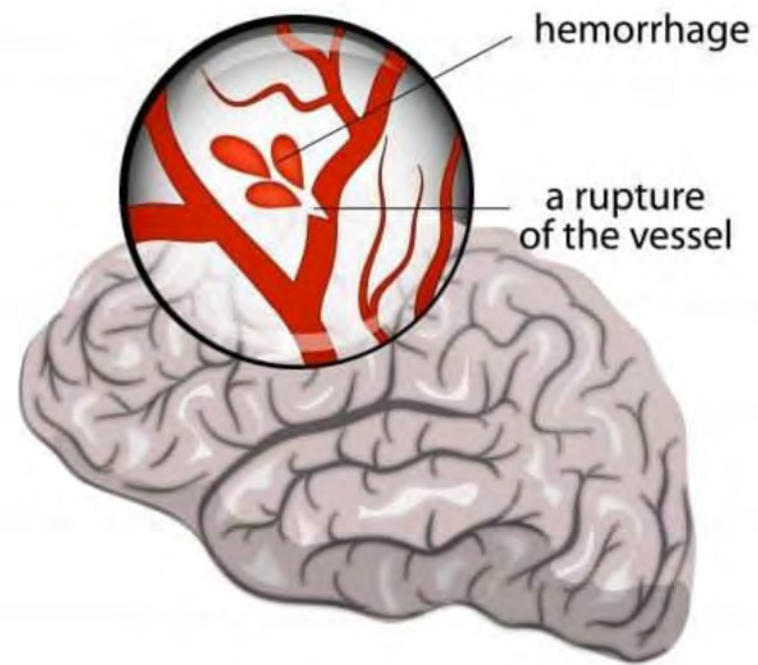
- A stroke may be caused by a blocked artery (**ischemic stroke**) or the leaking or bursting of a blood vessel (**hemorrhagic stroke**). Some people may experience only a temporary disruption of blood flow to the brain (**transient ischemic attack, or TIA**) that doesn't cause permanent damage.

