

# Cerebrovascular Disorders

Dr. Rexi Thomas



---

---

---

---

---

---

---

---

## Cerebrovascular Disorders

- ❖ Functional abnormality of the CNS that occurs when the blood supply to the brain is disrupted
- ❖ Stroke is the primary cerebrovascular disorder and the fifth leading cause of death in the United States
- ❖ Stroke is the leading cause of serious long-term disability in the United States
- ❖ Financial impact is profound

Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

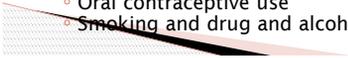
---

---

---

## Prevention

- ❑ Non-modifiable risk factors
  - Age (older than 55 years), male gender, African Americans
- ❑ Modifiable risk factors
  - Hypertension is the primary risk factor
  - Cardiovascular disease
  - Elevated cholesterol or elevated hematocrit
  - Obesity
  - Diabetes
  - Oral contraceptive use
  - Smoking and drug and alcohol abuse



---

---

---

---

---

---

---

---

## Prevention

- ▣ Health maintenance measures including a healthy diet, exercise, and the prevention and treatment of periodontal disease
- ▣ Carotid endarterectomy
- ▣ Anticoagulant therapy
- ▣ Antiplatelet therapy: aspirin, dipyridamole plus aspirin (Aggrenox), clopidogrel (Plavix)
- ▣ "Statins"
- ▣ Antihypertensive medications

---

---

---

---

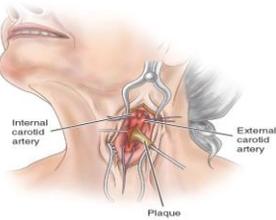
---

---

---

---

## Carotid Endarterectomy



Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

## Transient Ischemic Attack (TIA)

- ❖ Temporary neurologic deficit resulting from a temporary impairment of blood flow
- ❖ "Warning of an impending stroke"
- ❖ Diagnostic workup is required to treat and prevent irreversible deficits

Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

## Treatment/ Management

- ▣ Prevention
- ▣ Diagnosis
  - CT scan, cerebral angiography, LP
- ▣ Supportive care
  - Bed rest with sedation
  - Oxygen
- ▣ Treatment of vasospasm, increased ICP, HTN, potential seizures, and prevention of further bleeding

---

---

---

---

---

---

---

---

## Preventive Treatment and Secondary Prevention of TIA and Stroke

- ❖ Carotid endarterectomy for carotid stenosis
- ❖ Anticoagulant therapy for atrial fibrillation
- ❖ Antiplatelet therapy
- ❖ "Statins"
- ❖ Antihypertensive medications

---

---

---

---

---

---

---

---

Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

## Stroke

- ❖ "Brain attack"
- ❖ Sudden loss of function resulting from a disruption of the blood supply to a part of the brain
- ❖ Types of stroke: refer to Table 62-1
  - Ischemic
  - Hemorrhagic

---

---

---

---

---

---

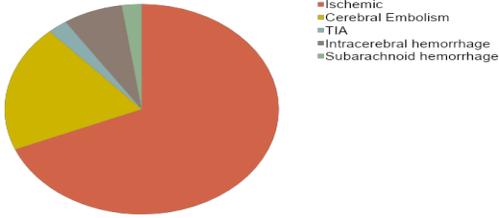
---

---

Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

### Types of Strokes



---

---

---

---

---

---

---

---

### Cerebral Vascular Anatomy

- 4 main vessels
  - 2 carotid arteries
  - 2 vertebral arteries

---

---

---

---

---

---

---

---

### Ischemic Strokes

- 5 types
  - Small penetrating artery thrombotic stroke (lacunar)
  - Large artery thrombotic stroke
  - Cardiogenic embolic (cardioembolic)
  - Cryptogenic
  - Other

