

Mapping of Neurology Curricular Competencies with Assessment Tools

This outline maps curricular competencies/objectives with the assessment tools and potential test type. Tests will emphasize certain parts of the outline, and no single test will include questions on all aspects. Questions may include content that is not included in this outline.

Construct	Domain	Rotation	Year	Code	Performance indicator (Curriculum)	Page #	Learning Domain (1:Cognitive, 2:Skills, 3:Attitude)	Assessment Method			
								MCQ- Part I Written	MCQ- Final Written	OSCE- Final Clinical	SOE- Final Clinical
A. Medical Expert	A1. Basic science	A1.1 EMG/ Neuromuscular Service	All	A1.1.1	Describe the basic principles and techniques of nerve conduction studies and needle electromyography	26	1	*	*		*
				A1.1.2	Describe the basic principles and techniques of other specialized studies, including repetitive nerve stimulation, single fiber EMG, blink responses, somatosensory evoked potentials and visual evoked potentials	26	1	*	*		*
				A1.1.3	Explain the physiology of normal nerve conduction in myelinated and unmyelinated fibers, neuromuscular transmission, and excitation-contraction coupling, and identify disease processes where this normal physiology is disturbed	26	1	*	*		*
		A1.2 Epilepsy and Electroencephalo- graphy (EEG)	All	A1.2.1	Describe the basic principles of EEG recording, and discuss the indications for and limitations of EEG as a diagnostic tool	28	1	*	*		*
		A1.3 Stroke	All	A1.3.1	Describe the vascular supply to the central nervous system, and relate clinical stroke symptoms and syndromes to disruptions to this vascular supply	32	1	*	*		*
		A1.4 Pediatric Neurology Service	All	A1.4.1	Identify important differences in the pharmacotherapy of children versus that of adults presenting with neurological diseases	35	1	*	*		*
		A1.5 Neuropathology	All	A1.5.1	Demonstrate knowledge of the microscopic anatomy of the brain, including the identification of neurons, oligodendrocytes, astrocytes, microglia, ependymal cells, anterior pituitary cells, and choroid plexus based upon microscopic appearance	36	1	*	*		*
				A1.5.2	Identify various tissues based on microscopic appearance, including: a) Cerebellar cortex b) 6-layer cerebral cortex c) Hippocampal formation d) Substantia nigra e) Occipital cortex f) Retina g) Anterior horn cells, dorsal root ganglion, spinal cord h) Anterior and posterior pituitary i) Skeletal muscle j) Peripheral nerve	36	1	*	*		*
				A1.5.3	Describe the utility of the following techniques for examining the central and peripheral nervous system and muscle: a) Hematoxylin and eosin b) Nissl stain c) Golgi methods d) Myelin stains e) Silver stains f) Congo red g) Histochemical staining of muscle h) Immunohistochemistry i) Teased fiber preparations of peripheral nerve j) In-situ hybridization techniques k) Electron microscopy	37	1	*	*		*
				A1.5.4	Demonstrate understanding of the developmental anatomy of the brain and spinal cord, and its application to congenital malformations	37	1	*	*		*
				A1.5.5	Recognize the histological appearance and features of the following: a) Open and closed head trauma b) Cerebral herniations c) Spinal cord trauma d) Cerebral edema e) Cerebral infarction f) Atheromatous lesions of carotid and intracranial vessels g) Subarachnoid hemorrhage and various types of cerebral aneurysm h) Vasculitis and arteritis i) Intracerebral hemorrhage j) HIV and AIDS and their effects on the central nervous system k) Meningitis, bacterial and otherwise l) Viral and other encephalitis m) Brain and spinal abscess and subdural empyema n) Wernicke's encephalopathy o) Subacute combined degeneration of the spinal cord p) Multiple sclerosis q) Primary and secondary tumors of the brain, spinal cord, meninges, pituitary, and cranial and peripheral nerves r) Anoxic cerebral injury s) Epilepsy, including mesial temporal sclerosis t) Degenerative diseases of the nervous system, including Alzheimer's disease, Parkinson's disease, motor neuron disease, and multiple systems atrophy u) Primary muscle and nerve diseases v) Common congenital malformations of the brain and spinal cord	37	1	*	*		*
		A1.6 Neuroradiology	All	A1.6.1	Identify the detailed normal anatomy of the brain, skull, and spine, as seen on plain X-ray, computerized axial tomogram, and magnetic resonance images, and extracranial and intracranial arterial and venous systems, as seen on angiography	40	1	*	*		*
				A1.6.2	Discuss the techniques and limitations of the various common protocols for neuroimaging, including plain X-rays, MRIs, and CT imaging of neuraxis and its appendages	40	1	*	*		*
				A1.6.3	Discuss the techniques, risks, and interpretation of cerebral and spinal angiography	40	1	*	*		*
		A1.7 Neurosurgery Service	All	A1.7.1	Discuss the pathophysiology of increased intracranial pressure, recognize its clinical presentation, develop an adequate differential diagnosis for a patient presenting with increased intracranial pressure	43	1	*	*		*

	A1.8 General Internal Medicine Service	All	A1.8.1	Demonstrate adequate knowledge of the basic sciences relevant to patient care, including physiology, pathophysiology, biochemistry, and pharmacology	47	1	*	*	*	*	
	A1.9 Cardiology Service	All	A1.9.1	Demonstrate understanding of key basic science principles relevant to the function of the cardiovascular system, including: a) Physiology of the cardiac cycle b) Normal cardiac rhythm/conduction c) Determinants of myocardial oxygen demand d) Pharmacology of cardioactive drugs e) Pathophysiology of common cardiovascular diseases, including atherosclerosis	49	1	*	*	*	*	
