

Common Diagnoses and Assessment Considerations

Quick Reference for the New to Neuro or Neuro Care Unit Nurse

This tool was created to provide a quick overview for nurses unfamiliar with common diagnoses and related patient assessment considerations. It is not comprehensive and does not replace institutional requirements.

Time is brain. The nurse has an important role in rapid recognition of neurologic change and protecting patients from secondary injury. A general neuro assessment which includes LOC, mentation, speech, movement, and pupils is the first step in keeping your patient safe. Timing of the exams will differ depending on risk and should be discussed with the team. Once the diagnosis is known additional testing and an exam specific to the diagnosis should be included.

COMMON DIAGNOSES	ASSESSMENT CONSIDERATIONS
ACD Anterior Cervical Discectomy	Anterior approach surgery used to remove one or more vertebral discs. A graft may be used to stabilize the area. Assess for airway, check for subtle weakness or acute change in motor or sensory exam, monitor bowel, and bladder function- Swallow screen is recommended given approach.
Acoustic Neuroma	Tumor in area of cranial nerve VIII (Acoustic) resulting in hearing loss. If tumor is larger other cranial nerve involvement may be present resulting in vertigo, dizziness, nausea/ vomiting – Assess lower cranial nerves, may be unable to close lower eyelid CN (7), chew (CN5).
Brain Tumor (General)	<p>Risk for Signs and symptoms of increased intracranial pressure:</p> <p>Risk for seizure – check if anti-epileptic medications are needed</p> <ul style="list-style-type: none"> • General considerations: headache, nausea, vomiting, lethargy or agitation, incontinence, pupil changes, loss of upward gaze, gait disturbance <p>Focus on location of lesion:</p> <p>Frontal / Parietal – Behavior like concentration, reasoning, abstract thought, speech/ non-fluent aphasia (problems expressing themselves understands spatial/visual field cut issues, motor, or sensory symptoms)</p> <p>Temporal – Speech/fluent aphasia, (can verbalize but little understanding spoken word (like commands, questions), behavior)</p> <p>Occipital – visual fields</p> <p>Brain Stem – Cranial nerves 3-12 depending on location. Assess LOC. consciousness, speech /dysarthria/articulation issues, swallow difficulty, difficulty with secretions, respiratory pattern, coordination, vertigo, dizziness</p>
Cerebellar Tumor	<p>Risk of rapid deterioration neurologic or respiratory deterioration due to risk of edema and compression of vital structures:</p> <p>Assess for signs and symptoms of increased ICP (LOC, pupil change, change in motor movement) Also assess- Swallowing and lower cranial nerves, speech ,coordination ie.,(finger to nose. heel to shin testing) balance (safety assessment beneficial)</p>
Colloid Cyst/ Endoscopic Third Ventriculostomy	Benign brain lesions that occur in 3rd ventricle impeding spinal fluid flow causing hydrocephalus/increased ICP. Assess for signs and symptoms of Increased ICP – LOC, appropriate behavior, pupil change, motor weakness