Penumbra

---

---

---

---

---

---

---

---

## Signs & Symptoms of Stroke

- B
- E
- F
- A
- S
- T

❖ Other



---

---

---

---

---

---

---

---

## S/S of Ischemic Stroke

- ❑ Visual field deficits
- ❑ Motor deficits
- ❑ Sensory deficits
- ❑ Cognitive deficits
- ❑ Emotional deficits



---

---

---

---

---

---

---

---

## Manifestations of Ischemic Stroke

- ❖ Symptoms depend on the location and size of the affected area
- ❖ Numbness or weakness of face, arm, or leg, especially on one side
- ❖ Confusion or change in mental status
- ❖ Trouble speaking or understanding speech
- ❖ Difficulty in walking, dizziness, or loss of balance or coordination
- ❖ Sudden, severe headache
- ❖ Perceptual disturbances

---

---

---

---

---

---

---

---

### Key Terms

- ❖ Hemiplegia
- ❖ Hemiparesis
- ❖ Dysarthria
- ❖ Aphasia
  - Expressive aphasia
  - Receptive aphasia
- ❖ Hemianopsia
- ❖ Agnosia

Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

### Medical Management: Acute Phase of Stroke

- ❖ Prompt diagnosis and treatment: refer to Table 62-4
- ❖ Assessment of stroke: NIHSS assessment tool
- ❖ Thrombolytic therapy
  - Criteria for tPA: refer to Chart 62-3
  - IV dosage and administration
  - Patient monitoring
  - Side effects: potential bleeding
- ❖ Elevate head of bed (HOB) unless contraindicated
- ❖ Maintain airway and ventilation
- ❖ Continuous hemodynamic monitoring and neurologic assessment

---

---

---

---

---

---

---

---

### 7 D's of Stroke Care

- ☑ Detection
- ☑ Dispatch
- ☑ Delivery
- ☑ Door
- ☑ Data
- ☑ Decision
- ☑ Drug administration
  
- ☑ Time of onset
- ☑ Medication hx
- ☑ Past Medical hx

---

---

---

---

---

---

---

---

## Pre-hospital Stroke Care

- ▣ Goal
- ▣ Screening
  - Cincinnati prehospital Stroke Scale (CPSS)
  - Los Angeles Prehospital Stroke Screen

---

---

---

---

---

---

---

---

## Door to Detection

- ▣ Assessment (stroke team)
- ▣ CT
- ▣ CT reading
- ▣ Door to CT reading
- ▣ Door to lab results
- ▣ Door to IV TPA

---

---

---

---

---

---

---

---

## Assessment

- ▣ NIH Stroke Scale
  - LOC, questions, commands
  - Best gaze
  - Visual
  - Facial palsy
  - Motor- arm, leg (right and left)
  - Limb ataxia
  - Sensory
  - Best language
  - Dysarthria
  - Extinction and Inattention

---

---

---

---

---

---

---

---

## Assessment

- ▣ Nursing
  - Onset
  - VS with pulse oximetry
  - BP control
  - Neuro checks
  - Weight
  - Peripheral IV
  - Labs
  - Blood glucose
  - EKG
  - CXR
  - No anticoagulant
  - NIH scale by MD
  - Swallow evaluation

---

---

---

---

---

---

---

---

## Thrombolytic Therapy

- ▣ Recombinant t-PA
- ▣ Criteria/ Indications
  - Age
  - Within 3 hours and can extend to 4.5 hrs
  - CT with no hemorrhage
- ▣ Contraindications
- ▣ Administration/ Dosage
- ▣ Nursing Interventions

---

---

---

---

---

---

---

---

63 year old male arrives to ED with symptoms of facial droop and slurred speech. Stat CT is negative for bleed. The patient has no contraindication for TPA. The patient weighs 176 pounds.

1. What rate would the nurse set the IV pump to deliver the TPA over 1 hour?
2. How much did the ED physician or neurologist administer?