	A1.10 Emergency medicine	All	A1.10.1	Demonstrate adequate knowledge of the basic sciences relevant to patient care, including physiology, pathophysiology, biochemistry, and pharmacology	52	1	*	*	*	*	
	A1.11 Hematology	All	A1.11.1	Demonstrate understanding of key basic science principles from biochemistry and physiology that underlie the normal functioning of the blood system	54	1	*	*	*	*	
	A1.12 Infectious Diseases	All	A1.12.1	Demonstrate understanding of key basic science principles, including microbial virulence factors and host defense mechanisms	56	1	*	*	*	*	
A1.12.2			Demonstrate understanding of the pharmacology of selected antimicrobial agents	56	1	*	*	*	*		
	A1.13 Rheumatology	All	A1.13.1	Demonstrate understanding of key basic science principles from biochemistry and physiology that underlie the normal functioning of the musculoskeletal system	59	1	*	*	*	*	
	A1.14 Critical Care Medicine	All	A1.14.1	Demonstrate applied knowledge of the following: i) Demonstrate knowledge of the indications, risks, and side effects of drugs commonly used in the critical care environment, including pressor agents, analgesics, sedatives, and antimicrobials	60	1	*	*	*	*	
	A1.15 Psychiatry service	All	A1.15.1	Describe the mechanisms of action of and indications for medications that have roles in the management of both psychiatric and neurological illnesses, including anticonvulsants, antidepressants, and typical and atypical antipsychotic agents	63	1	*	*	*	*	
	A1.16 Endocrinology	All	A1.16.1	Demonstrate understanding of key basic science principles from biochemistry and physiology that underlie the normal functioning of the endocrine system	66	1	*	*	*	*	
A2. Assessment & Diagnosis	A2.1 Neurology Inpatients Service	All	A2.1.1	Independently obtain complete histories from patients seen in the emergency department and on the inpatient ward, obtaining a collateral history where necessary	11,14	2			*		
			Junior	A2.1.2	Independently perform an appropriate general physical examination and a basic neurological examination	14	2			*	
				A2.1.3	Accurately assess the seriousness of a patient's presenting illness	14	1	*	*	*	*
				A2.1.4	Be able to evaluate whether a patient's symptoms and signs are the result of an organic or psychological disorder	14	1	*	*	*	*
				A2.1.5	Be able to provide the anatomical localization for the disease process in question	14	1	*	*	*	*
				A2.1.6	Working with support from the senior resident and/or consultant, formulate appropriate differential diagnoses	14	1	*	*	*	*
				A2.1.7	Working with the senior resident and/or consultant, develop appropriate investigative plans for patients under their care	14	1	*	*	*	*
				A2.1.8	Working with the senior resident and/or consultant, develop appropriate clinical judgment in formulating an investigative plan that takes into account matters such as the patient's age, general health, risks and costs of investigative procedures, and epidemiology of the disease	14	1	*	*	*	*
			Senior	A2.1.9	Perform appropriate and efficient general and neurological physical examinations	11	2			*	
				A2.1.10	Determine whether a patient's symptoms and signs are the result of an organic or psychological disorder	11	1	*	*	*	*
				A2.1.11	Provide accurate anatomical localization for the disease process in question	11	1	*	*	*	*
				A2.1.12	Formulate appropriate differential and provisional diagnoses	11	1	*	*	*	*
				A2.1.13	Develop appropriate investigative plans for patients under their care	11	1	*	*	*	*
				A2.1.14	Develop appropriate clinical judgment in formulating an investigative plan that takes into account matters such as the patient's age, general health, risks and costs of investigative procedures, and epidemiology of the disease	11	1	*	*	*	*
				A2.1.15	Demonstrate the ability to diagnose neurological inpatients at the level of a senior consultant	11	1	*	*	*	*
				A2.1.16	Set priorities for the timing of assessment of requested consultations based upon the acuity of the presenting problem	12	1	*	*	*	*
				A2.1.17	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	13	3			*	
	A2.2 Neurology Outpatient Clinics	All		A2.2.1	Obtain complete histories from patients seen in the outpatient clinic setting, obtaining a collateral history where necessary	16,18	2			*	
			A2.2.2	Perform appropriate and efficient neurological and general examinations	16,18	2			*		
			A2.2.3	Determine whether a patient's symptoms and signs are the result of an organic or psychological disorder	16,19	1	*	*	*	*	
			A2.2.4	Provide accurate anatomical localization for the disease process in question	16,19	1	*	*	*	*	
			A2.2.5	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	18,20	3			*		
			Junior	A2.2.6	In conjunction with the consultant, formulate appropriate differential and provisional diagnoses	19	1	*	*	*	*

		A2.2.7	In conjunction with the consultant, develop appropriate investigative plans for patients under their care	19	1	*	*		*
		A2.2.8	In conjunction with the consultant, develop appropriate clinical judgment in formulating an investigative plan that takes into consideration matters such as the patient's age, general health, risks and costs of investigative procedures, and epidemiology of the disease	19	1	*	*		*
	Senior	A2.2.9	Independently formulate appropriate differential and provisional diagnoses	16	1		*		*
		A2.2.10	Independently develop appropriate investigative plans for patients under their care	16	1		*		*
