

National Competency Framework
for Registered Nurses
in Adult Critical Care

Neurological

Speciality Competencies



Competence is defined throughout this document as:

‘The combination of skills, knowledge and attitudes, values and technical abilities that underpin safe and effective critical care nursing care and interventions’

Aims and Objectives

The aim of this document is to provide comprehensive addition to the Neurological Competencies in the National Competency Framework to cover those working in Specialist Neurological Centres.

It is anticipated that these competencies will form the next steps in your development and provide you with the knowledge and skills to:

- support the specialist nursing care required by the neurological patient
- understand the different needs of the neurologically injured patient
- understand the importance of involving other specialities and the team contribution to neurological care
- refer to or work alongside appropriate regional services for ongoing care

Assessment and Assessors

These competencies are intended to be used in addition to the Critical Care Network’s (CC3N) Step Competencies for nurses working in a critical care environment which provides care for patients with neurological injury or post neurological surgery. The CC3N Step One Competencies should be completed first as a pre-requisite with Specialist Neurological Competencies following these either before or after CC3N Step Two and Step Three competencies according to unit requirements.

While these are recommendations from the Critical Care Nurse Education Forum it is also acknowledged that clinical environments and staffing arrangements may vary from unit to unit. This may require adaptation to how this document is operationalized. It is strongly advocated that adaptations to use of this document are approved by Nursing Leads and Unit Managers within the speciality.

This document is designed to be included into the National Competency Framework for Registered Adult Critical Care Nurses. Competencies can be signed by an Assessor who has undertaken post registration critical care specialist training in the relevant speciality and has relevant experience and qualification as a mentor / assessor preferably with an educational qualification.

***NB:** The Specialist Neurological Competencies have some elements of repetition with Step 1 /2 and specialist trauma documents.

However for completeness of the competency statements they are included in this document. Any overlap is highlighted in **RED** (specialist trauma competency) or **PURPLE / BROWN** text to denote step 1 / 2.

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Learner Name	PRINT	SIGNATURE
Lead Assesor/Mentor Name	PRINT	SIGNATURE

Specialist Neurological Competencies: Tracker Sheet

Neurological Competencies	Date Achieved	Mentor/Assessors Signature
N1. Anatomy and Physiology		
N2. Assessment of the neurologically compromised patient		
N3. Care of the neurologically compromised patient		
N4. Care and management of the patient with Subarachnoid Haemorrhage (SAH) and Arteriovenous Malformation (AVM)		
N5. Care of the patient with raised Intra Cranial Pressure (ICP) including those with Traumatic Brain Injury (TBI)		
N6. Care of the patient with spinal injuries		
N7. Care of a patient post cerebral angiogram		
N8. Care of a patient post cranial surgery		
N9. Care and management of an extra ventricular drain (EVD)		
N10. Care of a patient with seizures		
N11. Care of a patient with Myasthenia Gravis		
N12. Care of a patient with Guillain-Barre syndrome		
N13. Care of patient following stroke		
N14. Caring for a patient with disorders of sodium balance		
N15. Care of a patient with a central nervous system (CNS) infection		
N16. Rehabilitation following neurological injury		

Brain Stem Death testing and Organ Donation competencies – see Step 3

Neurological Competencies

N1. Anatomy & Physiology

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Demonstrate knowledge of gross structure and functions of the Central Nervous System: <ul style="list-style-type: none"> o Lobes o Brain stem o Cerebellum o Meninges o Circle of Willis o Venous drainage o CSF pathway o Thalamus, Hypothalamus and Pituitary gland o Gross structures of the spinal cord o Blood brain barrier • Demonstrate knowledge of gross structure and functions of the Peripheral Nervous System including transmission of nerve impulses: <ul style="list-style-type: none"> o Cranial nerves o Afferent pathways o Efferent pathways o Autonomic nervous system, Sympathetic and parasympathetic o Gateway theory of pain perception (step 1's) o Reflex arc • Describe the Mechanisms for cerebral auto regulation including cerebral blood flow • Discuss intracranial pressure (ICP) state the normal parameters for ICP and cerebral perfusion pressures (CPP), explain the Monro-Kellie hypothesis • Describe the Structure and function: <ul style="list-style-type: none"> o Skull and facial bones o Vertebral column 	

N2. Assessment of the neurologically compromised patient

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Rationale for choice of neurological assessment tools: <ul style="list-style-type: none"> o Glasgow Coma Score (GCS) tool o Full outline of unresponsiveness score (FOUR score) • Explain the GCS and the significance of abnormal results • Scoring of eye opening response: <ul style="list-style-type: none"> o Correct method of assessment of eye opening to voice and painful stimulus o Correct type of painful stimulus to assess for eye opening • Scoring system for verbal response: <ul style="list-style-type: none"> o Correct method for assessing orientation and verbal response • Scoring system for motor response: <ul style="list-style-type: none"> o Use of correct method to apply painful stimulus when assessing limb response o Recording of best limb response from arms o Correct use of trapezius pinch o Contra indications to orbital pressure and sternal rub o Correctly identifies ability to obey commands localise, flexion, abnormal flexion, extension, no response 	

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N2. Assessment of the neurologically compromised patient continued