---

---

---

---

---

---

---

---

### Nursing Process: The Patient Recovering From an Ischemic Stroke—Assessment

- ❖ Acute phase:
  - Ongoing, frequent monitoring of all systems, including vital signs and neurologic assessment
  - LOC
  - motor symptoms
  - speech
  - pupil changes
  - I & O
  - blood pressure maintenance
  - Bleeding
  - oxygen saturation

 Wolters Kluwer

Copyright © 2018 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

### Nursing Management of Ischemic Stroke: Acute Phase

- ❖ Ongoing, frequent monitoring of all systems, including vital signs and neurologic assessment
- ❖ LOC
- ❖ Motor symptoms
- ❖ Speech
- ❖ Pupil changes
- ❖ I & O
- ❖ Blood pressure maintenance
- ❖ Bleeding
- ❖ Oxygen saturation

 Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

### Assessment of the Patient Recovering from an Ischemic Stroke

- ❖ After the acute phase:
  - Mental status
  - Sensation/perception
  - Motor control
  - Swallowing ability
  - Nutritional and hydration status
  - Skin integrity
  - Activity tolerance
  - Bowel and bladder function

 Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

## Collaborative Problems and Potential Complications of the Patient Recovering from an Ischemic Stroke

- ❖ Decreased cerebral blood flow
- ❖ Inadequate oxygen delivery to brain
- ❖ Pneumonia

 Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

## Nursing Interventions for the Patient Recovering from an Ischemic Stroke #1

- ❖ Improving mobility and preventing joint deformities
  - Prevent shoulder abduction
  - Position the hands and fingers
  - Change positions—every 2 hours
  - Establish an exercise program
    - Passive or active ROM four or five times day
  - Prepare for ambulation
    - Assist patient out of bed as soon as possible
- ❖ Preventing shoulder pain

 Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

## Nursing Interventions for the Patient Recovering from an Ischemic Stroke #2

- ❖ Enhancing self-care
  - Use of assistive devices and modification of clothing
- ❖ Adjusting to physical changes
- ❖ Assisting with nutrition
  - Consult with speech therapy or nutritional services
  - Have patient sit upright, preferably out of bed, to eat
  - Chin tuck or swallowing method
  - Use of thickened liquids or pureed diet

 Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

### Nursing Interventions for the Patient Recovering from an Ischemic Stroke #3

- ❖ Attaining bowel and bladder control
  - Assessment of voiding and scheduled voiding
  - Measures to prevent constipation: fiber, fluid, toileting schedule
- ❖ Improving thought processes
- ❖ Strategies to enhance communication
- ❖ Maintaining skin integrity
- ❖ Improving family coping
- ❖ Coping with sexual dysfunction
- ❖ Monitoring and managing potential complications

---

---

---

---

---

---

---

---

### Hemorrhagic Stroke

- ❖ Caused by bleeding into brain tissue, the ventricles, or subarachnoid space
- ❖ May be caused by spontaneous rupture of small vessels primarily related to hypertension; subarachnoid hemorrhage caused by a ruptured aneurysm; or intracerebral hemorrhage related to amyloid angiopathy, arterial venous malformations (AVMs), intracranial aneurysms, or medications such as anticoagulants
- ❖ Brain metabolism is disrupted by exposure to blood
- ❖ ICP increases caused by blood in the subarachnoid space
- ❖ Compression or secondary ischemia from reduced perfusion and vasoconstriction causes injury to brain tissue

 Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

### Manifestations of Hemorrhagic Stroke

- ❖ Similar to ischemic stroke
- ❖ Severe headache
- ❖ Early and sudden changes in LOC
- ❖ Vomiting
- ❖ Bleeding

 Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

## Medical Management of Hemorrhagic Stroke

- ❖ Diagnosis: CT scan, cerebral angiography, lumbar puncture if CT is negative and ICP is not elevated to confirm subarachnoid hemorrhage
- ❖ Care is primarily supportive
- ❖ Bed rest with sedation
- ❖ Oxygen
- ❖ Treatment of vasospasm, increased ICP, hypertension, potential seizures, and prevention of further bleeding