		A2.2.11	Independently develop appropriate clinical judgment in formulating an investigative plan that takes into account matters such as the patient's age, general health, risks and costs of investigative procedures, and epidemiology of the disease	16	1		*		*
A2.3 Neurology Consult Services	All	A2.3.1	Independently obtain complete histories from patients seen in consultation on inpatient wards, obtaining a collateral history where necessary	21,23	2			*	
		A2.3.2	Independently perform appropriate general physical examinations and basic neurological examinations	21,23	2			*	
		A2.3.3	Accurately assess the seriousness of a patient's presenting illness	21,23	1	*	*		*
		A2.3.4	Determine whether a patient's symptoms and signs are the result of an organic or psychological disorder	21,23	1	*	*		*
		A2.3.5	Be able to provide the anatomical localization for the disease process in question	21,24	1	*	*		*
	Junior	A2.3.6	Be able to evaluate whether a patient's symptoms and signs are the result of an organic or psychological disorder	24	1	*	*		*
		A2.3.7	Working with support from the consultant, formulate appropriate differential diagnoses	24	1	*	*		*
		A2.3.8	Working with support from the consultant, develop appropriate investigative plans for patients seen in consult	24	1	*	*		*
		A2.3.9	Working with the consultant, develop appropriate clinical judgment in formulating an investigative plan that takes into consideration matters such as: the patient's age, general health, risks and costs of investigative procedures, and epidemiology of the disease	24	1	*	*		*
	Senior	A2.3.10	Independently formulate appropriate differential diagnoses	21	1		*		*
		A2.3.11	Independently develop appropriate investigative plans for patients seen in consults	21	1		*		*
		A2.3.12	Demonstrate appropriate clinical judgment to formulate an investigative plan that takes into account matters such as: the patient's age, general health, risks and costs of investigative procedures, and epidemiology of the disease	21	1	*	*		*
		A2.3.13	Demonstrate the ability to diagnose neurological inpatient consultations at the level of an independent neurologist	21	1		*		*
		A2.3.14	Set priorities for the timing of assessment of requested consultations based upon the acuity of the presenting problem	22	1	*	*		*
		A2.3.15	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	23	3			*	
A2.4 EMG/Neuromuscular Service	All	A2.4.1	Describe the clinical features of major neuromuscular disorders	26	1	*	*		*
		A2.4.2	Obtain appropriate and complete histories from patients with neuromuscular complaints seen in the outpatient neuromuscular clinic and EMG laboratory	26	2			*	
		A2.4.3	Perform appropriate and efficient physical examinations, with particular emphasis on examinations of the peripheral nervous system	26	2			*	
		A2.4.4	Provide accurate anatomical localization for the neuromuscular disease process in question, specifically being able to localize problems to muscle, neuromuscular junction, nerve, plexus, root, anterior horn cell, or spinal cord pathology	26	1	*	*		*
		A2.4.5	Formulate appropriate differential diagnoses, and select appropriate investigations to evaluate the differential diagnoses	26	1	*	*		*
		A2.4.6	Construct, based upon clinical assessment, an appropriate electrodiagnostic approach specific to the clinical presentation	26	1	*	*		*
		A2.4.7	Recognize the characteristic physical examination findings and electrophysiological findings observed in myelopathies, motor neuron disease, radiculopathies, plexopathies, focal and generalized neuropathies, disorders of neuromuscular transmission, and myopathies	26	1	*	*		*
		A2.4.8	Recognize when electrophysiological results do not fit the clinical picture and may represent technical errors, normal variations, or incidental findings	26	1	*	*		*
		A2.4.9	Recommend studies beyond those requested by the referring physicians when appropriate, to provide optimal care	27	1	*	*		*
		A2.4.10	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	28	3			*	
A2.5 Epilepsy and Electroencephalography (EEG)	All	A2.5.1	Obtain complete histories from patients with epilepsy, recognizing the importance of collateral history	28	2			*	
		A2.5.2	Perform appropriate and efficient physical examinations on patients presenting with seizures	28	2			*	
		A2.5.3	Correlate clinical features with EEG findings in patients with epilepsy	28	1	*	*		*
		A2.5.4	Recognize the EEG features that are characteristic of common epilepsy syndromes	28	1	*	*		*
		A2.5.5	Recognize the EEG features that are characteristic of certain non-epileptic disorders, including herpes simplex encephalitis, hepatic encephalopathy, and Creutzfeldt-Jakob disease	28	1	*	*		*
		A2.5.6	Set priorities for the timing of assessment of requested consultations based upon the acuity of the presenting problem	29	1	*	*		*
		A2.5.7	Identify important biological, psychological, social, cultural, and economic influences on the presentation of epilepsy	29	1	*	*		*
		A2.5.8	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	30	3			*	

A2.6 Neurocritical Care Rotation	All	A2.6.1	Demonstrate proficiency in the recognition, assessment and investigation of patients with life-threatening disorders of the nervous system, including the following: a) Comatose states b) Raised intracranial pressure c) Status epilepticus d) Acute myelopathy e) Neurogenic respiratory failure f) Acute peripheral nerve disease, including Guillain Barre syndrome g) Failure to wean from the ventilator h) Severe head injury i) Intracranial hemorrhage j) CNS infections k) Neurological consequences of systemic illness, including transplant-related neurological syndromes	30	1	*	*	*	*