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Recommended frequency of GCS assessment and escalation of frequency • Limitations of GCS as an assessment tool • Intracranial and extracranial reasons for deteriorating GCS • Pupil assessment: <ul style="list-style-type: none"> o Correct method of assessing pupil response to light including direct and consensual light reflexes as an adjunct to GCS • Focal and general deficits: <ul style="list-style-type: none"> o Focal verbal deficit such as aphasia, receptive and expressive dysphasia o Comparing left to right focal deficits of limb power o Differentiating between normal power, mild weakness and severe weakness (including Medical Research Council scale if appropriate) o Awareness of visual deficits 	
<p>You must be able to undertake the following in a safe and professional manner:</p>	
<ul style="list-style-type: none"> • Accurately assess GCS and record findings applying the score as separate components • Identify deterioration in GCS level and seek appropriate advice and guidance • Intracranial and extracranial reasons for deteriorating GCS • Assesses for focal deficits such as cranial nerve palsies and how each one reflects patho-physiological changes: <ul style="list-style-type: none"> o Gag and swallow reflex, facial weakness o Corneal reflex o Pupil, eye gaze and eye closure changes that may reflect focal nerve palsy such as 3rd nerve palsy o Focal speech deficit - expressive and receptive dysphasia, aphasia and dysarthria o Focal changes in limb power using your local scale and demonstrates awareness of pronator drift • Identify the need for airway protection in a patient with a deteriorating GCS • Accurately assesses pupils and uses pupillometry (where able) 	

N3. Care of the neurologically compromised patient

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Define primary and secondary brain injury • Describe how to minimise secondary brain injury • Describe causes of raised ICP • Describe clinical features of raised ICP • Indications for ICP, PbtO2 monitoring, microdialysis (where available) • Indications for CT scanning • Importance of the following in caring for neurologically compromised patients: <ul style="list-style-type: none"> o Body temperature control o Blood glucose control, and nutrition o Blood pressure monitoring o Maintenance of accurate fluid balance o Maintenance of sodium balance o Venous Thromboembolism (VTE) prophylaxis (mechanical and pharmacological where appropriate) o Patient positioning o Aspiration pneumonia o Swallowing and feeding o Corneal abrasion o Communication o Falls prevention o Pressure ulcer prevention (specifically therapeutic hypothermia, vasopressor use, deep sedation) • Describe the clinical situations in which: <ul style="list-style-type: none"> o Further imaging of the brain may be required o Targeted temperature management may be used o Cerebral function monitoring / electroencephalography (EEG) would be used o Bispectral Index (BIS) monitoring may be required and the meaning of the BIS percentage figure (where available) 	
<p>You must be able to undertake the following in a safe and professional manner:</p>	
<ul style="list-style-type: none"> • Detect and report complications and risks to the neurologically compromised patient in relation to: <ul style="list-style-type: none"> o Haemodynamic instability o Cerebral perfusion not achieved against parameters set o Arterial blood gas parameters not met o Temperature regulation o Disorders of sodium balance • Safely record observations relating to a neurological compromised patient (in addition to GCS, limb and pupils responses): <ul style="list-style-type: none"> o HR o RR o End tidal CO2 o Arterial Blood Pressure o Arterial blood gas results o Body temperature o CVP o Fluid balance o Blood glucose • Where appropriate refers to support agencies for advice and support for patients, relatives and carers • Correctly set up BIS monitoring (or equivalent), and account for the Signal Quality Index (SQI) and Electromyography (EMG) displays and relate them to the reliability of the BIS recording (where available) 	

N4. Care and management of a patient with Subarachnoid Haemorrhage (SAH) and Arteriovenous Malformation (AVM)

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Describe the pathophysiology of spontaneous SAH • Recognises types and common sites of cerebral aneurysms • States causes and clinical features of SAH • Describe the investigations required to diagnose SAH • Describe the grading system for SAH severity, how this is reflected in the level of care the patient will require • The imaging and treatment options for a patient with SAH • The importance of blood pressure management and parameters in the pre and post treatment phases • Identifies nursing management strategies to prevent re-bleeding • The role, action and side effects of nimodipine • Explain the significance of fluid management for patients with SAH • Describe the role of External Ventricular Drain (EVD) as a treatment strategy for a patient with SAH • Discusses common complications associated with SAH: <ul style="list-style-type: none"> o Re-bleeding o Hydrocephalus o Cardiovascular instability o Delayed cerebral ischaemia, Delayed Neurological deficit, Vasospasm, Infarct o Disorders of sodium balance o Describes the pulmonary complications (including neurogenic pulmonary oedema) o Seizures o Pyrexia • Demonstrate a basic understanding of Hypertensive treatment strategy in the post treatment phase • Demonstrate an understanding of investigations and treatments of vasospasm <ul style="list-style-type: none"> o Interventional radiology o Medical management • Recognises the psychological impact of SAH on the patient and family and discusses management strategies • Discuss the pathophysiology of cerebral AVM, including ruptured AVM • Explain treatment options for a patient with an AVM • Describe importance of blood pressure management and parameters in the pre and post treatment phases for patients with an AVM 	
You must be able to undertake the following in a safe and professional manner:	
<ul style="list-style-type: none"> • Record neuro observations including limb observations (including pronator drift) and reports any changes in patient's condition • Management of an unsecured aneurysm: <ul style="list-style-type: none"> o Bed rest and position (head elevated) o Blood pressure control o VTE prophylaxis - mechanical only • Management of patient with a secured aneurysm: <ul style="list-style-type: none"> o Blood pressure control including hypertensive strategies where appropriate o VTE prophylaxis as per local policy • Describes common management principles: <ul style="list-style-type: none"> o Nimodipine o Bladder and bowel management o Analgesia and anti emetics o Seizure prophylaxis o Management of fluid balance o Identifies disorders of sodium balance and reports concerns • Provides appropriate patient education including importance of maintaining bed rest • Provides emotional support and reassurance • Observes craniotomy wound / angiography site for bleeding or inflammation and takes appropriate action 	