Wolters Kluwer Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

## Care for Non t-PA Stroke

- ❑ O<sub>2</sub>/ Intubation
- ❑ HOB 25-30°
- ❑ ICP
- ❑ Hemodynamic monitoring
  - BP control
- ❑ Neuro checks



- ❑ Carotid Endarterectomy (CEA)
  - Complications

---

---

---

---

---

---

---

---

## Assessment of the Patient with a Hemorrhagic Stroke

- ❖ Complete and ongoing neurologic assessment; use neurologic flow chart
- ❖ Altered LOC
- ❖ Sluggish pupillary reaction
- ❖ Motor and sensory dysfunction
- ❖ Cranial nerve deficits
- ❖ Speech difficulties and visual disturbance
- ❖ Headache and nuchal rigidity
- ❖ Other neurologic deficits

Wolters Kluwer Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

### Collaborative Problems and Potential Complications of the Patient with a Hemorrhagic Stroke

- ❖ Vasospasm
- ❖ Seizures
- ❖ Hydrocephalus
- ❖ Rebleeding
- ❖ Hyponatremia

---

---

---

---

---

---

---

---

Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

### Planning and Goals for the Patient with a Hemorrhagic Stroke

- ❖ Goals may include:
  - Improved cerebral tissue perfusion
  - Relief of anxiety
  - The absence of complications

---

---

---

---

---

---

---

---

Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

### Nursing Interventions for the Patient with a Hemorrhagic Stroke #1

- ❖ Optimizing cerebral tissue perfusion; implementing aneurysm precautions
  - Provide a nonstimulating environment, prevent increases in ICP, prevent further bleeding
  - Absolute bed rest with HOB 30 degrees
  - Avoid all activity that may increase ICP or BP; Valsalva maneuver, acute flexion or rotation of neck or head
  - Stool softener and mild laxatives
  - Nonstimulating, nonstressful environment; dim lighting, no reading, no TV, no radio

Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

## Nursing Interventions of the Patient with a Hemorrhagic Stroke #2

- ❖ Relieving anxiety
  - Keep sensory stimulation to a minimum for aneurysm precautions
  - Reality orientation
- ❖ Monitoring and managing potential complications
  - Seizure precautions
- ❖ Patient and family education
  - strategies to regain and promote self-care and rehabilitation

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

## Nursing Process: The Patient Recovering From an Ischemic Stroke—Planning

- ❖ Major goals may include
  - Improved mobility
  - Avoidance of shoulder pain
  - Achievement of self-care
  - Relief of sensory and perceptual deprivation
  - Prevention of aspiration
  - Continence of bowel and bladder
  - Improved thought processes
  - Achieving a form of communication
  - Maintaining skin integrity
  - Restored family functioning
  - Improved sexual function
  - Absence of complications

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

## Aneurysm Precautions

- Absolute bed rest, non-stimulating environment
- Elevate HOB 30 degrees to promote venous drainage or flat to increase cerebral perfusion
- Avoid all activity that may increase ICP or BP: Valsalva maneuver, acute flexion or rotation of neck or head
- Seizure precautions
- Stool softener/ mild laxatives
- Exhale through mouth when voiding or defecating to decrease strain
- Nurse provides all personal care and hygiene
- Nonstimulating, nonstressful environment; dim lighting, no reading, no TV, no radio
- Visitors are restricted

---

---

---

---

---

---

---

---

## Hemorrhagic Stroke

- ▣ Bleeding
- ▣ Etiology
  - HTN
  - Ruptured aneurysm
  - Arterial venous malformation (AVMs)
  - Meds- anticoagulants
- ▣ ICP
- ▣ S/S
  - Similar to ischemic
  - Severe headache
  - Early and sudden changes in LOC
  - Vomiting

---

---

---

---

---

---

---

---

## Treatment/ Management

- ▣ Neuro assessment
- ▣ Respiratory & Oxygenation
- ▣ ICP
- ▣ Admit to ICU
- ▣ Complications
  - Vasospasm
  - Seizures
  - Hydrocephalus
  - Rebleeding
  - Hyponatremia
- ▣ Fluid balance, labs