		A2.6.2	Demonstrate the steps and procedures involved in the determination of brain death	30	1,2	*	*	*	*
		A2.6.3	Recognize common abnormalities in cranial CT and MRI scans	30	1	*	*	*	*
		A2.6.4	Correctly interpret CSF findings in critically ill patients	30	1	*	*	*	*
		A2.6.5	Recognize the indications for and limitations of diagnostic tests used in neurocritical care, including: a) EEG b) Continuous EEG monitoring c) Evoked responses d) CSF analysis e) Neuro-imaging	30	1	*	*	*	*
A2.7 Stroke	All	A2.7.1	Obtain complete histories from patients presenting with stroke-related symptoms in the emergency department and in stroke or TIA clinics, obtaining a collateral history where necessary	32	2			*	*
		A2.7.2	Perform appropriate and efficient physical examinations on patients presenting with stroke-related symptoms	32	2			*	*
		A2.7.3	Identify and provide anatomic localization for the common symptoms and syndromes of stroke and transient ischemic attack	32	1	*	*	*	*
		A2.7.4	Distinguish the different pathological subtypes of stroke based upon clinical and radiological features	32	1	*	*	*	*
		A2.7.5	Discuss the principles of thrombolysis for acute stroke, including its indications and contraindications, and develop a protocol for screening patients for thrombolysis and for delivering tPA to appropriate candidates and providing appropriate monitoring and follow-up	32	1	*	*	*	*
		A2.7.6	Set priorities for the timing of assessment of requested consultations based upon the acuity of the presenting problem	33	1	*	*	*	*
		A2.7.7	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	34	3			*	*
A2.8 Pediatric Neurology Service	All	A2.8.1	Obtain a relevant history from a child and/or the child's parent or caregiver when presented with a child with neurological symptoms	34	2			*	*
		A2.8.2	Perform an appropriate neurological examination on a child, taking into consideration the effect of the changing normal neurodevelopmental baseline	34	2			*	*
		A2.8.3	Perform a developmental assessment on a child presenting with neurological symptoms	34	2			*	*
		A2.8.4	Develop evidence-based approaches to the investigation of children presenting with: a) Headache b) Altered level of consciousness c) Paroxysmal disorders, including seizures and their mimics d) Developmental delay and regression e) Hypotonia in infancy f) Ataxia g) Hemiplegia, monoplegia, paraplegia, and quadriplegia h) Movement disorders i) Disorders of vision and ocular motility j) Sensory and autonomic disturbances k) Lower brainstem and cranial nerve dysfunction	34	1	*	*	*	*
		A2.8.5	Develop evidence-based diagnostic strategies for common diseases in pediatric neurology, including: a) Epilepsy b) Stroke in childhood c) Hydrocephalus d) Metabolic disorders e) Neuromuscular diseases such as Duchenne and other muscular dystrophies f) Pediatric migraine g) Tourette's syndrome and other childhood movement disorders h) Neurocutaneous syndromes, including neurofibromatosis I and II, Sturge-Weber syndrome, and tuberous sclerosis i) Meningitis, encephalitis, and other CNS infections j) Inherited neuropathies, including Charcot-Marie-Tooth	34	1	*	*	*	*
		A2.8.6	Set priorities for the timing of assessment of requested consultations based upon the acuity of the presenting problem	35	1	*	*	*	*
		A2.8.7	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	36	3			*	*
		A2.9 Neuropathology	All	A2.9.1	Appreciate the role of the neuropathologist in advocating for the best approach to diagnosis for patients, including discussing cases with referring physicians or advocating for additional studies based upon results of initial studies	38	3		
A2.10 Neurology Longitudinal Clinic	All	A2.10.1	Demonstrate ability to obtain accurate medical histories from patients presenting for neurological consultation	39	2			*	*
		A2.10.2	Perform an efficient, detailed, and accurate neurological examination on patients presenting for neurological consultation	39	2			*	*
		A2.10.3	Provide anatomic localization of the presenting symptoms and signs	39	1	*	*	*	*

		A2.10.4	Formulate an appropriate differential diagnosis based upon the clinical presentation	39	1	*	*		*
		A2.10.5	Outline a plan for investigation of a patient presenting with neurological symptoms and/or signs	39	1	*	*		*
		A2.10.6	Demonstrate effective and accurate information gathering skills through history taking	39	2			*	
A2.11	All	A2.11.1	Interpret changes in the plain X-ray, MRIs, and CT imaging of the neuraxis by stating a most probable and differential diagnosis of the common neurological conditions that produce such changes	40	1	*	*		*
		A2.11.2	Appreciate the role of the neuroradiologist in advocating for the best imaging for patients, including discussing cases with referring physicians or advocating for additional imaging based upon results of initial studies	41	3			*	
A2.12	All	A2.12.1	Identify important complications of common neurosurgical procedures	43	1	*	*		*
		A2.12.2	Discuss the pathophysiology of increased intracranial pressure, recognize its clinical presentation, develop an adequate differential diagnosis for a patient presenting with increased intracranial pressure	43	1	*	*		*