N5. Care of a patient with raised Intra Cranial Pressure (ICP) including those with Traumatic Brain Injury (TBI)

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Cerebral blood flow, venous drainage and auto regulation and how it may be affected by traumatic brain injuries • The concept of Intracranial Hypertension including the MAP- ICP-CPP relationship • Identifies indications for ICP monitoring • Describe normal ICP waveform, states normal values for ICP and CPP • Awareness of impact CPP on patient outcome • Describe factors that increase and decrease ICP • Discuss clinical features of raised ICP in intubated and sedated patient (see general signs care of the neurologically compromised patient): <ul style="list-style-type: none"> o Seizures o Pupils o Vital signs • Describe the rationale for PbtO₂, cerebral temperature monitoring and microdialysis (as per local policy) • States the rationale for possible therapeutic options: <ul style="list-style-type: none"> o analgesia, sedation, muscle relaxants, anti-epileptics o ventilation strategies (including CO₂ control, O₂ delivery) o patient positioning and secretion management o optimising CVS parameters o Glycaemic control o Management of sodium disorders o Targeted temperature management o Osmotic therapy and use of diuretics (administration and contraindications) o Barbiturate coma o Rationale for EVD as a treatment strategy in this patient group o Decompressive craniectomy 	
You must be able to undertake the following in a safe and professional manner:	
<ul style="list-style-type: none"> • Care and management of the patient with Intra Cranial Pressure (ICP) monitoring system • Zeroes arterial line at the Tragus for isolated TBI with ICP monitoring • Maintains appropriate level of sedation analgesia and neuromuscular blocking agents using BIS and peripheral nerve stimulator to maintain ICP and CPP within specified parameters (as local policy) • Observes for seizure activity • Management of the patient with raised ICP including: <ul style="list-style-type: none"> A) Management of Carbon Dioxide (PaCO₂) levels B) Management of Oxygen (PaO₂) levels C) Fluid management, Vasoactive drugs and haemodynamic parameters D) Glucose control E) Endotracheal Tube (ETT) securement F) Plans timing of nursing care with regard to trends in ICP G) Patient positioning H) Temperature management I) Monitors electrolytes and treats accordingly J) Monitors neurological observations and pupil reaction • Manages patients bowel function • Makes appropriate referral to specialist teams 	

N6. Care of a patient with spinal injuries

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Spinal and neurogenic shock and identify potential complications • The concepts involved in the American Spinal Injuries Association (ASIA) score • Local spinal cord management guidelines (including spinal clearance) and how to access specialist spinal nurse support • Spinal centre referral process • Potential complications of spinal cord injury and immobility <ul style="list-style-type: none"> o Potential for respiratory insufficiency and the reasons for this o Potential for developing paralytic ileus in spinal cord injury (SCI) o Psychological implications of spinal injury o Importance thromboembolic protection o Increased risk of mucosal ulceration and preventative measures o Need for emotional support and reassurance • Explains terminology - tetraplegia and paraplegia • Importance and principles of spinal alignment and positioning • Autonomic dysreflexia, pathophysiology, potential causes and treatment • Surgical and non-surgical methods of stabilisation • Knowledge of specialist weaning protocols for patients with SCI • Awareness of assessment, selection, sizing and placing/fitting of neck collars (demonstrate this in practice if supported by local policy) • Ensure the patient has accurately completed documentation regarding spinal clearance • Explain and perform (if appropriate) spinal assessment including: <ul style="list-style-type: none"> o Motor and sensory assessment o Documentation 	
You must be able to undertake the following in a safe and professional manner:	
<ul style="list-style-type: none"> • Care and management of the patient with a collar and neck/spinal immobilisation including awareness of safety issues e.g. not securing this to a trolley or bed, and skin care • Assisted movement (log rolling) of a patient with a (suspected or actual) spinal injury • Management of a patient with a (suspected or actual) spinal injury in regard to bowel management in accordance with neurogenic bowel management guidelines • Observation for complications such as autonomic dysreflexia (and take appropriate steps to avoid this) • Timely spinal clearance (as per Trust Policy) and act as patient advocate in preventing delayed spinal clearance • Observe for signs of respiratory distress: <ul style="list-style-type: none"> o Perform and record vital capacity • Observe for changes in cardiovascular status and report instability • Support respiratory weaning as directed by the multi-disciplinary team • Provide passive limb exercise and correct limb positioning to avoid contractions and/or spasticity • Assess patient for need of specialist beds and surfaces for positioning and pressure ulcer prevention as required • Provide psychological support and reassurance to the patient and carers, including awareness of specialist support • Ensure communication aids are available and facilitate communication for the patient 	