Visuals

ISCHEMIC AND HEMORRHAGIC STROKE



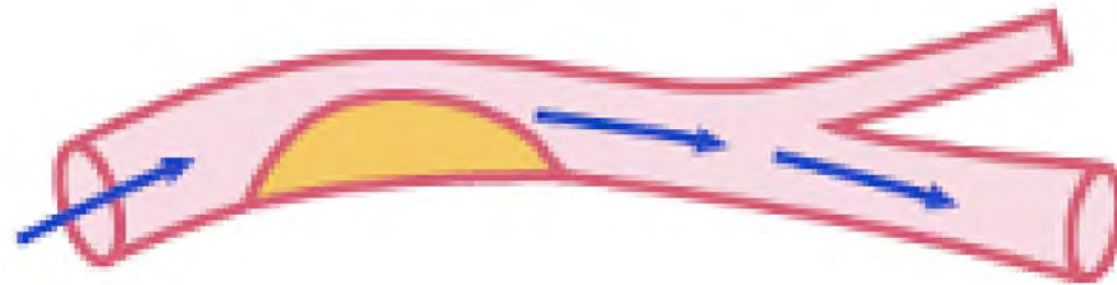
ISCHEMIC STROKE



HEMORRHAGIC STROKE

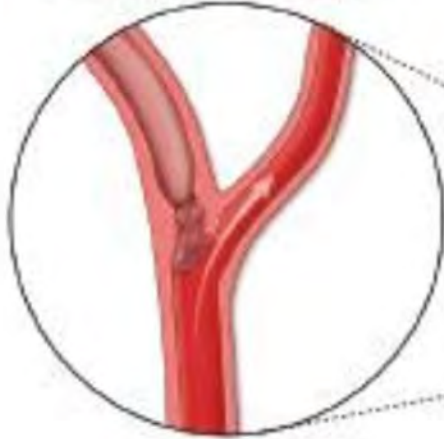
Transient Ischemic Attacks

Artery is temporarily blocked



Visuals

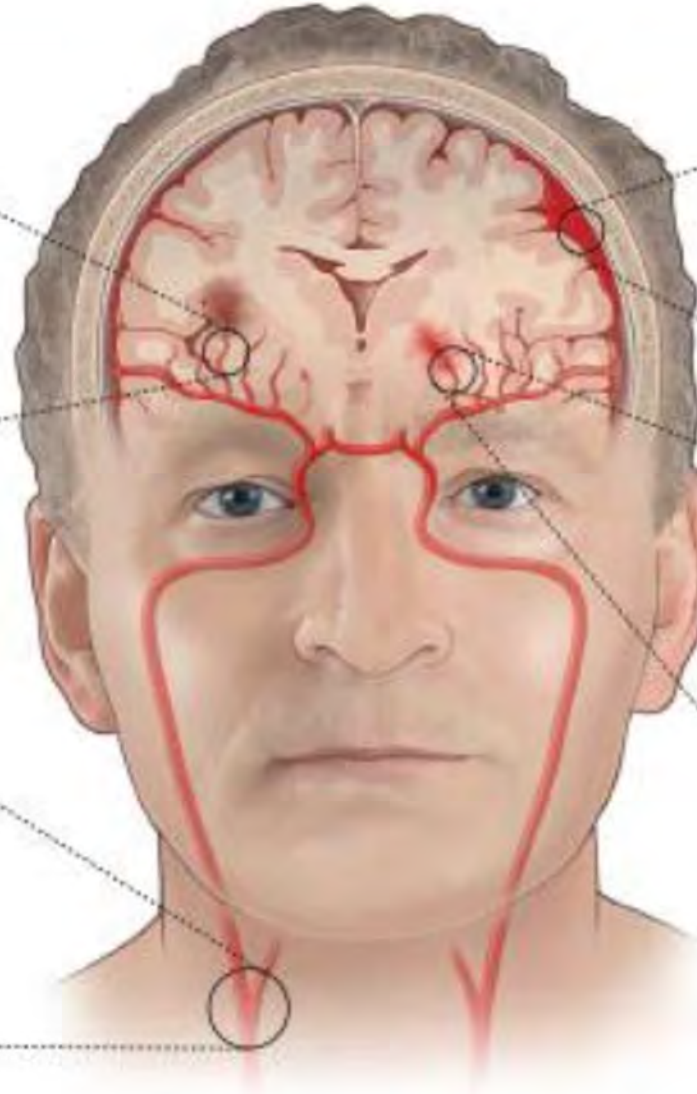
Ischemic strokes



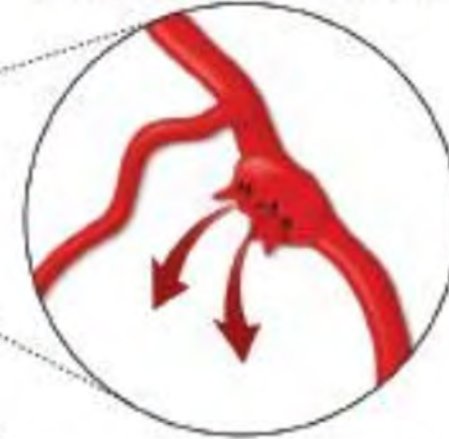
clot causing embolic stroke



plaque causing thrombotic stroke



Hemorrhagic strokes

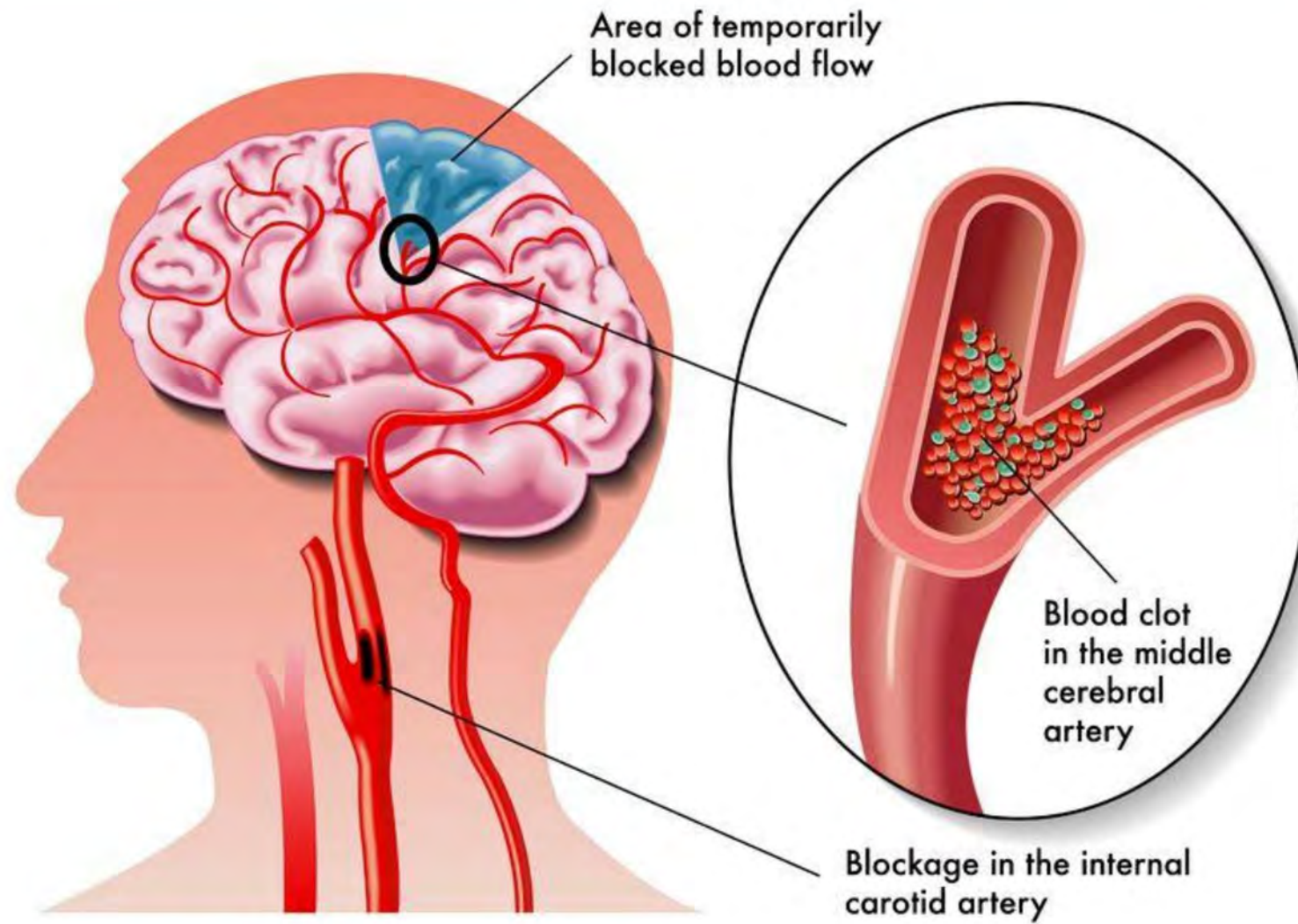


burst aneurysm causing subarachnoid hemorrhage



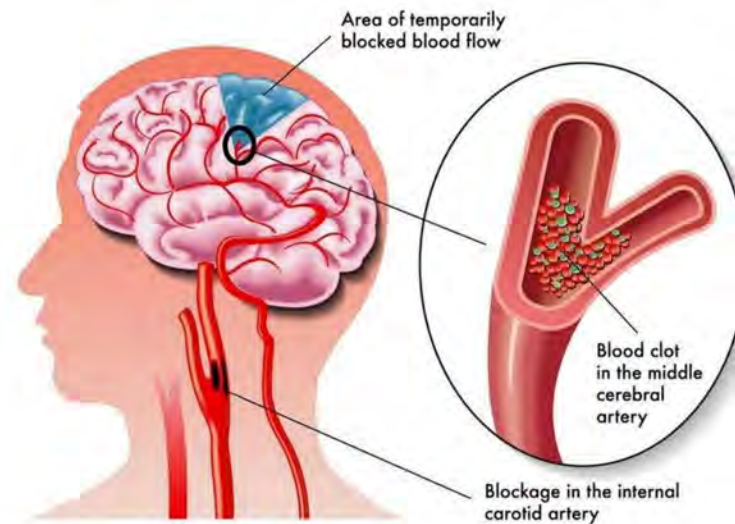
torn artery causing intracerebral hemorrhage

Causes



Causes

- Ischemic strokes
 - About 80 percent of strokes are ischemic strokes. Ischemic strokes occur when the arteries to your brain become narrowed or blocked, causing severely reduced blood flow (ischemia).

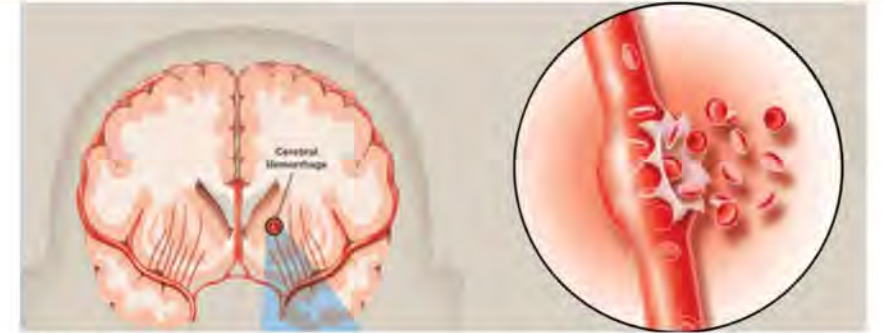


Causes

- Ischemic strokes
 - **Thrombotic stroke.** A thrombotic stroke occurs when a blood clot (thrombus) forms in one of the arteries that supply blood to your brain. A clot may be caused by fatty deposits (plaque) that build up in arteries and cause reduced blood flow (atherosclerosis) or other artery conditions.
 - **Embolic stroke.** An embolic stroke occurs when a blood clot or other debris forms away from your brain — commonly in your heart — and is swept through your bloodstream to lodge in narrower brain arteries. This type of blood clot is called an embolus.