		A2.12.3	Develop a clinical approach to the following scenarios, including the development of a differential diagnosis and an evidence-based plan for investigation: a) Bilateral weakness, including that due to spinal cord injury, spinal tumors, cervical spondylotic myelopathy, cervical disc herniation, epidural abscess, and spinal AVM b) Unilateral or focal weakness, including that due to carpal tunnel syndrome, other peripheral nerve lesions, radiculopathy, brain tumors, intracerebral hemorrhage, and acute stroke c) Bilateral numbness, including that due to spinal cord tumor or syringomyelia d) Focal or unilateral numbness, including that due to carpal tunnel syndrome, transient ischemic attacks, and partial seizures e) Anosmia, including that due to craniocerebral trauma and olfactory groove meningioma f) Visual loss, including that due to optic sheath meningioma, optic nerve or chiasmal glioma, and carotid ophthalmic aneurysm g) Diplopia, including that due to posterior communicating artery aneurysm h) Altered hearing and vertigo, including that due to acoustic neuroma, other cerebellopontine angle tumors, and glomus tumors i) Ataxia and gait disturbance, including that due to cerebellar infarction, hemorrhage, neoplasm, or hydrocephalus j) Dementia with a surgically treatable etiology, including normal pressure hydrocephalus and chronic subdural hematoma k) Coma, including that due to intracerebral or subarachnoid hemorrhage or craniocerebral trauma	43	1	*	*		*
		A2.12.4	Set priorities for the timing of assessment of requested consultations based upon the acuity of the presenting problem	44	1	*	*		*
		A2.12.5	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	45	3			*	
A2.13	All	A2.13.1	Demonstrate proficiency in assessment of patients presenting with undifferentiated medical complaints and problems, including: a) Eliciting a relevant history b) Performing an appropriate physical examination c) Employing diagnostic tests appropriately	45	1,2	*	*	*	*
		A2.13.2	Adapt patient assessment based on health determinants	46	3			*	
		A2.13.3	Perform common procedures used in the diagnosis of medical patients, including: a) ECG interpretation b) Central line insertion c) Bone marrow aspiration/biopsy d) Thoracentesis e) Lumbar puncture f) Paracentesis g) Joint aspiration	46	1,2	*	*	*	*
		A2.13.4	Obtain thorough and relevant histories from patients with medical illnesses	46	2			*	
		A2.13.5	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	47	3			*	
A2.14	All	A2.14.1	Develop evidence-based approaches to the investigation of patients presenting with: a) Chest pain b) Heart failure/dyspnea c) Disturbances of cardiac rhythm d) Hypotension/shock/cardiac arrest e) Hypertensive crisis	47	1	*	*		*
		A2.14.2	Demonstrate proficiency in the following procedures: a) Clinical examination of the cardiovascular system b) ECG interpretation c) Chest X-ray interpretation as it pertains to cardiovascular disease d) Resuscitative skills according to ACLS guidelines e) Arterial and venous catheterization	48	1,2	*	*	*	*
		A2.14.3	Identify the indications for, limitations of, and risks associated with the following: a) Holter monitor/loop recorder b) Exercise ECG – stress test c) Echocardiography d) Myocardial perfusion imaging and radionuclide angiography e) Cardiac catheterization and angiography f) Revascularization strategies	48	1	*	*		*
		A2.14.4	Recognize the neurological complications of cardiovascular diseases and cardiac procedures	48	1	*	*		*

		A2.14.5	Obtain thorough and relevant histories from patients with cardiovascular disease	48	2			*		
		A2.14.6	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	50	3			*		
A2.15	Emergency medicine	All	A2.15.1	Demonstrate proficiency in assessment of patients presenting with undifferentiated complaints and problems, including: a) Eliciting a relevant history b) Performing an appropriate physical examination c) Employing diagnostic tests appropriately	50	2			*	
			A2.15.2	Develop an approach to the assessment and investigation of patients presenting with: a) Fever b) Dizziness and vertigo c) Weakness d) Confusion e) Decreased level of consciousness f) Seizures g) Headache h) Dyspnea i) Chest pain j) Syncope k) Nausea and vomiting l) Abdominal pain m) Gastrointestinal bleeding n) Diarrhea or constipation o) Jaundice p) Vaginal bleeding and acute pelvic pain q) Back pain r) Orthopedic trauma s) Wound management issues t) Intoxication u) Acute psychiatric symptoms	50	1	*	*		*
			A2.15.3	Distinguish problems requiring urgent care from those requiring emergent care, and develop speed and efficiency in assessments of those patients with particularly acute problems	51	1	*	*		*
			A2.15.4	Recognize the typical presentations of patients with neurological illnesses requiring emergent care, including status epilepticus, acute stroke syndromes, infectious diseases of the CNS, and acute neuromuscular syndromes	51	1	*	*		*
			A2.15.5	Obtain thorough and relevant histories in an efficient manner from patients presenting to the emergency department	51	2			*	
			A2.15.6	Adapt patient assessment based on health determinants	52	3			*	
			A2.15.7	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	52	3			*	
A2.16	Hematology	All	A2.16.1	Develop evidence-based approaches to the investigation of patients presenting with: a) Anemia b) Polycythemia c) Thrombocytopenia d) Thrombocytosis e) Leukocytosis f) Neutropenia g) Pancytopenia h) Lymphadenopathy/splenomegaly i) Suspected venous thromboembolism j) Suspected bleeding disorder	52	1	*	*		*
			A2.16.2	Recognize common neurological complications of hematological disorders, including thrombosis or hemorrhage affecting the nervous system	53	1	*	*		*
			A2.16.3	Demonstrate proficiency in the following procedures: a. Clinical examination of superficial lymph nodes b. Clinical examination of the spleen c. Bone marrow aspiration and biopsy d. Interpretation of the complete blood count and blood smear	53	1,2	*	*	*	*