N7. Care of a patient post cerebral angiogram

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Describe rationale for cerebral angiography • Describe possible complications that can occur during/post procedure • Discuss the rationale for post procedure anticoagulation 	
You must be able to undertake the following in a safe and professional manner:	
<ul style="list-style-type: none"> • Aware of correct patient positioning post procedure – including time limits for limb movement/ mobilisation • Manage haemodynamic changes safely and keeps set parameters as requested by neuro radiologist/ surgeons • Observes arterial puncture site and accurately documents limb neuro vascular observations • Manages complications post procedure of puncture site 	

N8. Care of a patient post cranial surgery

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Identifies why cranial surgery may be required and the potential complications that may occur • Describes the difference between a craniotomy and a craniectomy • Demonstrates an understanding of complications specific to a post-fossa craniectomy • Describes why the transsphenoidal approach may be used and the need to observe the patient for <ul style="list-style-type: none"> o Rhinorrhoea o Excessive thirst o Increased diuresis o Visual acuity • Describes optimal patient positioning post-cranial surgery • Demonstrates a basic understanding of tumour types both benign and malignant • Describe the rationale for dexamethasone therapy and possible side effects 	
You must be able to undertake the following in a safe and professional manner:	
<ul style="list-style-type: none"> • Performs neurological observations and provides a rationale for the frequency • Demonstrates effective management of surgical wounds, wound drain and safe removal of drains • Observes the patient for seizure activity and take appropriate action 	

N9. Care and management of External Ventricular Drain (EVD)

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Principles and common causes of hydrocephalus • Identify indications for EVD • How EVD works to regulate CSF pressure (as per local drainage device) • Priorities of care of a patient with external CSF drainage including: <ul style="list-style-type: none"> o Potential risks o Under drainage o Over drainage o Blockage o Sudden change in colour or volume o Disconnection o Unplanned removal o Infection • Awareness of local policy with regard to obtaining CSF sampling and intra ventricular antibiotic insertion 	
<p>You must be able to undertake the following in a safe and professional manner:</p>	
<ul style="list-style-type: none"> • Care of external ventricular drain: <ul style="list-style-type: none"> o Labelling (as per local policy) o Levelling o Check patency and escalates appropriately o Measurement of volume and drainage o Safe management of drain during repositioning, transfer and pulmonary management and physiotherapy o Changing drainage bag • Transduces EVD on to the monitor (as per local policy) • Observes the EVD insertion site for common complications and discusses findings • Accurately documents CSF drainage measurement, obtains any sample results and demonstrate understanding of significance of abnormal values 	

N10. Care of a patient with seizures

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Discusses the causes of seizures (intra and extra cranial) • Seizure types • Generalised seizure activity • Focal seizure activity • Non-convulsive seizures • Status Epilepticus • Discuss monitoring and treatment options to manage seizures and status epilepticus • Intermittent or continuous Electroencephalography (EEG) • Describes common anticonvulsant therapy (indications, contra indications and side effects) • Loading and maintenance doses for anticonvulsant therapies • Therapeutic level monitoring 	
<p>You must be able to undertake the following in a safe and professional manner:</p>	
<ul style="list-style-type: none"> • Maintain a safe environment during seizure activity • Document seizure activity accurately • Administer anticonvulsant medication as prescribed • Recognises the potential for sub clinical seizure activity and reports concerns 	

N11. Care of a patient with Myasthenia Gravis

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Describe physiology of the neuromuscular junction, explain how it is affected in Myasthenia Gravis (MG) • Identify which nerves are affected in MG, discuss how the affected nerves will result in a clinical sign • Discuss treatments for MG: <ul style="list-style-type: none"> o Steroids o Anticholinergic drugs o Thymectomy • Demonstrate awareness on drugs contraindicated for patients with MG • Awareness of the importance of administering medication on time 	
<p>You must be able to undertake the following in a safe and professional manner:</p>	
<ul style="list-style-type: none"> • Awareness of the risk of deterioration in Respiratory function in MG: <ul style="list-style-type: none"> o Assess a patient with appropriate frequency using vital capacity as an assessment tool o Recognise that intubation and/ or early tracheostomy may be required and assist as appropriate • Demonstrate holistic care for the MG patient in critical care: <ul style="list-style-type: none"> o Provide psychological care and support o Work collaboratively with the MDT o Effectively manage weaning from ventilation o Consider the effects of fatigue and how that might impact recovery 	