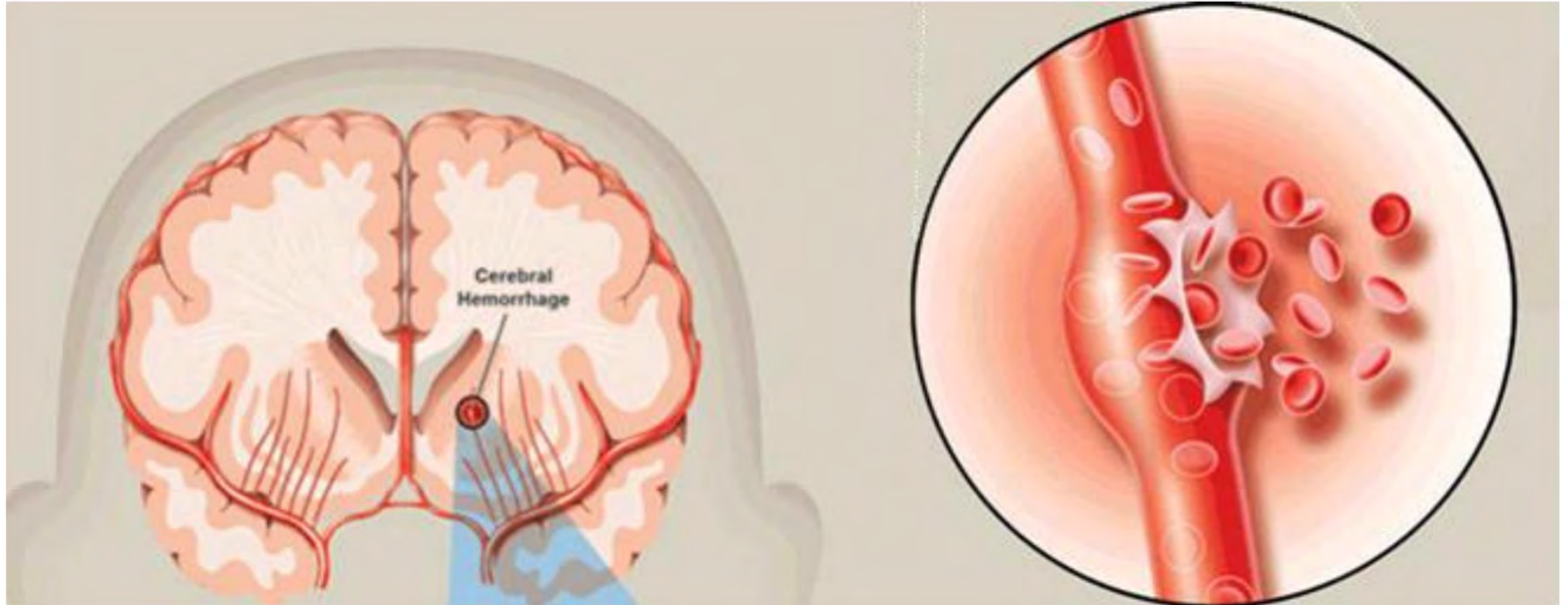


Causes



- Hemorrhagic stroke
 - Blood vessel in your brain leaks or ruptures.
 - Hemorrhages can be a result of many conditions affecting blood vessels, including:
 - Uncontrolled high blood pressure (hypertension)
 - Overtreatment with anticoagulants (blood thinners)
 - Weak spots in your blood vessel walls (aneurysms)
 - A less common cause of hemorrhage is the rupture of an abnormal tangle of thin-walled blood vessels (arteriovenous malformation). Types of hemorrhagic stroke include:
 - Intracerebral hemorrhage
 - a blood vessel in the brain bursts and spills into the surrounding brain tissue, damaging brain cells
 - Brain cells beyond the leak are deprived of blood and are also damaged.
 - High blood pressure, trauma, vascular malformations, use of blood-thinning medications and other conditions may cause an intracerebral hemorrhage.
 - Subarachnoid hemorrhage
 - an artery on or near the surface of your brain bursts and spills into the space between the surface of your brain and your skull
 - often signaled by a sudden, severe headache
 - is commonly caused by the bursting of a small sack-shaped or berry-shaped aneurysm. After the hemorrhage, the blood vessels in your brain may widen and narrow erratically (vasospasm), causing brain cell damage by further limiting blood flow.

Visuals



Causes

- Transient ischemic attack (TIA)
 - aka ministroke
 - is a temporary period of symptoms similar to a stroke
 - a temporary decrease in blood supply to part of your brain causes TIAs, which may last as little as five minutes.
 - Like an ischemic stroke, a TIA occurs when a clot or debris blocks blood flow to part of your nervous system — but there is no permanent tissue damage and no lasting symptoms.
 - Seek emergency care even if your symptoms seem to clear up. Having a TIA puts you at greater risk of having a full-blown stroke, causing permanent damage later. If you've had a TIA, it means there's likely a partially blocked or narrowed artery leading to your brain or a clot source in the heart.
 - It's not possible to tell if you're having a stroke or a TIA based only on your symptoms. Even when symptoms last for under an hour, there is still a risk of permanent tissue damage



Visuals

Stroke and mini-stroke

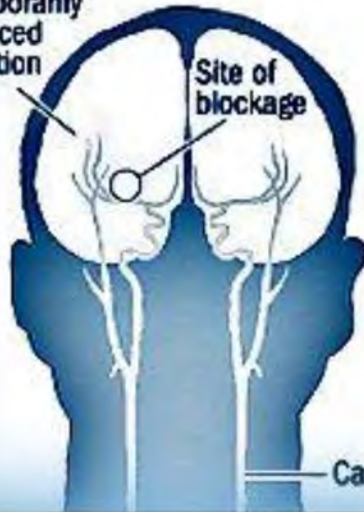
Transient ischemic attacks – TIAs, or mini-strokes – result when a cerebral artery is temporarily blocked, decreasing blood flow to the brain. Many strokes result from a complete blockage of a cerebral artery, leading to death of brain cells and permanent loss of certain functions.

TIA

Artery temporarily blocked



Temporarily reduced function



Stroke

Artery completely blocked



Area of brain cell death



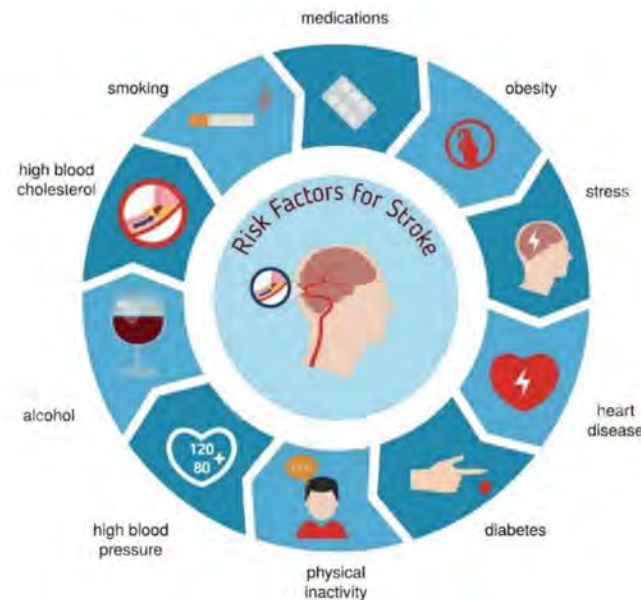
Research-supported findings

- The learner will be able to list three research-supported findings after examining the relationship between risk for stroke and family history, diet, and exercise.