			A2.16.4	Demonstrate appropriate use of hypercoagulability screening, particularly as it applies to patients presenting with stroke	53	1	*	*		*
			A2.16.5	Obtain thorough and relevant histories from patients with hematological diseases	53	2			*	
			A2.16.6	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	54	3			*	
A2.17	Infectious Diseases	All	A2.17.1	Develop evidence-based approaches to the investigation of patients presenting with: a) Fever b) Leukocytosis c) Septic shock d) Stiff neck and headache e) Heart murmurs f) Lymphadenitis/lymphadenopathy g) Soft tissue inflammation h) Inflamed joints i) Cough and sputum production j) Embolic lesions k) Painful throat, ears, or sinuses	55	1	*	*		*
			A2.17.2	Recognize the neurological complications of infectious diseases, including HIV, Lyme disease, West Nile virus, and syphilis	55	1	*	*		*
			A2.17.3	Demonstrate proficiency in the following procedures: a) Interpretation of microbiology laboratory investigations, including stains, cultures, and serology b) TB skin test c) Monitoring HIV infection with laboratory tests	55	1	*	*		*
			A2.17.4	Obtain thorough and relevant histories from patients with infectious diseases	55	2			*	

		A2.17.5	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	57	3			*	
A2.18 Rheumatology	All	A2.18.1	Perform an organized, comprehensive MSK screening examination	57	2			*	
		A2.18.2	Demonstrate those components of the MSK appropriate for the identification of: a) Ankylosing spondylitis b) Lumbar disc disease with radiculopathy c) Fibromyalgia d) IP and MCP capsular distension, median nerve compression, de Quervain's tenosynovitis, flexor tendon nodules e) Medial and lateral elbow epicondylitis, elbow joint capsular distension, olecranon bursitis, rheumatoid nodules f) Frozen shoulder, supraspinatus tendonitis, subacromial bursitis, rotator cuff tear g) Hip joint disease, trochanteric bursitis, meralgia paresthetica h) Knee joint effusions, patellofemoral dysfunction, ligamentous disease of the knee, bursitis at the knee i) Achilles tendonitis, plantar fasciitis, posterior tibial tenosynovitis, MTP inflammation	57	1	*	*		*
		A2.18.3	Recognize the neurological complications of common rheumatological illnesses, including rheumatoid arthritis, systemic lupus erythematosus, Sjogren's syndrome, scleroderma, and osteoarthritis	57	1	*	*		*
		A2.18.4	Describe the settings in which the following investigations are appropriate: a) Synovial fluid analysis b) RF, ANA, anti-DNA, anti-ENA, uric acid c) Plain X-rays d) Bone scan e) MSK CT scan f) MSK MRI scan	57	1	*	*		*
		A2.18.5	Detect and describe characteristic X-ray findings in patients with: a) Rheumatoid arthritis b) Osteoarthritis c) CPPD d) Gout e) Psoriatic arthritis f) Ankylosing spondylitis	57	1	*	*		*
		A2.18.6	Identify the features on history, examination, and laboratory investigation that permit diagnosis of: a) Osteoarthritis b) Rheumatoid arthritis c) SLE d) Psoriatic arthritis e) Fibromyalgia f) Gout g) Pseudo gout h) Palindromic rheumatism i) Septic arthritis j) Polymyalgia rheumatica	58	1	*	*		*
		A2.18.7	Obtain thorough and relevant histories from patients with rheumatological disease	58	2			*	
		A2.18.8	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	59	3			*	
Critical Care Medicine	All	A2.19.1	Demonstrate applied knowledge of the following: a) Respiratory dysfunction i. Determine the presence of respiratory failure, provide for its emergency support, and develop a plan of action for its investigation and management	59	1	*	*		*
		A2.19.2	Demonstrate applied knowledge of the following: b) Cardiovascular dysfunction i. Recognize the nature of the problem, provide emergency life support including ACLS, and develop a plan for its investigation and management	59	1	*	*		*
		A2.19.3	Demonstrate applied knowledge of the following: c) Neurological dysfunction i. Develop an approach to the patient with an altered level of consciousness, including instituting immediate life-sustaining measures, carrying out an appropriate neurological examination, deriving an anatomic localization and differential diagnosis, and making a plan for investigation and management ii. Recognize acute and chronic neuromuscular disorders requiring life sustaining treatment, and develop a plan for diagnosis, support, and specific therapy	60	1	*	*		*
		A2.19.4	Demonstrate applied knowledge of the following: d) Renal dysfunction i. Recognize the problem of a patient with oliguria or advancing or established renal failure ii. Institute measures to preserve remaining renal function in such patients, while developing a plan for precise diagnosis, adequate supportive measures, and appropriate definitive therapy	60	1	*	*		*
		A2.19.5	Demonstrate applied knowledge of the following: e) Gastrointestinal dysfunction i. Evaluate the nature of the illness in patients presenting with gastrointestinal crisis, including the provision of immediate life-sustaining support and the development of a diagnostic and therapeutic plan	60	1	*	*		*
		A2.19.6	Demonstrate applied knowledge of the following: f) Hepatic dysfunction i. Recognize the problem of jaundice and/or hepatic failure, and provide for immediate life-sustaining support while developing a plan for diagnosis and definitive therapy	60	1	*	*		*

		A2.19.7	Demonstrate applied knowledge of the following: g) Hematological and oncological disorders i. Recognize the problem of a patient with malignancy, thrombotic, or thrombolytic disorder, bleeding, neutropenia, or anemia, and provide life sustaining support while devising a plan for investigation, support, and therapy	60	1	*	*	*	*