N12. Care of a patient with Guillain-Barré syndrome

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Describe how the peripheral nerve and cranial nerve pathways are affected in GBS • Explain the pathophysiology of demyelination in Guillain-Barré syndrome (GBS) • Discuss treatments for GBS: <ul style="list-style-type: none"> o Intravenous immunoglobulin (IVIg) o Plasma Exchange • Specific pain management issues in GBS in relation to demyelination of nerves and neuropathic pain • Knowledge of the effect of GBS on the autonomic nervous system including cardiovascular manifestations <ul style="list-style-type: none"> o Vagus nerve stimulation o Blood pressure fluctuations o Cardiac arrhythmias o Asystolic events 	
<p>You must be able to undertake the following in a safe and professional manner:</p>	
<ul style="list-style-type: none"> • Aware of the risks of respiratory failure in the spontaneously ventilating patient: <ul style="list-style-type: none"> o Assess a patient with appropriate frequency using vital capacity as an assessment tool o Recognise that intubation and/ or early tracheostomy may be required and assist as appropriate 	

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N12. Care of a patient with Guillain-Barré syndrome continued

You must be able to undertake the following in a safe and professional manner:	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Manages pain with pharmacological and non-pharmacological methods (such as patient positioning) • Demonstrate how to care for a patient having episodes of cardiovascular instability • Identify and discuss the effects of drugs which may be used during such episodes (e.g. glycopyrrolate, atropine) • Demonstrate holistic care for the GBS patient in critical care: <ul style="list-style-type: none"> o Provide psychological care and support o Utilise appropriate aids to communication o Work collaboratively with the MDT o Awareness of the importance of limb splinting under the guidance of Physiotherapist/ Occupational Therapist. o Monitor and optimise sleep o Effectively manage weaning from ventilation o Consider the importance of individual patient's needs and wishes when planning daily routine 	

N13. Care of a patient following a stroke

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Identify and outline the national and local guidance on the care of stroke patients • Differentiates between thrombus and haemorrhagic strokes • Incidence and classification of stroke - Total anterior circulation stroke (TACS), Partial anterior circulation syndrome (PACS), Lacuna syndrome (LACS), Posterior circulation syndrome (POCS), Intra cerebral haemorrhage (ICH) • Pathophysiology and clinical symptoms associated with <ul style="list-style-type: none"> o TACS o PACS o LACS o POCS o ICH • Difference between stroke and transient ischaemic attack (TIA) • Lifestyle, previous medical history and co-morbidities associated with increased risk of stroke. Ways of reducing these risks • Assessment of patients (Modified Rankin Scale, National Institutes of Health Stroke Scale NIHSS) and blood tests required on admission • How to use the Face Arms Speech Time (FAST) tool • What is meant by FAST positive • Observations frequency, interventions and rationale for each • Use of strict blood pressure control in stroke patients, benefits and potential complications if uncontrolled • Medications commonly used for BP control in stroke patients • Thrombolysis: <ul style="list-style-type: none"> o Criteria for patients suitable for thrombolysis (door-to-needle time) o Exclusion criteria for thrombolysis, potential complications and side-effects of the treatment • Post-thrombolysis monitoring considerations: <ul style="list-style-type: none"> o Role of CT scanning in stroke o Thrombectomy: <ul style="list-style-type: none"> o Criteria for patients suitable for mechanical thrombectomy o Use of mechanical thrombectomy in stroke (door-to-groin puncture time) and possible complications and side-effects of the treatment o Post-thrombectomy monitoring considerations 	

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N13. Care of a patient following a stroke continued

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Care following stroke: <ul style="list-style-type: none"> o Actions if presence of <ul style="list-style-type: none"> - Hypertension - Hypotension - Pyrexia - Acute changes in neurology - Hyperglycaemia - Hypoglycaemia - Haemorrhage o Observation frequency following treatment o Considerations for oral nutrition and hydration o Malignant Middle Cerebral Artery (MCA) syndrome: <ul style="list-style-type: none"> - Pathophysiology - Signs and symptoms - Actions on detection o Anticoagulant use in post-stroke patients and patients at risk of stroke; indications, contraindications • Understanding and use of Sentinel Stroke National Audit Programme (SSNAP) • Rehabilitation following stroke; types and available resources 	
<p>You must be able to undertake the following in a safe and professional manner:</p>	
<ul style="list-style-type: none"> • Rapid identification and management of patients showing the symptoms of stroke • Appropriate observations and frequency with timely interventions, at all stages of treatment for stroke • Appropriate blood pressure management continuously • Appropriate escalation of concerns regarding clinical symptoms of the stroke patient 	

N14 . Caring for a patient with disorders of sodium balance

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Discuss the causes of hypernatraemia in the neuro patient <ul style="list-style-type: none"> o Diabetes insipidus (DI) o Dehydration • List the signs and symptoms of DI in relation to urine output, urine specific gravity, urinary sodium, urine and serum osmolality • Discuss the causes of hyponatraemia in the neuro patient <ul style="list-style-type: none"> o Syndrome of inappropriate antidiuretic hormone (SIADH) o Cerebral salt wasting (CSW) • Compare the signs and symptoms of SIADH and CSW in relation to volume status, urine output, urine specific gravity, urinary sodium and urine and serum osmolality. • State which observations and investigations are required for a patient with abnormal sodium level 	
You must be able to undertake the following in a safe and professional manner:	
<ul style="list-style-type: none"> • Detect and report abnormal sodium levels • Initiate appropriate investigations to assist with diagnosis: <ul style="list-style-type: none"> o Urine specific gravity o Urine and Serum sodium levels and osmolality • Demonstrate appropriate monitoring of a patient with sodium disorder: <ul style="list-style-type: none"> o Fluid balance o Vital signs o Urine and Serum sodium levels and osmolality o GCS • Safely administer prescribed treatment consistent with treatment regime for hyper/hyponatraemia and monitor response: <ul style="list-style-type: none"> o IV/ NG fluids and DDAVP as prescribed for DI o Fluid restriction for SIADH o Sodium and water replacement for CSW (including hypertonic saline) 	