Risk factors

- Many factors can increase your stroke risk. Some factors can also increase your chances of having a heart attack.
- Potentially treatable stroke risk factors include:
 - Lifestyle risk factors
 - Medical risk factors
 - Other factors





Stroke Risk Scorecard

Each box that applies to you equals 1 point. Total your score at the bottom of each column and compare with the stroke risk levels on the back.

RISK FACTOR	HIGH RISK	CAUTION	LOW RISK
Blood Pressure	<input type="checkbox"/> >140/90 or unknown	<input type="checkbox"/> 120-139/80-89	<input type="checkbox"/> <120/80
Atrial Fibrillation	<input type="checkbox"/> Irregular heartbeat	<input type="checkbox"/> I don't know	<input type="checkbox"/> Regular heartbeat
Smoking	<input type="checkbox"/> Smoker	<input type="checkbox"/> Trying to quit	<input type="checkbox"/> Nonsmoker
Cholesterol	<input type="checkbox"/> >240 or unknown	<input type="checkbox"/> 200-239	<input type="checkbox"/> <200
Diabetes	<input type="checkbox"/> Yes	<input type="checkbox"/> Borderline	<input type="checkbox"/> No
Exercise	<input type="checkbox"/> Couch potato	<input type="checkbox"/> Some exercise	<input type="checkbox"/> Regular exercise
Diet	<input type="checkbox"/> Overweight	<input type="checkbox"/> Slightly overweight	<input type="checkbox"/> Healthy weight
Stroke in Family	<input type="checkbox"/> Yes	<input type="checkbox"/> Not sure	<input type="checkbox"/> No
TOTAL SCORE	<input type="checkbox"/> High Risk	<input type="checkbox"/> Caution	<input type="checkbox"/> Low Risk



Risk Scorecard Results



High Risk ≥ 3 : Ask about stroke prevention right away.



Caution 4-6: A good start. Work on reducing risk.



Low Risk 6-8: You're doing very well at controlling stroke risk!

Risk factors

- Lifestyle risk factors
 - Being overweight or obese
 - Physical inactivity
 - Heavy or binge drinking
 - Use of illicit drugs such as cocaine and methamphetamines



Risk factors

- Medical risk factors
 - Blood pressure readings higher than 120/80 millimeters of mercury (mm Hg)
 - Cigarette smoking or exposure to secondhand smoke
 - High cholesterol
 - Diabetes
 - Obstructive sleep apnea
 - Cardiovascular disease, including heart failure, heart defects, heart infection or abnormal heart rhythm
 - Personal or family history of stroke, heart attack or transient ischemic attack.



Risk factors

- Other factors associated with a higher risk of stroke include:
 - Age — People age 55 or older have a higher risk of stroke
 - Race — African-Americans have a higher risk of stroke
 - Sex — Men have a higher risk of stroke
 - Women are usually older when they have strokes, and they're more likely to die of strokes than are men.
 - Hormones — use of birth control pills or hormone therapies that include estrogen, as well as increased estrogen levels from pregnancy and childbirth have a higher risk of stroke.

Complications

- A stroke can sometimes cause temporary or permanent disabilities, depending on how long the brain lacks blood flow and which part was affected.
 - Paralysis/loss of (or decreased) muscle movement
 - Speech and/or swallowing difficulties
 - Memory loss or thinking difficulties
 - Emotional concerns
 - Pain
 - Changes in behavior and self-care ability



Complications

- Paralysis or loss of muscle movement. You may become paralyzed on one side of your body, or lose control of certain muscles, such as those on one side of your face or one arm. Physical therapy may help you return to activities affected by paralysis, such as walking, eating and dressing.
- Difficulty talking or swallowing. A stroke might affect control of the muscles in your mouth and throat, making it difficult for you to talk clearly (dysarthria), swallow (dysphagia) or eat. You also may have difficulty with language (aphasia), including speaking or understanding speech, reading, or writing. Therapy with a speech-language pathologist might help.
- Memory loss or thinking difficulties. Many people who have had strokes experience some memory loss. Others may have difficulty thinking, making judgments, reasoning and understanding concepts.
- Emotional problems. People who have had strokes may have more difficulty controlling their emotions, or they may develop depression.
- Pain. Pain, numbness or other strange sensations may occur in the parts of the body affected by stroke. For example, if a stroke causes you to lose feeling in your left arm, you may develop an uncomfortable tingling sensation in that arm.
- People also may be sensitive to temperature changes, especially extreme cold, after a stroke. This complication is known as central stroke pain or central pain syndrome. This condition generally develops several weeks after a stroke, and it may improve over time. But because the pain is caused by a problem in your brain, rather than a physical injury, there are few treatments.
- Changes in behavior and self-care ability. People who have had strokes may become more withdrawn and less social or more impulsive. They may need help with grooming and daily chores.
- As with any brain injury, the success of treating these complications varies from person to person.



Complications

- As with any brain injury, the success of treating these complications varies from person to person.



Prevention

- Controlling high blood pressure (hypertension)
- Lowering the amount of cholesterol and saturated fat in your diet
- Quitting tobacco use
- Controlling diabetes
- Maintaining a healthy weight
- Eating a diet rich in fruits and vegetables
- Exercising regularly
- Drinking alcohol in moderation, if at all
- Treating obstructive sleep apnea (OSA)
- Avoiding illegal drugs



Prevention

- Controlling high blood pressure (hypertension).
 - This is one of the most important things you can do to reduce your stroke risk. If you've had a stroke, lowering your blood pressure can help prevent a subsequent TIA or stroke.
 - Exercising, managing stress, maintaining a healthy weight and limiting the amount of sodium and alcohol you eat and drink can all help to keep high blood pressure in check.
 - In addition to recommending lifestyle changes, your doctor may prescribe medications to treat high blood pressure.
- Lowering the amount of cholesterol and saturated fat in your diet.
 - Eating less cholesterol and fat, especially saturated fat and trans fats, may reduce the plaque in your arteries.
 - If you can't control your cholesterol through dietary changes alone, your doctor may prescribe a cholesterol-lowering medication.
- Quitting tobacco use.
 - Smoking raises the risk of stroke for smokers and nonsmokers exposed to secondhand smoke. Quitting tobacco use reduces your risk of stroke.



Prevention

- Controlling diabetes.
 - You can manage diabetes with diet, exercise, weight control and medication.
- Maintaining a healthy weight.
 - Being overweight contributes to other stroke risk factors, such as high blood pressure, cardiovascular disease and diabetes. Losing as little as 10 pounds may lower your blood pressure and improve your cholesterol levels.
- Eating a diet rich in fruits and vegetables.
 - A diet containing five or more daily servings of fruits or vegetables may reduce your risk of stroke. Following the Mediterranean diet, which emphasizes olive oil, fruit, nuts, vegetables and whole grains, may be helpful.
- Exercising regularly.
 - Aerobic or "cardio" exercise reduces your risk of stroke in many ways. Exercise can lower your blood pressure, increase your level of high-density lipoprotein cholesterol, and improve the overall health of your blood vessels and heart. It also helps you lose weight, control diabetes and reduce stress. Gradually work up to 30 minutes of activity — such as walking, jogging, swimming or bicycling — on most, if not all, days of the week.
- Drinking alcohol in moderation, if at all.
 - Alcohol can be both a risk factor and a protective measure for stroke. Heavy alcohol consumption increases your risk of high blood pressure, ischemic strokes and hemorrhagic strokes. However, drinking small to moderate amounts of alcohol, such as one drink a day, may help prevent ischemic stroke and decrease your blood's clotting tendency. Alcohol may also interact with other drugs you're taking. Talk to your doctor about what's appropriate for you. an narrow the arteries.