		A2.19.8	Demonstrate applied knowledge of the following: h) Metabolic and endocrine disorders i. Recognize the nature and severity of common metabolic, endocrine, or fluid and electrolyte abnormalities, and develop a plan for precise diagnosis, emergency and long-term treatment, and appropriate monitoring	60	1	*	*	*	*
		A2.19.9	Demonstrate applied knowledge of the following: j) Septic illness i. Identify the features of catastrophic septic illness, and provide for immediate life-sustaining treatment while devising a plan for definitive diagnosis, continued life support, and appropriate definitive therapy	60	1	*	*	*	*
		A2.19.10	Demonstrate applied knowledge of the following: Intoxication i. Formulate a differential diagnosis for patients potentially suffering from toxic syndromes ii. Devise a plan to support organ function, prevent further absorption, alter distribution, and enhance elimination of common toxins	60	1	*	*	*	*
		A2.19.11	Demonstrate applied knowledge of the following: Nutritional support i. Evaluate the nutritional status of a critically ill patient ii. Devise a management strategy for providing enteral and/or parenteral nutrition for critically ill patients	60	1	*	*	*	*
		A2.19.12	Demonstrate applied knowledge of the following: m) End-of-life issues i. Where death is inevitable, facilitate a dignified process of withdrawal of life-sustaining support, without withdrawal of care	60	1	*	*	*	*
		A2.19.13	Demonstrate practical knowledge of the following technical skills: a) Airway assessment and maintenance b) Care of patients requiring conventional and non-invasive ventilation c) Central venous cannulation d) Resuscitation of patients in undefined shock and with cardiac rhythm disturbance e) Arterial cannulation f) Thoracentesis and chest tube insertion g) Application and maintenance of a pulmonary artery catheter h) Portable chest X-ray interpretation i) Lumbar puncture j) Brain death determination k) Peritoneal tap (Not all residents will have hands-on exposure to all these experiences during their limited time in the ICU, but residents should strive to become familiar with the indications for and general principles surrounding these interventions.)	61	1	*	*	*	*
		A2.19.14	Obtain thorough and relevant histories	61	2			*	
A2.20	Psychiatry service	All	A2.20.1	Demonstrate proficiency in obtaining a psychiatric history, supplementing with collateral history where necessary	62	2			*
			A2.20.2	Demonstrate proficiency in the assessment of mental status	62	2			*
			A2.20.3	Recognize and classify important psychiatric symptoms and develop a differential diagnosis based upon interpretation of these symptoms	62	1	*	*	*
			A2.20.4	Develop an evidence-based approach to the evaluation of patients presenting with: a) Mood disorders, including depression and bipolar mood disorder b) Anxiety disorders c) Psychotic disorders, including schizophrenia and other delusional disorders d) Suicidal ideation or attempt e) Somatoform disorders f) Personality disorders g) Dementia	62	1	*	*	*
			A2.20.5	Identify circumstances where psychiatric symptoms may be due to neurological or systemic disease, and outline a plan for appropriate investigation of such patients	63	1	*	*	*
			A2.20.6	Set priorities for the timing of assessment of requested consultations based upon the acuity of the presenting problem	63	1	*	*	*
			A2.20.7	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	64	3			*
A2.21	Endocrinology	All	A2.21.1	Develop evidence-based approaches to the investigation of patients presenting with: a) Polyuria and polydipsia b) Weight loss and gain c) Palpitations, shakiness, and/or sweating d) Fatigue e) Visual field loss or blurred vision f) Delayed or premature sexual development g) Sexual dysfunction	65	1	*	*	*
			A2.21.2	Recognize the neurological complications that may occur in endocrine diseases, including diabetes, thyroid disease, parathyroid disease, and adrenal disease	65	1	*	*	*
			A2.21.3	Demonstrate proficiency in the following procedures: a) Clinical examination of the thyroid b) Clinical examination to detect complications of diabetes c) Visual field testing and extra ocular muscle testing	65	2			*

			A2.21.4	Obtain thorough and relevant histories from patients with endocrinological diseases	65	2			*	
			A2.21.5	Include the patient in discussions and decisions concerning appropriate diagnostic procedures	66	3			*	
A3. Management	A3.1 Neurology Inpatients Service	All	A3.1.1	Formulate evidence-based (whenever possible) management plans that take into consideration the seriousness of the illness and the costs and benefits of various diagnostic and therapeutic interventions	12,15	1	*	*		*
		Junior	A3.1.2	Working with the senior resident and/or consultant, develop appropriate therapeutic, treatment, and general management plans for patients under their care	14	1	*	*		*
			A3.1.3	Working with the senior resident and/or consultant, develop appropriate clinical judgment in formulating therapeutic plan that takes into account matters such as the patient's age, general health, risks and costs of therapeutic interventions, and epidemiology of the disease	14	1	*	*		*
			A3.1.4	Recognize and provide initial emergency management for the following acute neurological problems: a) Acute bacterial meningitis b) Acute encephalitis c) Coma d) Recurrent seizures and status epilepticus e) Acute intracranial hemorrhage f) Acute stroke g) Recurrent transient ischemic events and threatened stroke h) Incipient transtentorial herniation i) Acute paralytic illness j) Impending spinal cord compression	14	1	*	*		*