Laminectomy/ Microdiscectomy	<p>Laminectomy Surgical decompression and removal of all or a portion of the posterior vertebral arch of the spinal canal at cervical, thoracic, or lumbar levels.</p> <p>Microdiscectomy minimal access microscopic procedure usually < than 24 hours inpatient recovery time.</p> <p>Post procedure: Compare exam with pre-op findings, Assess for acute changes. especially, the presence of any numbness, tingling or change in sensation, or movement. General nursing; Monitor bowel and bladder function & pain. HOB, brace wearing, and mobilization depend on procedure and stabilization. Orders should guide mobility plan. Anterior abdominal approaches: monitor gastric motility.</p>
Myasthenia Gravis	<p>Autoimmune chronic disease that disrupts the neuromuscular junction resulting in increasing muscle weakness with repetitive movement and fatigue. Assess for worsening symptoms on exam; Ptosis (eye lid droop, EOM's), respiratory effort (PFT tests by respiratory), movement, secretion management, voice & cough quality, swallow testing. Note fatigue level or increasing weakness on repetition of commands. If giving anticholinesterase drugs you may be asked to perform exam before drug & exam at peak dose (2 hours) to help evaluate drug effectiveness. These drugs are given on time.</p>
Normal Pressure Hydrocephalus	<p>Condition resulting in excess CSF in ventricles with normal ventricular pressures. Assess for Classic triad – Gait disturbances, urinary incontinence, confusion/delirium. Safety assessment beneficial</p>
Parkinson Disease	<p>Neurodegenerative disorder. Assess for the degree of bradykinesia and/or rigidity, tremor, swallow quality, cognition, facial expression, dysphonia, gait &, balance fall risk, incontinence. Assessment of and strict adherence to prescribed treatments is a priority. Example: medication administration times, response to drug and drug interactions.</p>
Pituitary Conditions	<p>Stroke, tumor, or trauma may impact the pituitary gland or the neuroendocrine system (i.e. hypothalamus). Tumors may be neuroendocrine secretory or non-secreting. They may be managed medically or surgically, depending on etiology and presentation. Some patients may require hormone replacement and will rely on it for homeostasis. Common findings can include concurrent Cushing's disease, Addison's disease, Diabetes insipidus, or Syndrome of inappropriate antidiuretic hormone.</p> <p>Assessment: visual fields for field cuts, special attention to the timing of ordered lab draws. Monitor I&O for "unexpected" increased or decreased urine output.</p> <p>Caution: pituitary apoplexy is an emergency. This is hemorrhage or infarction in the pituitary. Signs and symptoms include: headache, neurologic decline, vision loss (Ryan & Doris, 2019).</p>
Deep Brain Stimulation	<p>Deep Brain Stimulation for Parkinson's Surgical procedure- implanting leads. Assess exam for dysarthria, confusion, agitation, limb weakness, seizure.</p>
Guillain Barre	<p>Post infectious polyneuropathy</p> <p>Different variants are possible. Common variants are bulbar weakness only or the more common ascending or descending weakness. <i>Care varies in each stage.</i></p> <p>Acute demyelination stage. Assess for symmetrical sensory changes in glove/stocking pattern progressing to extremity weakness and involving respiratory muscles. This may include hemodynamic /autonomic dysfunction. Different variants may affect only cranial nerves, bulbar areas. Respiratory therapist evaluation and respiratory mechanics.</p> <p>Plateau stage. deterioration stops, exam stable, decrease intervals of exam, assess pain, anxiety, and sleep. General care should include Pain and anxiety (loss of control) management, promotion of sleep. Able to mobilize in plateau stage.</p> <p>Recovery. remyelination with slow return of function possible, reported increases in pain</p>
Posterior Fossa Craniotomy/ Craniectomy	<p>Surgical procedure to access the brainstem & cerebellum regions.</p> <p>Craniotomy: Bone is removed for procedure & replaced on surgical closing.</p> <p>Craniectomy: Bone is removed for procedure & not replaced leaving the area unprotected. Requires patient positioning to avoid pressure on the back of head</p> <p>Assessment: Speech (dysarthria), swallow difficulty/screen, secretion management, respiratory pattern, coordination (finger to nose, heel to shin) vertigo, dizziness. Location may carry increased risk of post-op infection/ CSF leak.</p>

Spinal Cord Injury / Spinal Cord Tumor (General)

General assessment – injury to spine that requires an assessment of motor and sensory innervation at spinal levels. Time intervals of exam are determined by severity or interventions. Changes to exam are reported immediately. Interventions differ depending on reason for injury.
Focus exam – varies based on mechanism / location of injury & risk of secondary injury from edema

General nursing:

Respiratory assessment – mechanics and clearance

T12 & above – can affect breathing and secretion clearance. Respiratory therapy consults.

Hemodynamic instability – Assess vital signs within the knowledge of a patient’s baseline. Injuries above T6 may interrupt sympathetic outflow causing hypotension/bradycardia

Orthostatic hypotension assessment – lying, sitting, standing HR & BP. Monitor volume status – total body balance.

Mobilization – Orders drive mobilization decisions. Stabilization of area with or without devices or braces and hemodynamic tolerance determines plan.

Skin assessment – prevent breakdown, check brace fit, pressure points.

Bowel and bladder function – Bladder scanning to evaluate emptying. Residual may be needed

Traumatic Brain Injury/ Closed head injury

Examine is based on mechanism/location of initial injury & risk of secondary injury
 Glasgow Coma Scale to guide.

Monitor for signs and symptoms of Increased ICP- Early signs decreased LOC (responsiveness), Pupils ipsilateral change . contralateral weakness to late signs :unresponsive, fixed pupils, decortication/decerebration, respiratory changes.(intubation)

General nursing; Examine for CSF leak – ear, nose, incision

Report fever that is non-responsive to antipyretics.

Seizure assessment

Ventriculoperitoneal Shunt

Shunt placed most used in the treatment of hydrocephalus. It is commonly placed in a lateral ventricle and tunneled into the peritoneal cavity. Post procedure complications include increased ICP, intracerebral hematoma & infection.

Monitor for shunt malfunction: Compare neuro exam to pre-op exam. Attention to level of alertness, need for prompting, appropriateness of behaviors, any eye gaze abnormalities.

