MOGADİŞHU SOMALİ-TÜRKİYE RECEP TAYYİP ERDOGAN EGİTİM VE ARAŞTİRMA HASTANESİ

Nursing Best Practices in Acute Stroke Care

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STROKE

A stroke—also called a cerebrovascular accident (CVA) or a brain attack—is a reduction or an interruption of the flow of blood through an artery to one or more areas of the brain within the territory supplied by that artery. The end result is varying degrees of neurological and/or cognitive malfunction lasting longer than 24 hours.

Types of Stroke and Risk Factors

Ischemic Stroke – Occurs when a thrombus (blood clot) blocks blood supply to a cerebral artery which supplies oxygenated blood to the brain. *Major causes* include arterial thrombus, venous emboli that migrate, atrial fibrillation, arteritis, patent foramen ovale, left ventricular dysfunction, and refractory septic shock.

Hemorrhagic Stroke – Occurs when areas of the cerebral arterial system become weakened or thin due to acute or long-term episodes of hypertension. *These thin areas* of the vessel wall can either result in an outpouching of the arterial blood vessels (aneurysm) or they can rupture due to acute hypertension. Intracerebral hemorrhages are typically caused by a rupture of the vessels due to long-term atherosclerotic damage and arterial hypertension.

Transient Ischemic Attack (TIA) or “mini-stroke” occurs when there is a temporary occlusion or blockage of blood flow to the brain that disappears without any long-term effects. The symptoms mimic a stroke and may include slurred speech, visual changes, weakness in an extremity, or changes in level of consciousness (LOC).

Common Risk Factors for Stroke (Davis & Lockhart, 2016)

Nonmodifable

- Advanced age (older than 55 years)
- Gender (Male)
- Race (African American)

Modifable

- Hypertension
- Atrial fibrillation
- Hyperlipidemia
- Obesity
- Smoking
- Diabetes
- Asymptomatic carotid stenosis and valvular heart disease (eg, endocarditis, prosthetic heart valves)

Cardinal signs of stroke

- Facial droop
- Hemiparesis
- Unilateral extremity weakness
- Slurred speech

FAST

Table 3. Sample Face Arm Speech Test (FAST)[61]

Facial palsy affected side	Yes RT LT	No	Unknown
Arm weakness affected side	Yes RT LT	No	Unknown
Speech impairment	Yes	No	Unknown
Time of onset			

RT indicates right side; LT, left side.

The Role of Nurses in Stroke Care

- Central part of the interdisciplinary team
- Care coordination across the continuum
- Most direct contact with patients and caregivers
- Carry out interventions needed to manage treatment and monitor patients' responses
- Directly impact quality outcomes
- Implement best practices
- Contribute to prevention of stroke, related complications, and recurrent stroke

Strategies to Minimize Post-Procedure Complications:

- Ensure the patient remains NPO to prevent aspiration; a bedside swallowing assessment should be performed before allowing the patient to eat, drink or consume medications.
- *Keep the head of bed elevated at a minimum of 30 degrees unless contraindicated*. • Blood pressure management (Anderson, 2016):

- Avoid hypotension in patients with ischemic stroke to prevent further cerebral ischemia; correct hypotension and hypovolemia to maintain perfusion and organ function

Avoid hypertension in patients with hemorrhagic stroke to prevent expansion of intracranial bleeding.

- Avoid rapidly lowering BP which can lead to worsening ischemia.
- Do not lower the BP during the initial 24 hours of acute ischemic stroke unless BP > 220/120 mmHg.

Start or restart antihypertensive therapy during hospitalization in neurologically stable patients with BP > 140/90 mmHg to improve long-term BP control, unless contraindicated.

Hypertension is not routinely treated in patients with acute Ischemic Stroke unless SBP >220 or DBP >110 according to the AHA/American Stroke Association

Treatment for hypertension is recommended for tPA candidates and for the following limits: SBP >185, DBP >110.

Monitor the blood pressure closely if medications are administered because lowering a blood pressure too quickly can actually facilitate or extend a stroke.

Nutrition (Powers, et al., 2018)

- Start enteral diet within 7 days of admission after an acute stroke.
- Screen for dysphagia before the patient begins eating, drinking or receiving oral medications to identify risk for aspiration.
- o For patients with dysphagia, use nasogastric tubes for feeding in early phase of stroke (first 7 days); percutaneous gastrostomy tube may be needed if unable to swallow safely for longer than 2-3 weeks.

- Consider nutritional supplements for patients who are or at risk for malnourishment.
- Implement oral hygiene protocols to reduce the risk of pneumonia

Malnutrition

- Contributing factors
- Reported in 50% at 2-3 weeks after stroke
- Enteral feedings
- NG vs. PEG
- Monitoring
  - Daily weights (loss of >3 kg)
  - Intake and output
  - Blood counts

DVT/PE Prevention

- Higher risk in stroke
- Associated with increased mortality and morbidity
- Preventable!
- Major performance
- Early mobilization
- Enoxaparin 40 mg subQ daily
- Sequential compression devices
- Compression stockings

Bowel/Bladder Management

- Central aspect of stroke care
- Nursing assumes major responsibility of assessment and management
- Monitor I&O and recognize potential problems
- Risk for constipation
- Urinary retention
- Incontinence
- Patient and family education

Blood sugar

Maintain blood glucose in the range 100-150 …

- High glucose levels my inhibit oxygen carrying abilities of hemoglobin

Promoting Skin Integrity

- Risk for skin breakdown
- Skin assessment at least every 8 hours
- Use of an evidence-based assessment tool
- Turn and reposition at least every 2 hours
- Keep patients clean and dry
- Utilize products and tools for pressure reduction

Seizures

- Nurses are first responders
  - Remain with the patient
  - Apply O2; turn patient to side
  - Observe times, behaviors, autonomic signs
  - Notify physician and carry out orders

Depression Screening

- Associated with poorer quality of life and increased mortality
- Present in nearly 20% of stroke survivors
- Nurses may be first to notice symptoms
- Depression screening
- Risk for depression in family caregivers

REPORTABLE CONDITIONS

BP outside of ordered parameters

Neurological changes

Headache

Oral temperatures >99°

Pulse ox <94%

Seizure activity

Establishing an Exercise Program

Provide full range of motion four or five times a day to maintain joint mobility, regain motor control, prevent contractures in the paralyzed extremity, prevent further deterioration of the neuromuscular system, and
enhance circulation. If tightness occurs in any area, perform range of motion exercises more frequently

Exercise is helpful in preventing venous stasis, which may predispose the patient to thrombosis and pulmonary embolus

Supervise and support patient during exercises; plan frequent short periods of exercise, not longer periods; encourage patient to exercise unaffected side at intervals throughout the day.

Rehabilitation

The rehabilitation process can include some or all of the following :

- speech therapy to relearn talking and swallowing;
- occupational therapy to regain as much function dexterity in the arms and hands as possible;
- physical therapy to improve strength and walking; and
- family education to orient them in caring for their loved one at home and the challenges they will face

ACUTE-CARE PHYSICAL THERAPY INTERVENTIONS

- Positioning
- Range of motion exercises
- Sitting practice
- Breathing exercises
- Decubiti prevention measures
- Deconditioning prevention measures
- Transfer techniques
- Balance improvement measures
- Assistive device training
- Patient/family education
- Discharge planning

Stroke Education

Patient and family caregiver education

Staff education

Community education