Prevention

- Treating obstructive sleep apnea (OSA).
 - Your doctor may recommend an overnight oxygen assessment to screen for OSA — a sleep disorder in which the oxygen level intermittently drops during the night.
 - Treatment for OSA includes oxygen at night or wearing a small device in your mouth to help you breathe.
- Avoiding illegal drugs.
 - cocaine and methamphetamines are established risk factors for TIA and/or stroke
 - Cocaine reduces blood flow and can narrow the arteries.



Preventative medications

- Anti-platelet drugs
- Anticoagulants



Preventative medications

- Anti-platelet drugs make the platelets less sticky and less likely to clot.
 - Aspirin is the most commonly used anti-platelet medication
 - Aggrenox, a combination of low-dose aspirin and the anti-platelet drug dipyridamole to reduce the risk of blood clotting.
 - Clopidogrel (Plavix) – if aspirin isn't effective, or it is contraindicated
- Anticoagulants reduce blood clotting.
 - Heparin - fast acting; used over a short period of time in the hospital.
 - Warfarin (Coumadin, Jantoven), - Slower acting; may be used over a longer period of time.



Research study

8-Item Questionnaire for Verifying Stroke Free Status with Pictograms.

1. Have you ever been told by a doctor that you had a stroke?

Yes No Don't know

2. Have you ever been told by a doctor that you had a mild stroke or almost had a stroke (TIA)?

Yes No Don't know

3. Have you ever had sudden painless weakness on one side of your body?

Yes No Don't know

4. Have you ever had sudden numbness or a dead feeling on one side of your body?

Yes No Don't know

5. Have you ever had sudden painless loss of vision in one or both eyes?

Yes No Don't know

6. Have you ever suddenly lost one half of your vision?

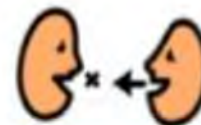
Yes No Don't know

7. Have you ever suddenly lost the ability to understand what people are saying?

Yes No Don't know

8. Have you ever suddenly lost the ability to express yourself verbally or in writing?

Yes No Don't know



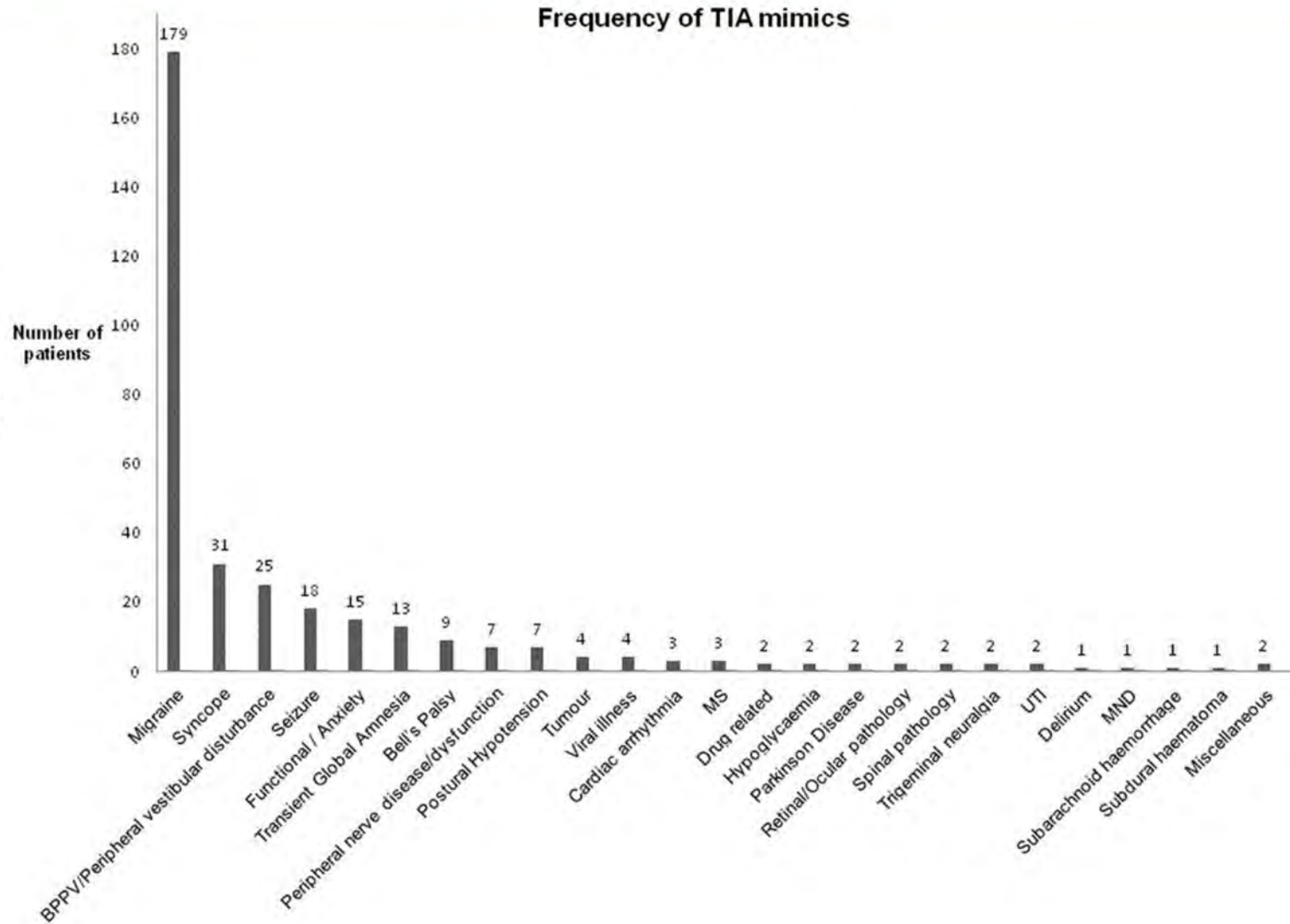
Misleading signs and symptoms

- The learner will be able to compare and contrast at least two signs/symptoms that might be considered a stroke versus another medical problem.



Misleading signs and symptoms

- Complaints of headache
- Slurred speech
- Changes in range of motion of extremities
- Gait changes
- Other complaints
- “Something just isn’t right!”



Misleading signs and symptoms

- Design a potential plan of care when providing services post-hospitalization to someone who has experienced a stroke.



A potential plan of care post-hospitalization of stroke

- Call Lisa Brace, hospital transition specialist, and update her on the hospitalization (reason, diagnoses, length of stay, ICU, end-of-life, anticipated changes in supports post-hospitalization)

Transition of care guide

Transition of Care Guide

A Guide for Community Support Providers to Facilitate Safe Transitions from the Hospital or Long Term Care Facility to Home

The following questions are provided to assist community support providers, service coordinators, and health care decision makers in obtaining the information needed to promote safe health care transitions from the hospital or long term care facility to the home setting for individuals with developmental disabilities.