N15 . Care of a patient with a Central Nervous System infection

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • The types of meningitis and common organisms that cause it • Investigations required to diagnose meningitis • The types of and causes of encephalitis: <ul style="list-style-type: none"> o Infective o Autoimmune o Other • Investigations required to diagnose encephalitis • Recognises the impact of long recovery from encephalitis on the patient and family and discusses management strategies • Recognises the impact of potential behavioural changes on the patient and family and discusses psychological support strategies 	
You must be able to undertake the following in a safe and professional manner:	
<ul style="list-style-type: none"> • Provide safe care and effective care for a patient with meningitis: <ul style="list-style-type: none"> o Appropriate infection control precautions o Antibiotic administration and monitoring of infection markers o Preparation and assistance with investigations o Monitor GCS and recognise the potential for hydrocephalus and cerebral oedema • Provide safe care and effective care for a patient with encephalitis: <ul style="list-style-type: none"> o Preparation and assistance with investigations o Monitoring and management of seizure and paroxysmal neurological events o Support and carry out rehabilitation in collaboration with the therapists (splinting , mobilisation) o Considers the patient's psychosocial and spiritual needs o Provide emotional support and reassurance 	

N16. Rehabilitation following neurological injury

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Demonstrate an awareness of the relevant national guidance and policies and procedures relating to the Rehabilitation needs of Neuromedical/surgical patients • Demonstrate an understanding of the physical complications patients can suffer post critical care discharge <p>Chair/Seating:</p> <ul style="list-style-type: none"> • Describes which types of chair meet different patient needs <p>Tone Management:</p> <ul style="list-style-type: none"> • Show effective understanding of the pathophysiology that causes abnormal tonal problems and differentiate between hypertonicity and spasticity • List the factors that influence a person's muscle tone • Describe the different adjuncts that can be used to help manage a person's abnormal tone <p>Pharmacological Management:</p> <ul style="list-style-type: none"> • Describe the effects of botulinum toxin (bo-tox) on the nervous system and how it works to decrease muscle tone, showing awareness of the risks posed by it and what management should be in place to maximise its efficacy • Describe the effects and usage of the following drugs in the management of spasticity and neuropathic pain: <ul style="list-style-type: none"> o Baclofen o Gabapentin o Pregabalin o Tizanidine Hydrochloride o Amitriptyline Hydrochloride <p>Splinting:</p> <ul style="list-style-type: none"> • Explains the rationale for use of different upper and lower limb splints <p>Communication:</p> <ul style="list-style-type: none"> • Be able to describe common communication difficulties in patients with neurological conditions and why they occur • Demonstrate the ability to identify and manage barriers to communication, e.g. monitoring the effectiveness of your communication, changing how you communicate or simplifying the content of your communication • To describe the different forms of cueing (verbal, visual, auditory, cognitive, gestures, biofeedback, tactile) <p>Swallow:</p> <ul style="list-style-type: none"> • Explain the importance of adequate nutrition with regards to rehabilitation • Discuss the issues with regards to swallowing following a brain injury • Identify methods of diagnosing dysphagia: <ul style="list-style-type: none"> o Bedside assessment o Videofluoroscopy o Fiberoptic endoscopic evaluation of swallowing (FEES) o Barium swallow test • Describes treatment options for dysphagia <p>Cognition:</p> <ul style="list-style-type: none"> • To demonstrate an understanding of the following components of cognition and describe how they impact on function: <ul style="list-style-type: none"> o Attention o Memory o Orientation o Concentration o Language o Insight/awareness o Problem solving o Perception • Demonstrates an understanding of the reasons critically ill patients may develop delirium 	