General Nursing: Assess temperature and monitor incision sites.

Ensure that the appropriate clinicians are notified after patient has been to an MRI and exposed to the magnet which may interfere with shunt valve programming.

CEREBROVASCULAR DIAGNOSES

ASSESSMENT CONSIDERATIONS

Intracranial Aneurysm/ Subarachnoid hemorrhage

A weakness in the wall of a cerebral vessel that may rupture causing hemorrhage (blood) in subarachnoid space and resulting in deterioration in the involved territory. Symptoms depend on the location and severity of the hemorrhage.

Risks following rupture: Rebleed, Hydrocephalus, vasospasm or delayed cerebral ischemia. Monitor for signs and symptoms of decline, LOC, motor weakness. seizure, hyponatremia.

Assessment depends on location/territory effected.

Anterior Cerebral – Assess LOC and behavior, cognition may be affected -flat affect, delays in response to command, weakness, or paralysis in opposite side legs>arms, urinary incontinence.

Middle Cerebral – Weakness, sensory change contralateral arm>leg, behavior changes, speech, visual fields.

Basilar Artery – Motor weakness, Coordination – Finger to nose testing, Dizziness – balance speech articulation, nausea/vomiting, visual deficit, swallow screen.

Endovascular Rx – check catheter insertion site for pulses, bleeding. Check for antiplatelet orders. Continue neuro assess as above. Patient may still be at risk for delayed ischemia or vasospasm.

General assessments: assess headache severity, level of consciousness, arm drift or pronation, anxiety/sleep, blurred vision, infection, report fever unresponsive to antipyretics and interventions.

Arteriovenous Malformation	Tangled collection of dilated blood vessels that directly shunt arterial blood into venous system that may result in cerebral hemorrhage. Presenting symptoms are headache and seizure. Assessment is based on location: Focal neurologic findings are rare in the absence of seizure or hemorrhage in patients with cerebral AVM but are more common in AVMs that are in the brainstem. General exam: LOC, pupils, motor exam. BP management to prevent further hemorrhage, seizure monitoring & pain management based on headache severity.
Basilar Artery Stroke/Locked In Syndrome	A brain stem stroke that may result in quadriplegia or weakness, cranial nerve impairments related to breathing, airway protection, swallow and inability to communicate. Assessment – LOC, motor, or sensory weakness, airway clearance & protection, swallow. General Nursing- Patient may be able to hear you but unable to communicate needs. Communication plan, speech consult.
Cavernous Malformation	Low flow, low pressure vascular group of capillaries. Often calcified. Assess based on location – patients often present with seizures or are asymptomatic and incidental findings on CT.
Carotid Endarterectomy	Surgical removal of plaque from the artery. Assess airway, Monitor for transient weakness. Monitor incision. Measure neck circumference. Tight blood pressure goals may be prioritized in the post-op orders for the first 24 hours.
Ischemic Stroke	A reduction of blood flow to the brain caused by decreased perfusion. Symptoms and treatments are based on vessels involved and mechanism of injury. General assessment for cognition, facial asymmetry, limb weakness, speech, swallow screening, ataxia. Right hemisphere stroke: left side hemiplegia/weakness, spatial-perceptual deficit Safety considerations person may be unaware of deficit, distractable, impulsive, poor judgement, left visual field impairment Left hemisphere stroke: right side hemiplegia/weakness, expressive and/or receptive aphasia, right visual field deficits. Interventions depend on cause, General monitoring; blood pressure management, cardiac assessment, glycemic control, safety
MCA-Middle Cerebral Artery	Assessment findings: Contralateral face, arm > leg weakness and/or sensory deficit, speech deficit especially if stroke occurs in dominant side, Visual field cut.
ACA-Anterior Cerebral Artery	Assessment findings: Contralateral leg > arm weakness and/or sensory loss, flat affect (lack of interest/emotion) Urinary incontinence
PCA-Posterior Cerebral artery	Assessment findings: Visual field cut or deficits, memory deficits, perseveration
PICA-Posterior Inferior Cerebellar Artery	Assessment findings: Nausea, vomiting, dysphagia, ataxia, vertigo, nystagmus
Basilar Artery	Assessment findings: Quadriplegia, cranial nerve deficits, “locked in syndrome”
Seizure	A focused or generalized increase in neuronal excitability. Assessment: Describe onset and all behaviors: Describe what you saw. How did it start (any triggers), time it started, How did it progress, was the patient responsive to questions asked, how long did the seizure last, post ictal state description and for how long. General nursing: consider rescue plan if another seizure, review medications

References

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