

<b>Milestone Category</b>	<b>Milestones Addressed (Level)</b>	<b>Relevant ENLS Module</b>
Brain Tumor - Medical Knowledge	Correlates neurological deficits with tumor location (1) Describes acute symptomatic medical therapy for neoplastic mass lesions (1)	Intracranial Hypertension and Herniation
Brain Tumor - Patient Care	Performs a history and physical examination in patients with brain or spinal cord weakness (1) Provides routine peri-operative care for patients with brain or spinal cord tumors (1) Initiates work-up of a patient with a brain or spinal cord tumor (1) Recognizes signs of and initiates work-up for neurological deterioration (1) Recognizes and initiates work-up of complications (2) Independently manages complications (4)	Intracranial Hypertension and Herniation Spinal Cord Compression
Critical Care - Medical Knowledge	Describes respiratory and ventilator physiology and effects on central nervous system (1) Lists indications for ICP monitoring and hematoma evacuation (1) Describes cerebral autoregulation (1) Describes the pathophysiology and medical management of intra-cranial hypertension and cerebral edema (2) Discusses indications for and risks of endotracheal intubation / ventilation (3) Describes the pathophysiology and treatment of systemic critical illness (3) Lists indications and complications for decompressive craniectomy, cerebral spinal fluid drainage, and barbiturate coma in traumatic brain injury (3) Discusses the risks of CSF drainage, hyperosmolar therapy, and hyperventilation	Airway, Ventilation, and Sedation Acute Ischemic Stroke Intracerebral Hemorrhage Subarachnoid Hemorrhage Intracranial Hypertension and Herniation Traumatic Brain Injury
Critical Care - Patient Care	Performs a history and physical examination in critically-ill patients (1) Orders positioning, analgesics, sedation, neuromuscular blockage, intravenous fluids, and nutrition in critically-ill patients (1) Explains risks and benefits of ventilatory support (2) Manages intra-cranial hypertension (2) Diagnoses and manages spinal or hypovolemic shock (2) Formulates work-up and treatment plan for a comatose patient (3) Manages refractory intra-cranial hypertension (3) Manages respiratory failure (5)	Airway, Ventilation, and Sedation Approach to the Patient with Coma Intracranial Hypertension and Herniation Traumatic Spine Injury Traumatic Brain Injury

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Traumatic Brain Injury - Patient Care	Performs a history and physical examination of a comatose patient and assign Glasgow Coma Scale score (1) Provides initial management of a polytrauma patient (1) Detects an altered neurological examination (1) Recognizes and initiates work-up of complications (2) Manages ventricular drain (3) Manages unexpected intra-operative events (4)	Approach to Patient with Coma Traumatic Spine Injury Traumatic Brain Injury Intracerebral Hemorrhage
Surgical Treatment of Epilepsy and Movement Disorders - Medical Knowledge	Describe the physical findings and differential diagnosis of common movement disorders (1) Describes medical therapy for status epilepticus (1) Describes medical therapies for epilepsy and movement disorders (2)	Status Epilepticus
Surgical Treatment of Epilepsy and Movement Disorders - Patient Care	Initiates the work-up of a patient with an apparent seizure (1) Recognizes and initiates treatment of status epilepticus (1)	Status Epilepticus
Pain and Peripheral Nerves - Medical Knowledge	None	None
Pain and Peripheral Nerves - Patient Care	Recognizes and initiates treatment of baclofen withdrawal or morphine overdose (1)	Approach to Patient with Coma
Pediatric Neurological Surgery - Medical Knowledge	None	None
Pediatric Neurological Surgery - Patient Care	Recognizes and initiates notification and evaluation of non-accidental trauma (1)	Traumatic Spine Injury Traumatic Brain Injury
Spinal Neurosurgery; Degenerative Disease - Medical Knowledge	None	None
Spinal Neurosurgery; Trauma, Tumor, Infection - Medical Knowledge	Describes spinal cord and cauda equina anatomy (1) Describes the medical treatment of spinal infections (2)	Meningitis and Encephalitis Spinal Cord Compression Traumatic Spine Injury
Spinal Neurosurgery - Patient Care	Performs a history and physical examination in patients with spinal disorders (1) Initiates management of a patient with acute spinal cord injury (2) Manages complications with assistance (3)	Spinal Cord Compression Traumatic Spine Injury



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Vascular Neurosurgery - Medical Knowledge	Describes clinical presentations and imaging characteristics of ischemic and hemorrhagic stroke (1) Lists indications for intravenous thrombolytic therapy in ischemic stroke (2)	Acute Ischemic Stroke Intracerebral Hemorrhage Subarachnoid Hemorrhage
Vascular Neurosurgery - Patient Care	Performs a history and physical examination in patients with ischemic or hemorrhagic stroke (1) Provides routine peri-operative care for patients undergoing extracranial and intracranial vascular surgery (1) Recognizes and initiates work-up of complications after surgery or endovascular therapy (2)	Acute Ischemic Stroke Intracerebral Hemorrhage Subarachnoid Hemorrhage
Relational - Interpersonal and Communication Skills	Identifies elements of safe patient hand-offs and procedural pause (1) Prioritizes and conveys simultaneous critical clinical events (1) Uses checklists and informatics to support patient hand-offs (2) Prioritizes, conveys, and manages simultaneous critical clinical events (2) Supervises patient hand-offs (3) Communicates effectively with physicians, health professionals, and health agencies (3) Leads response to an intra-operative or critical care emergency (4)	All
Technology - Interpersonal and Communication Skills	None	None
Compassion - Professionalism	None	None
Accountability - Professionalism	None	None
Economics - Systems-based Practice	None	None
Safety and Systems - Systems-based Practice	Uses protocols and checklists for patient hand-offs, medication orders, and emergencies (2)	All
Lifelong Learning - Practice-based Learning and Improvement	Participates in evidence-based practice improvement (4)	All
Research - Practice-based Learning and Improvement	Incorporates evidence into routine clinical care decisions (2)	All



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