Continued on next page

N16. Rehabilitation following neurological injury continued

You must be able to demonstrate through discussion essential knowledge of (and its application to your supervised practice):	Competency Fully Achieved Date/Sign
<ul style="list-style-type: none"> • Describes the reasons critically ill patients may develop cognitive issues • Discusses appropriate use of delirium screening tool and a psychological assessment tool • Demonstrate an understanding of how the following can impact on a patient's cognitive function: <ul style="list-style-type: none"> o Medication o Sedation o Sleep/wake cycle o Neurological condition- acute and/or chronic- e.g. Stroke o Medical condition- acute and/or chronic o Fatigue o Delirium o Psychological/emotional state <p>Psychological Management:</p> <ul style="list-style-type: none"> • Demonstrate an understanding of the non-physical complications patients can suffer post critical care discharge. E.g. Post ICU Syndrome • Demonstrate an understanding of patient diaries and be able to discuss the benefit and record in patient diaries appropriately 	
<p>You must be able to undertake the following in a safe and professional manner:</p>	
<ul style="list-style-type: none"> • Appropriately liaises with the MDT eg, physiotherapists, Occupational Therapists in regard to rehabilitation plan • Identifies when a patient is ready to mobilise or commence a rehabilitation programme • Demonstrate the ability to gain a subjective history (where able) from the patient and/or family to identify: <ul style="list-style-type: none"> o Previous level of physical and cognitive function o Identify patient's interests, likes and dislikes • Demonstrate safety precautions before mobilising a patient: <ul style="list-style-type: none"> o Check observation chart o Assess upper and lower limb mobility o Assess upper and lower limb strength o Assess upper and lower limb tone o Assess overall mobility in bed o Observe for dizziness o Ensure appropriate footwear o Check area for obstructions, water on floor, wires etc. o Consider oxygen dependence • Demonstrate how to choose an appropriate transfer method based on assessment • Demonstrate how to safely and effectively mobilise a patient from lying to sitting over the edge of the bed • Demonstrate how to safely and effectively mobilise a patient from bed to chair and back again based on assessment • Demonstrate the ability to carry out passive exercises and recognise the importance of these • Monitors the patient throughout the process including postural changes • To be able to safely apply different splints currently used in your clinical area • Appropriately refers patients to Speech and Language Team • Demonstrate appropriate use of cueing in practice • Completes delirium screening / psychological assessment tools present as per local policy 	

Initial Assessment & Development Plan

Date | | |

This meeting between Learner and Lead Assessor should take place during induction. It is to identify the needs of the nurse and those competencies that should be attained within the first 3 months of commencing the competency development programme.

CURRENT CRITICAL CARE KNOWLEDGE, UNDERSTANDING AND SKILLS

COMPETENCIES TO BE ACHIEVED

SPECIFIC SUPPORTIVE STRATEGIES REQUIRED

Learners Signature:

Lead Assessors / Practice Educators Signature:

NEXT AGREED MEETING DATE: | | |

Ongoing Assessment & Development Plan

Date | | |

This meeting between Learner and Lead Assessor is to identify the progress made by the nurse in achieving competence in practice against those competencies identified in the initial/previous meetings. It is here further objectives will be set. Ongoing assessments should take place at least every 3 months. If the learner requires additional support a further action plan can be completed.

REVIEW OF COMPETENCIES ACHIEVED

ON TARGET: YES NO

IF NOT WHICH COMPETENCIES HAVE YET TO BE MET

REASONS FOR NOT ACHIEVING

SPECIFIC OBJECTIVES TO ACHIEVE COMPETENCE

KEY AREAS & ADDITIONAL COMPETENCIES TO BE ACHIEVED BEFORE NEXT MEETING

Learners Signature:

Lead Assessors / Practice Educators Signature:

NEXT AGREED MEETING DATE: | | |

Additional Action Planning

Date | | |

This document is to be completed as required to set SMART objectives for the learner who requires additional support to achieve certain competencies (these will have been identified during the 3 monthly On-going Assessment & Development Plan).

AREAS FOR FURTHER ACTION PLANNING

Lined area for writing action planning notes.

Learners Signature:

Lead Assessors / Practice Educators Signature:

NEXT AGREED MEETING DATE: | | |

Final Competency Assessment

Date | | |

This meeting is to identify that all the competencies have been achieved and that the nurse is considered a safe competent practitioner

COMPETENCY STATEMENT:

The nurse has been assessed against the competencies within this document and measured against the definition of competence below by critical care colleagues, mentors and assessors and is considered a competent safe practitioner within the critical care environment:

"The combination of skills, knowledge and attitudes, values and technical abilities that underpin safe and effective critical care nursing care and interventions".

As part of quality assurance, the nurse is expected to maintain a portfolio of practice as part of NMC regulations to support on-going competence and declare any training development needs to their line manager or appropriated other.

Competency will be reviewed annually as part of staff personal development plans. Where necessary, objectives will be set to further develop any emerging competency required to work safely within the critical care environment.

LEAD ASSESSORS COMMENTS

Lined area for lead assessors' comments.

LEARNERS COMMENTS

Lined area for learners' comments.

Learners Signature:

Lead Assessors / Practice Educators Signature:

NEXT AGREED MEETING DATE: | | |

Annual Competency Review

Date | | |

This record is a statement between the nurse who has completed their Neurological competencies successfully and their Assessor /Practice Educator and/or Appraiser. It should be used and reviewed alongside local appraisal systems annually to ensure that the nurse continues to demonstrate themselves as a safe competent critical care practitioner.

OVERALL COMPETENCY MAINTAINED YES NO

IF NOT WHICH COMPETENCIES REQUIRE FURTHER DEVELOPMENT

SPECIFIC OBJECTIVES TO ACHIEVE COMPETENCE

FURTHER COMMENTS

Learners signature:

Lead Assessors / Practice Educators Signature:

NEXT AGREED MEETING DATE: | | |

NMC Revalidation Checklist

Date | | | (Please add date to the Assessment Record Summary)

Revalidation is a continuous process that nurses need to engage with throughout their career. It is not a point in time activity or assessment; however, you will need to be able to provide evidence of achievement against the NMC requirements. This document should be completed as part of your local appraisal.