This document is not meant to replace the discharge summary or medication reconciliation form.

Health Conditions

- 1. Do you understand the individual's health conditions?
 - A. Reason for hospitalization
 - B. Past health conditions
 - C. New diagnoses
- 2. Do you understand signs of health problems to watch for after discharge?
 - A. Specific signs of health problems
 - B. Health problems requiring immediate medical evaluation
- 3. Do you have the names and contact information for the physician/health care provider to notify if problems occur?
- 4. Were there any cognitive or functional changes that occurred during hospitalization?
- 5. Does the individual have any open skin areas? If yes, have you:
 - A. Inquired about the extent of the problem and ordered treatments
 - B. Determined how long the open areas have been present
 - C. Requested to see the affected areas
 - D. Obtained measurements of wounds
 - E. Obtained the results of wound cultures, if drainage is present

Notes: _____

1

Discharge Instructions

- 6. Do you understand the discharge instructions?
 - A. Special treatments (i.e. dressing change, respiratory treatments)
 - 1. Identified who will perform the treatments
 - 2. Ensured the person has been informed of the treatment procedure
 - 3. Understand the frequency of the treatments
 - 4. Initiated the process to obtain treatment supplies/equipment
 - B. Physical activity level
 - 1. Understand the mobility precautions and supervision level needed
 - 2. Understand the proper use of any assistive device/equipment (walker, cane, shower chair, etc.)
 - a. Obtained a physician order for new medical device/equipment needed for the home
 - b. Obtained a prior authorization if needed
 - c. Understand the type and purpose of equipment owned by/ordered for the individual
 - d. Planned for all necessary staff to be trained on the proper use of the equipment
 - e. Know who will order the equipment
 - f. Know the primary vendor name and number
 - g. Know who will deliver the equipment
 - 3. Inquired about any special positioning or transfer protocols



Transition of care guide

Discharge Instructions Continued

4. Know when home activities can be resumed and at what supervision level
 5. Know when the individual can return to usual activities (i.e. day program or work) and at what supervision level
 6. Have copies, or a plan to obtain copies, of written orders, if physical, occupational, and/or speech/language evaluation/therapy have been ordered
- C. Special diet
1. Understand the type, consistency or amount of food or fluids
 2. Know the time of the individual's last meal
 3. If tube feedings or supplements have been ordered:
 - a. Know the type/time of feeding
 - b. Arranged for the delivery of equipment to assist eating
 - c. Arranged for mealtime supports to be done by trained staff

Notes: _____

Medications

7. Have you reviewed the prescription medication plan with the nurse or physician?
- A. Do you:
1. Understand the name, purpose, dose, frequency, and potential side effects of all current medications
 2. Know who to call if you have questions
 3. Know how to obtain the new medications
 4. Know when the next doses of the medications are due
- B. Have you conducted a medication reconciliation, comparing pre-hospital medications with medications given during the hospitalization and understand which of these medications should be continued in the home?

Notes: _____

2

Home Staffing Needs

8. Are there any changes that are required related to the home staffing needs of the individual?
- A. If yes, have you notified residential staff of the new requirements and how individual's health condition will impact their care needs
- B. Confirmed that staffing has been arranged
- C. Issued requests for staffing changes to DDA and/or DC Health Care Finance

Notes: _____

Follow-Ups

9. Do you know if any medical tests done during the hospital are still pending results (i.e. labs, x-rays, EKG, scans, MRIs, etc.)?
- A. How to obtain the results
- B. Who will be sent the results
- C. When will results be available
- D. Have the necessary "release of information" forms been signed to obtain the copies/results of tests performed in the hospital?
10. Do you know what medical appointments and tests will be needed in the coming weeks?
- A. Do you:
1. Know when medical appointments need to be scheduled
 2. Have the contact numbers to schedule the appointments
- B. Do you:
1. Have the appropriate referrals/orders for diagnostic testing to be completed
 2. Know the name and purpose of the recommended tests
 3. Know when and how to schedule the tests
 4. Have the contact numbers to make the arrangements

Notes: _____



Transition Of Care Guide

Behavioral Supports

- 11. Have psychoactive medications been prescribed for a psychiatric or behavioral issue? If yes, has there been a recent change in the prescribed medication?
- 12. Have updated prescription or related physician orders been provided to the individual at the time of discharge?
- 13. Are there specific side effects of psychoactive medications that need to be monitored?
- 14. Are there routine medical assessments (i.e. blood levels) that need to be scheduled due to the prescribed psychoactive medication?
- 15. Does the individual have an existing, modified, or new behavior support plan?
- 16. Has staff been trained on the implementation of the behavior support plan?

Notes: _____

Discharge Instructions/Questions

- 17. Have you received a copy of the discharge instructions?
- 18. Did you participate in medication reconciliation with the nurse/physician, and have received a copy of this document?
- 19. Are you able to fully understand the written instructions?
- 20. Do you have a list of those present at the discharge meeting?
- 21. Are there any questions that you still have for the nurse/physician?

Notes: _____

Documentation Reminders

- 22. Update the Health Passport with
 - A. New diagnoses
 - B. New and discontinued medications
- 23. Update the Health Management Care Plan with:
 - A. New diagnoses
 - B. Resolved issues
- 24. QMRP and Nurses write a "summary note" or "progress note" regarding hospitalization, and document that discharge recommendations are being implemented and followed.
- 25. RNs complete and document a nursing assessment upon return to the residence.

Notes: _____

Right side versus left side

RIGHT CVA

R **L**

- Paralyzed Left Side Hemiplegia
- Spatial-Perceptual Deficits
- Tends to Minimize Problems
- Short Attention Span
- Visual Field Deficits
- Impaired Judgment
- Impulsive
- Impaired Time Concept

What Problem?

I don't feel where my left side is.

Right Brain Damage...Left Body Weakness

LEFT

LEFT CVA

R **L**

- Paralyzed Right Side Hemiplegia
- Impaired Speech and Language
- Slow Performance
- Visual Field Deficits
- Aware of Deficits Depression, Anxiety
- Impaired Comprehension