---

---

---

---

---

---

---

---

## Collaborative Problems and Potential Complications of the Patient with a Hemorrhagic Stroke

- ❖ Vasospasm
- ❖ Seizures
- ❖ Hydrocephalus
- ❖ Rebleeding
- ❖ Hyponatremia

---

---

---

---

---

---

---

---

## Post Stroke Care

- ▣ Physical Therapy
- ▣ Occupational Therapy
- ▣ Speech Therapist
- ▣ Nutritionist/ Dietitian
- ▣ Rehabilitation
- ▣ Assistive devices

---

---

---

---

---

---

---

---

## Planning and Goals for the Patient with a Hemorrhagic Stroke

- ❖ Goals may include:
  - Improved cerebral tissue perfusion
  - Relief of anxiety
  - The absence of complications

---

---

---

---

---

---

---

---

Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

## Interventions #1

- ❖ Focus on the whole person
- ❖ Provide interventions to prevent complications and promote rehabilitation
- ❖ Provide support and encouragement
- ❖ Listen to the patient

---

---

---

---

---

---

---

---

Wolters Kluwer

Copyright © 2018 Wolters Kluwer - All Rights Reserved

## Interventions #2

- ❖ Enhancing self-care
  - Set realistic goals with the patient
  - Encourage personal hygiene
  - Ensure that patient does not neglect the affected side
  - Use of assistive devices and modification of clothing
- ❖ Support and encouragement
- ❖ Strategies to enhance communication

Wolters Kluwer Copyright © 2019 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

## Nursing Interventions for the Patient with a Hemorrhagic Stroke #1

- ❖ Optimizing cerebral tissue perfusion; implementing aneurysm precautions
  - Provide a nonstimulating environment, prevent increases in ICP, prevent further bleeding
  - Absolute bed rest with HOB 30 degrees
  - Avoid all activity that may increase ICP or BP; Valsalva maneuver, acute flexion or rotation of neck or head
  - Stool softener and mild laxatives
  - Nonstimulating, nonstressful environment; dim lighting, no reading, no TV, no radio

Wolters Kluwer Copyright © 2022 Wolters Kluwer - All Rights Reserved

Visitors are restricted

---

---

---

---

---

---

---

---

## Nursing Interventions of the Patient with a Hemorrhagic Stroke #2

- ❖ Relieving anxiety
  - Keep sensory stimulation to a minimum for aneurysm precautions
  - Realty orientation
- ❖ Monitoring and managing potential complications
  - Seizure precautions
- ❖ Patient and family education
  - strategies to regain and promote self-care and rehabilitation

Wolters Kluwer Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

### Interventions #3

- ❖ Nutrition
  - Consult with speech therapy or nutritional services
  - Have patient sit upright, preferably out of bed, to eat
  - Chin tuck or swallowing method
  - Use of thickened liquids or pureed diet
- ❖ Bowel and bladder control
  - Assessment of voiding and scheduled voiding
  - Measures to prevent constipation: fiber, fluid, toileting schedule

Wolters Kluwer Health | Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

### Improving Mobility and Preventing Joint Deformities

- ❖ Turn and position in correct alignment every 2 hours
- ❖ Use of splints
- ❖ Passive or active ROM four or five times day
- ❖ Positioning of hands and fingers
- ❖ Prevention of flexion contractures
- ❖ Prevention of shoulder abduction
- ❖ Do not lift by flaccid shoulder
- ❖ Measures to prevent and treat shoulder problems

Wolters Kluwer Health | Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

### Improving Mobility and Preventing Joint Deformities

- ❖ Encourage patient to exercise unaffected side
- ❖ Establish regular exercise routine
- ❖ Quadriceps setting and gluteal exercises
- ❖ Assist patient out of bed as soon as possible; assess and help patient achieve balance; move slowly
- ❖ Ambulation training