EVIDENCE OF COMPLETING 450 PRACTICE HOURS IN CRITICAL CARE YES NO

LIST EVIDENCE PRODUCED BELOW

EVIDENCE OF COMPLETING 40 HOURS CONTINUOUS PROFESSIONAL DEVELOPMENT (CPD) YES NO

(20 HOURS NEED TO BE PARTICIPATORY LEARNING, LIST EVIDENCE PRODUCED BELOW)

EVIDENCE OF REFLECTING ON CPD YES NO

LIST EVIDENCE PRODUCED BELOW

EVIDENCE OF APPROPRIATE PROFESSIONAL INDEMNITY ARRANGEMENTS YES NO

LIST EVIDENCE PRODUCED BELOW

NMC Revalidation Checklist continued

3rd PARTY CONFIRMATION

LEARNERS NAME

LEARNERS PIN

CONFIRMERS NAME

CONFIRMERS JOB TITLE

CONFIRMERS PIN

CONFIRMERS EMAIL ADDRESS

Reflective Accounts to inform NMC Revalidation

You are required to record a minimum of five written reflections on the NMC Code and your Continuous Professional Development as well as gaining practice-related feedback, as outlined in 'How to revalidate with the NMC'.

You are advised to complete the following documents during your critical care development to inform your NMC Revalidation, you are required to discuss these reflections with your Mentor/Lead Assessor/ Mentor and/or Practice Educator at your on-going assessment reviews, your final assessment and/ or your annual progress review as part of your local appraisal process. Once you have discussed these reflections your Mentor/Lead Assessor/Mentor and/or Practice Educator will need to complete the relevant 'Professional Development Discussions' (PDD) documentation to provide evidence of this.

Reflective Account

Date | |

Please fill in a page for each of your reflections, ensuring you do not include any information that might identify a specific patient or service user. You must discuss these reflections as part of a professional development discussion (PDD) with another NMC registrant who will need to complete the PDD document to provide evidence of this taking place.

WHAT WAS THE NATURE OF THE CPD ACTIVITY/ PRACTICE-RELATED FEEDBACK?

WHAT DID YOU LEARN FROM THE CPD ACTIVITY AND/OR FEEDBACK?

HOW DID YOU CHANGE OR IMPROVE YOUR WORK AS A RESULT?

HOW IS THIS RELEVANT TO THE CODE?

(Select a theme, Prioritise people - Practice effectively - Preserve safety - Promote professionalism and trust)

Learners Signature:

Professional Development Discussion (PDD)

Date | | |

You are required to have a PDD with another NMC registrant covering your written reflections on the Code, your CPD and practice-related feedback. This form should be completed by the registrant (Mentor/Lead Assessor and/or Practice Educator) with whom you have had the discussion.

NAME NMC PIN

EMAIL ADDRESS

PROFESSIONAL ADDRESS (INCLUDING POSTCODE)

NAME OF REGISTRANT (WITH WHOM YOU HAD A PDD DISCUSSION)

NMC PIN OF REGISTRANT (WITH WHOM YOU HAD A PDD DISCUSSION)

NUMBER OF REFLECTIONS DISCUSSED:

DECLARATION: I CONFIRM THAT I HAVE DISCUSSED THE NUMBER OF REFLECTIVE ACCOUNTS LISTED ABOVE, WITH THE ABOVE NAMED REGISTRANT, AS PART OF A PDD

Signature:

Abbreviations

ASIA	American Spinal Injuries Association
AVM	Arteriovenous Malformation
BIS	Bispectral Index
CNS	Central Nervous System
CPP	Cerebral Perfusion Pressure
CSF	Cerebrospinal Fluid
CSW	Cerebral Salt Wasting
CT	Computerised Tomography
CVP	Central Venous Pressure
CVS	Cardio Vascular System
DDAVP	Desmopressin
DI	Diabetes Insipidus
EEG	Electroencephalograph
EMG	Electromyography
ETT	Endotracheal Tube
EVD	Extra Ventricular Drain
FAST	Face Arms Speech Time
FEES	Fibre optic Endoscopic Assessment of Swallowing
FOUR	Full Outline of Unresponsiveness
GBS	Guillain-Barre Syndrome
GCS	Glasgow Coma Scale
ICH	Intra Cerebral Haemorrhage
ICP	Intra Cranial Pressure
LACS	Lacuna Syndrome
MAP	Mean Arterial Pressure
MCA	Middle Cerebral Artery
MDT	Multi-disciplinary Team
MG	Myasthenia Gravis
NIHSS	National Institutes of Health Stroke Scales
PACS	Partial Anterior Circulation Syndrome
POCS	Posterior Circulation Syndrome
SAH	Subarachnoid Haemorrhage
SCI	Spinal Cord Injury
SIADH	Syndrome of inappropriate antidiuretic hormone
SQI	Signal Quality Index
SSNAP	Sentinel Stroke National Audit Programme
TACS	Total Anterior Circulation Stroke
TBI	Traumatic Brain Injury
TIA	Transient Ischaemic Attack
VTE	Venous Thromboembolism

Websites

<https://www.braintrauma.org>

<https://www.mascip.co.uk>

<http://asia-spinalinjury.org>

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