I: Neurological/Neurosurgical
A Licensed Practical Nurse will:

I-1-1  Demonstrate knowledge and ability to apply critical thinking and critical inquiry throughout the nursing process in neurological nursing.

I-1-2  Demonstrate knowledge and understanding of anatomy, physiology and pathophysiology related to illness/trauma of the neurological system including:
- determinants of normal neurological function
- neurological impairment, shock
- neurological illness, trauma and surgery including:
  - brain and spinal tumors
  - carotid endarterectomy
  - Guillain-Barre syndrome
  - intracranial hemorrhage
  - increased intracranial pressure
  - meningitis
  - neurosurgery
  - seizures and epilepsy
  - stroke
  - transient ischemic attack
  - traumatic head injury
  - traumatic spinal cord injury

I-1-3  Demonstrate knowledge and ability to provide health teaching and coaching associated with neurological nursing.

I-1-4  Demonstrate knowledge and ability to communicate and collaborate with inter-professional team.
A Licensed Practical Nurse will:

I-2-1 **Demonstrate knowledge and ability to provide evidence informed, client centered care in relation to neurological nursing:**
- ensure and respect client choices in decision making
- assess, monitor and evaluate neurological vital signs:
  - cranial nerve assessment
  - motor assessment
  - sensory assessment
  - reflex assessment

I-2-2 **Demonstrate knowledge and ability to apply principles of pharmacokinetics and pharmacodynamics specific to medication management in neurological nursing.**

I-2-3 **Demonstrate knowledge and understanding of indications, contraindications and complications associated with neurological and related diagnostic tests and procedures including:**
- cerebral angiogram
- computerized tomography (CT)
- CT Angiogram
- electroencephalography (EEG)
- magnetic resonance angiography (MRA)
- magnetic resonance imaging (MRI)
- ultrasonogram (carotid Doppler, transcranial Doppler)
- X-ray
- electromyography (EMG)
- nerve conduction studies
- lumbar puncture
- myelography
- electrocardiography (ECG)
- echocardiogram
- transesophageal echocardiogram (TEE)
A Licensed Practical Nurse will:

**I-2-4** Demonstrate knowledge and ability to anticipate and recognize actual or potential immediate or urgent neurological crisis including:
- abnormal respirations
- bradycardia
- cardiac dysrhythmias
- decreased level of consciousness
- hypertension
- hyperthermia
- hypotension
- hypothermia
- tachycardia
- widening pulse pressure

**I-2-5** Demonstrate knowledge and ability to recognize signs and symptoms of a life threatening neurological event and implement interventions according to agency policy.
Major Competency Area: I
Neurological/Neurosurgical

Competency: I-3
Managing C-Spine

Date: June 1, 2015

A Licensed Practical Nurse will:

I-3-1 Demonstrate knowledge and ability to assess for spinal injury.

I-3-2 Demonstrate knowledge of best practices in cervical spine management and implementation according to agency policy.

I-3-3 Demonstrate knowledge of criteria for spinal immobilization and spinal precautions including:
- neck/back pain with or without nerve involvement
  - history of:
    - degenerative bone disease
    - falls
    - head, neck or facial trauma
    - motor vehicle crash
    - trauma with intoxication, altered mental status or unconsciousness

I-3-4 Demonstrate knowledge and ability to apply and maintain spinal precautions including:
- application, maintenance and removal of cervical collars (soft, rigid)
- assist to stabilize spine with manual and/or mechanical traction
- logrolling
- maintain proper spinal/body alignment
- transportation precautions
- use of spine board/slider board

I-3-5 Demonstrate knowledge and ability to provide nursing care and interventions specific to client with spinal injury including:
- motor power/sensation/neurovascular status
- skin care and institute protective measures
- wounds, drainage tubes
- nutrition/hydration/elimination
- intake and output balance
- casts, halo traction, thoracolumbosacral orthosis
- comfort measures and pain management
A Licensed Practical Nurse will:

**I-4-1** Demonstrate knowledge and ability to care for client requiring detailed observation and interventions according to agency policy.

**I-4-2** Demonstrate knowledge and ability to assist with and/or provide advanced neurological assessment, monitoring, care and interventions according to agency policy including:
- 12 and 15 lead ECG application and interpretation
- acid-base balance
- acute pain management
- advanced swallowing assessment
- arterial blood gas analysis
- arterial line monitoring
- cerebellar function testing
- chest assessment and physiotherapy
- cognitive functioning assessment
- cranial nerve assessment
- fluid and electrolyte imbalance monitoring
- lumbar drain monitoring
- pressure monitoring
  - central venous pressure monitoring
  - intra-arterial line monitoring
  - intra-cranial pressure monitoring
- spinal assessment
- ventricular and subdural drain monitoring

**I-4-3** Demonstrate knowledge and ability to communicate, consult and collaborate with inter-professional team.