Wolters Kluwer Health | Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

### Positioning to Prevent Shoulder Abduction



Copyright © 2014 Wolters Kluwer Health | Lippincott Williams & Wilkins

---

---

---

---

---

---

---

---

### Prone Positioning to Help Prevent Hip Flexion



Copyright © 2014 Wolters Kluwer Health | Lippincott Williams & Wilkins

---

---

---

---

---

---

---

---

### Interventions (cont'd)

- Nutrition
  - Consult with speech therapy or nutritional services
  - Have patient sit upright, preferably out of bed, to eat
  - Chin tuck or swallowing method
  - Use of thickened liquids or pureed diet
- Bowel and bladder control
  - Assessment of voiding and scheduled voiding
  - Measures to prevent constipation: fiber, fluid, toileting schedule
  - Bowel and bladder retraining

Copyright © 2014 Wolters Kluwer Health | Lippincott Williams & Wilkins

---

---

---

---

---

---

---

---

## Home Care and Education for the Patient Recovering from a Stroke

- ❖ Prevention of subsequent strokes, health promotion, and follow-up care; refer to Chart 62-6
- ❖ Prevention of and signs and symptoms of complications
- ❖ Medication education
- ❖ Safety measures
- ❖ Adaptive strategies and use of assistive devices for ADLs
- ❖ Nutrition: diet, swallowing techniques, tube feeding administration
- ❖ Elimination: bowel and bladder programs, catheter use
- ❖ Exercise and activities, recreation and diversion
- ❖ Socialization, support groups, and community resources

---

---

---

---

---

---

---

---

### Question #1

What is agnosia?

- A. Failure to recognize familiar objects perceived by the senses
- B. Inability to express oneself or to understand language
- C. Inability to perform previously learned purposeful motor acts on a voluntary basis
- D. Impaired ability to coordinate movement, often seen as a staggering gait or postural imbalance

 Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

### Answer to Question #1

- A. Failure to recognize familiar objects perceived by the senses

Rationale: Agnosia is failure to recognize familiar objects perceived by the senses. Aphasia is an inability to express oneself or to understand language. Apraxia is an inability to perform previously learned purposeful motor acts on a voluntary basis. Ataxia is an impaired ability to coordinate movement, often seen as a staggering gait or postural imbalance.

 Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

## Question #2

Is the following statement true or false?

Primary prevention is the best approach to avoiding hemorrhagic and ischemic stroke.

 Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

## Answer to Question #2

True

Rationale: Primary prevention is the best method to avoid hemorrhagic and ischemic stroke through management of modifiable risk factors including controlling hypertension, consuming alcohol in moderation, exercise, no smoking, and managing diabetes.

 Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

## Question #3

What intervention would not be included in aspiration precautions for a patient in the acute phase of a stroke?

- A. Referral to speech therapy
- B. Have patient tuck their chin toward the chest when swallowing
- C. Thickened fluids or pureed diet
- D. Raise HOB to 30 degrees when feeding

 Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---

---

---

---

---

---

---

---

### Question #3

What intervention would not be included in aspiration precautions for a patient in the acute phase of a stroke?

- A. Referral to speech therapy
- B. Have patient tuck their chin toward the chest when swallowing
- C. Thickened fluids or pureed diet
- D. Raise HOB to 30 degrees when feeding

 Wolters Kluwer

Copyright © 2022 Wolters Kluwer - All Rights Reserved

---



---



---



---



---



---



---

### Answer to Question #3

- D. Raise HOB to 30 degrees when feeding

Rationale: Interventions to prevent aspiration include a referral to speech therapy for swallowing evaluation; having the patient tuck the chin toward the chest when swallowing to close off the trachea, preventing aspiration into the lungs; providing thickened fluids or a pureed diet; and sitting the patient at a full upright position (90 degrees) when feeding or providing fluids. The patient's HOB should be elevated to 30 degrees at all times to prevent aspiration of secretions

---



---



---



---



---



---



---