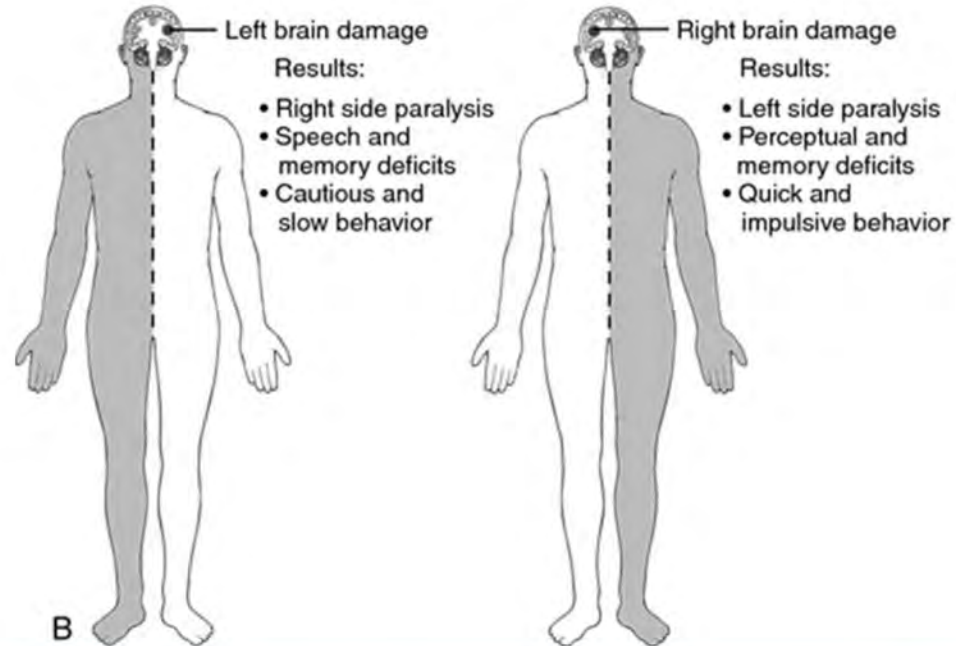
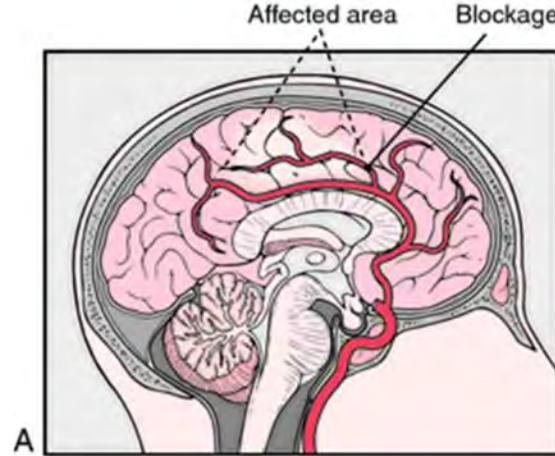
What do I eat with a spoon?

2+2=5?

Left brain damage...Right body weakness

RIGHT

Right side versus left side



A potential plan of care post-hospitalization of stroke

RISK AREA or CONDITION · Specify Concern	DESIRED OUTCOME	RN/LPN INTERVENTION Reference any protocols that are in use (i.e. feeding or positioning); Include the frequency & schedule of the intervention	DSP INTERVENTION Reference any protocols that are in use (i.e. feeding or positioning); Include the frequency & schedule of the intervention

A potential plan of care post-hospitalization of stroke

RISK AREA or CONDITION · Specify Concern	DESIRED OUTCOME	RN/LPN INTERVENTION Reference any protocols that are in use (i.e. feeding or positioning); Include the frequency & schedule of the intervention	DSP INTERVENTION Reference any protocols that are in use (i.e. feeding or positioning); Include the frequency & schedule of the intervention
Cardiovascular	Upon assessment, Michael's blood pressure will be between 130/70 to 150/80, as written and clarified by Dr. Lisa, at least once a week during this quarter. Upon assessment, Michael's blood pressure will be between 110/60 to 125/65, as written and clarified by Dr. Lisa, at least once this quarter.		
Neurology	Michael will continue to be able to squeeze the RN's hands with equal strength bilaterally at least once a week during this quarter.		
Nutritional	Michael will not verbally complain of difficulty swallowing when eating at all during this quarter. Michael will be able to continue to eat three meals a day (portions predetermined by nutritionist and followed by DSPs) every day during this quarter.		



A potential plan of care post-hospitalization of stroke

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Skin	Michael's sacral skin tear will not become infected (red, swollen, pus, no verbal complaints of pain) during this quarter. Michael will have no other alterations in skin integrity (current sacral tear as of 4/19/2018), such as redness, itching, skin tears, skin breakdown, staging of pressure ulcers) during this quarter.		
Musculoskeletal/ Extremities	Michael will be able to walk five feet with his cane, unassisted, at least once a week during this quarter. Michael will be able to walk 20 feet with his cane, unassisted, at least once during this quarter.		
Behavior			



A potential plan of care post-hospitalization of stroke

RISK AREA or CONDITION · Specify Concern	DESIRED OUTCOME	RN/LPN INTERVENTION Reference any protocols that are in use (i.e. feeding or positioning); Include the frequency & schedule of the intervention	DSP INTERVENTION Reference any protocols that are in use (i.e. feeding or positioning); Include the frequency & schedule of the intervention
Other risk factors			

Resources

- www.mayoclinic.org
- Flemming, K., Allison, T., Covalt, J., et al. “Utility of a Post-Hospitalization Stroke Prevention Program Managed by Nurses. 2015.
- Saebo. “Stroke Survival Statistics: 9 Sobering Facts We should All Be Aware Of
- Stroke rehabilitation: What to expect as you recover.
- Westendorp, W., Nederkoom, P., Vermeij, J., et al. 2011. “Post-stroke infection: A systematic review and meta-analysis. BMC Neurology 11:110.



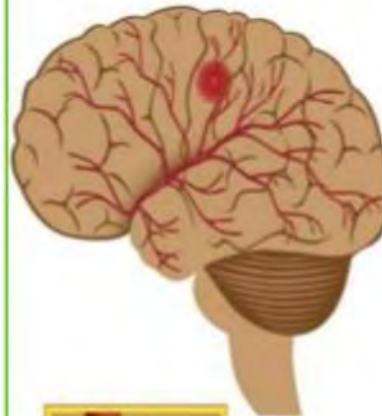
Classification of Stroke

Ischemic Stroke



Blockage of blood vessels; lack of blood flow to affected area

Hemorrhagic Stroke



Rupture of blood vessels; leakage of blood

transient ischemic attack
(TIA , mini stroke)



Sudden severe and unusual headache



Sudden numbness of arms and legs⁹

Visuals

STROKE (CVA)

TYPES OF STROKES

ISCHEMIC STROKE

HEMORRHAGIC STROKE

DIFFERENTIAL DIAGNOSIS

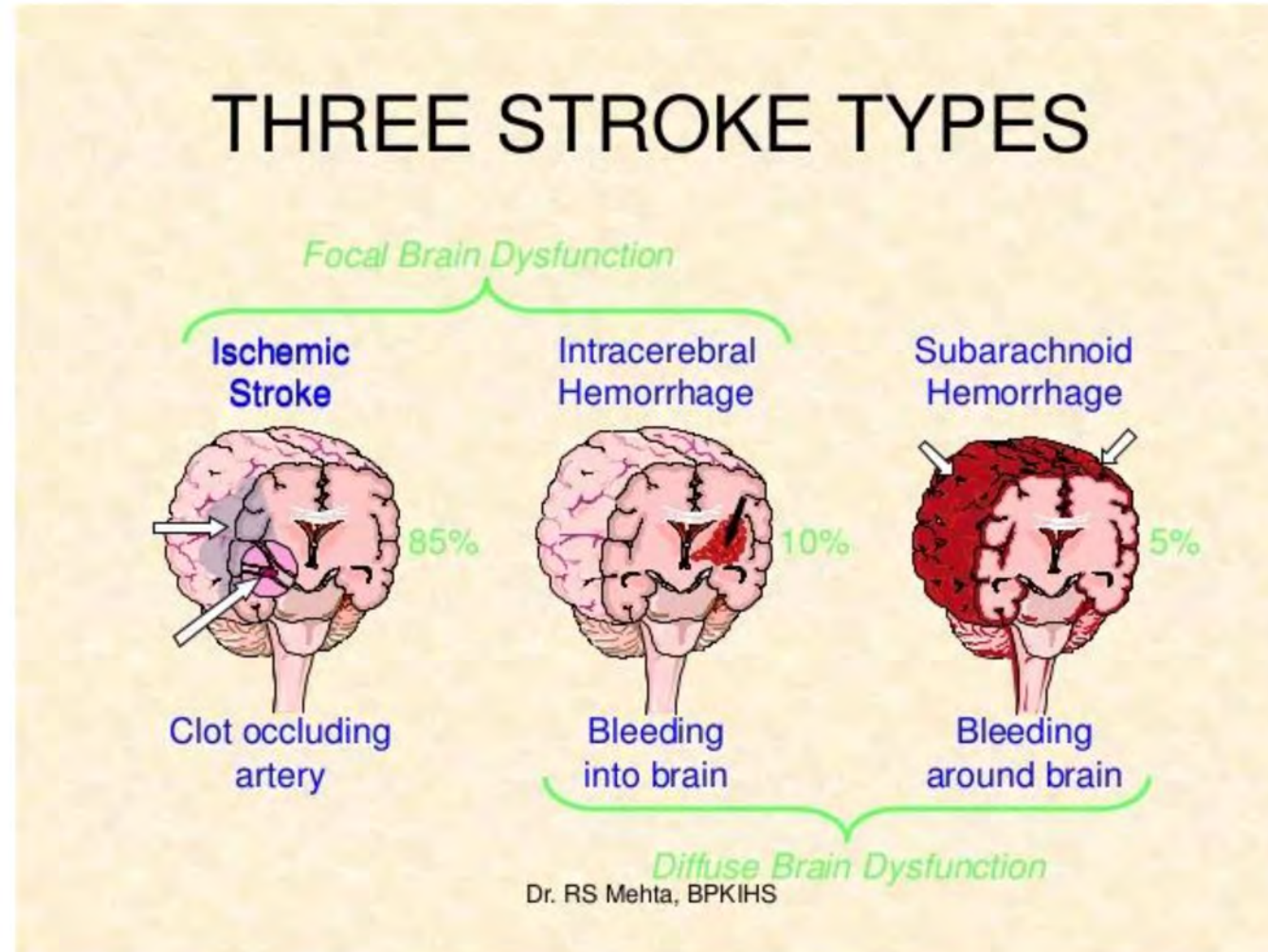
CLINICAL FEATURES

The diagram illustrates the human circulatory system with a central focus on the brain. It shows the heart, lungs, and the network of arteries and veins. Three circular insets on the left show cross-sections of arteries affected by different types of ischemic strokes: thrombotic, embolic, and cardioembolic. Two circular insets on the right show cross-sections of the brain affected by hemorrhagic strokes: intracerebral and subarachnoid. A central anatomical drawing of the brain is labeled with various regions. Below the brain diagram is a table comparing the four types of strokes.

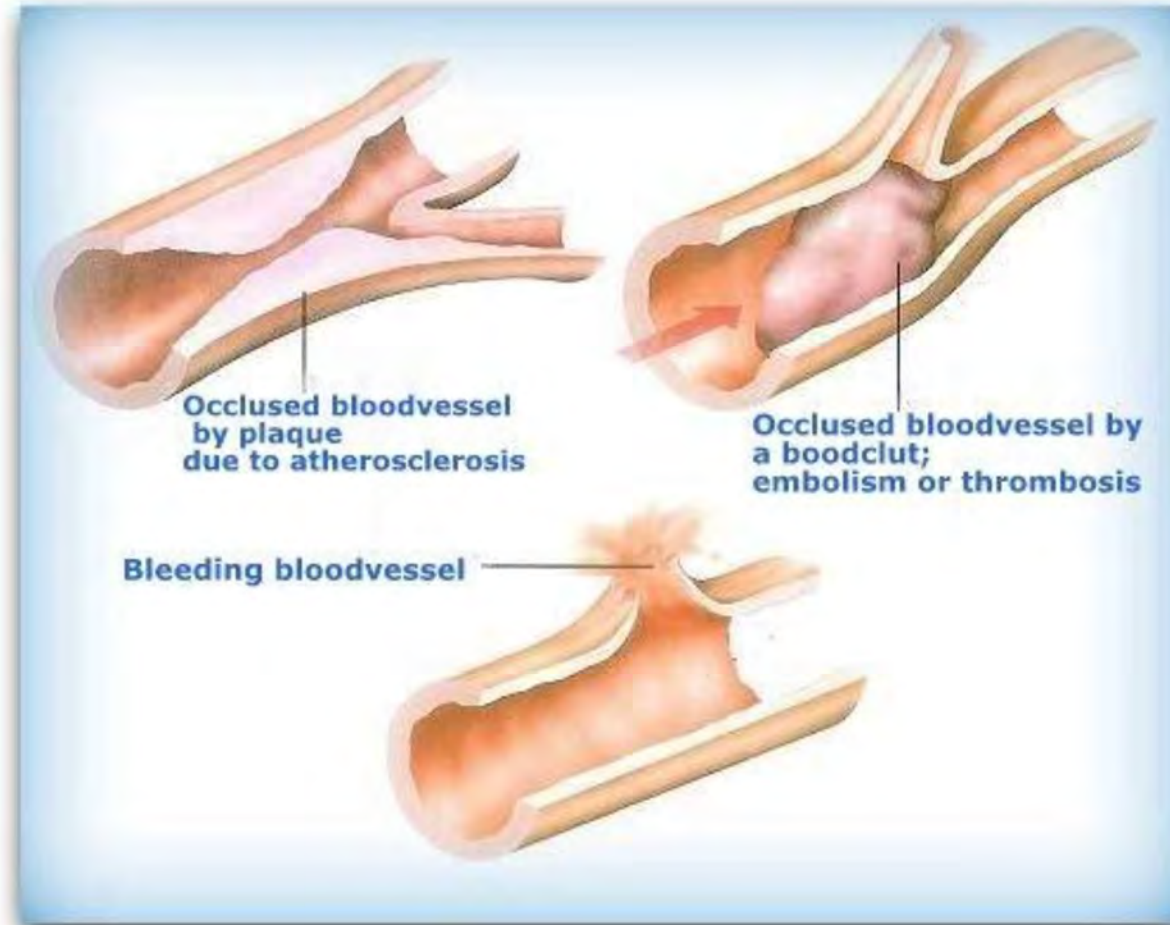
TYPE OF STROKE	CAUSE	ONSET	PROGRESSION	RECOVERY
Ischemic (Thrombotic)	Arteriosclerosis	Gradual	Gradual	Gradual
Ischemic (Embolic)	Arteriosclerosis	Sudden	Sudden	Sudden
Ischemic (Cardioembolic)	Arteriosclerosis	Sudden	Sudden	Sudden
Hemorrhagic (Intracerebral)	Arteriosclerosis	Sudden	Sudden	Sudden
Hemorrhagic (Subarachnoid)	Arteriosclerosis	Sudden	Sudden	Sudden

PREVENTION

RECOVERY



Visuals



Anatomy of the brain