		Senior	A3.1.5	Develop appropriate therapeutic treatment and general management plans for patients under their care	11	1			*	*
			A3.1.6	Develop appropriate clinical judgment in formulating therapeutic plan that takes into account matters such as the patient's age, general health, risks and costs of therapeutic interventions, and epidemiology of the disease	11	1			*	*
			A3.1.7	Demonstrate the ability to independently manage neurological emergencies, including the following: a) Acute bacterial meningitis b) Acute encephalitis c) Coma d) Recurrent seizures and status epilepticus e) Acute intracranial hemorrhage f) Acute stroke g) Recurrent transient ischemic events and threatened stroke h) Incipient transtentorial herniation i) Acute paralytic illness j) Impending spinal cord compression	11	1			*	*
			A3.1.8	Perform technical procedures, including lumbar puncture, Tensilon® Test, and Dix-Hallpike Test	11	2				*
			A3.1.9	Demonstrate the ability to manage neurological inpatients at the level of a seniorconsultant	11	1,2			*	*
			A3.1.10	Take responsibility for initiating and sequencing care activities for each patient, interpreting the outcomes, and clearly outlining the medical care plan to all members of the health care team	12	1,3	*	*		*
			A3.1.11	Include the patient in discussions and decisions concerning appropriate management procedures	13	3			*	
	A3.2 Neurology Outpatient Clinics	All	A3.2.1	Include the patient in discussions and decisions concerning appropriate management procedures	18,20	3			*	
		Junior	A3.2.2	In conjunction with the consultant, develop appropriate therapeutic treatment and general management plans for patients under their care	19	1	*	*		*
			A3.2.3	In conjunction with the consultant, develop appropriate clinical judgment in formulating therapeutic plan that takes into consideration matters such as the patient's age, general health, risks and costs of therapeutic interventions, and epidemiology of the disease	19	1	*	*		*
			A3.2.4	Where appropriate, perform procedures, including lumbar puncture, Tensilon® Test, and DixHallpike Test	19	2				*
			A3.2.5	Demonstrate the importance of initiating and sequencing care activities for each patient, interpreting the outcomes, and clearly outlining the medical care plan to all members of the health care team	20					
		Senior	A3.2.6	Take responsibility for initiating and sequencing care activities for each patient, interpreting the outcomes, and clearly outlining the medical care plan to all members of the health care team	17	1,3	*	*		*
			A3.2.7	Independently develop appropriate therapeutic treatment and general management plans for patients under their care	16	1			*	*
			A3.2.8	Independently develop appropriate clinical judgment in formulating therapeutic plan that takes into account matters such as the patient's age, general health, risks and costs of therapeutic interventions, and epidemiology of the disease	16	1			*	*
			A3.2.9	Perform procedures, including lumbar puncture, Tensilon® Test, and Dix-Hallpike Test with proficiency	16	2				*
			A3.2.10	Access financial supports for patients when appropriate, including advocating for funding sources to offset medication costs for the patient and advocating for disability income support where needed	18	1	*	*		*
	A3.3 Neurology Consult Services	All	A3.3.1	Recognize and provide initial emergency management for the following acute neurological problems: a) Acute bacterial meningitis b) Acute encephalitis c) Coma d) Recurrent seizures and status epilepticus e) Acute intracranial hemorrhage f) Acute stroke g) Recurrent transient ischemic events and threatened stroke h) Incipient transtentorial herniation i) Acute paralytic illness j) Impending spinal cord compression	24	1	*	*		*

		A3-3.2	Formulate evidence-based (whenever possible) management plans that take into consideration the seriousness of the illness and the costs and benefits of various diagnostic and therapeutic interventions	22,25	1	*	*		*
	Junior	A3-3.3	Working with support from the consultant, develop appropriate therapeutic treatment management plans for patients seen in consult	24	1	*	*		*
		A3-3.4	Working with the consultant, develop appropriate clinical judgment in formulating therapeutic plan that takes into consideration matters such as: the patient's age, general health, risks and costs of therapeutic interventions, and epidemiology of the disease	24	1	*	*		*
	Senior	A3-3.5	Independently develop appropriate therapeutic, treatment management plans for patients seen in consults	21	1		*		*
		A3-3.6	Demonstrate appropriate clinical judgment to formulate therapeutic plan that takes into account matters such as: the patient's age, general health, risks and costs of therapeutic interventions, and epidemiology of the disease	21	1		*		*
		A3-3.7	Demonstrate the ability to manage neurological inpatient consultations at the level of an independent neurologist	21	1		*		*
		A3-3.8	Demonstrate the ability to independently manage neurological emergencies, including the following: a) Acute bacterial meningitis b) Acute encephalitis c) Coma d) Recurrent seizures and status epilepticus e) Acute intracranial hemorrhage f) Acute stroke g) Recurrent transient ischemic events and threatened stroke h) Incipient transtentorial herniation i) Acute paralytic illness j) Impending spinal cord compression	21	1		*		*
		A3-3.9	Take responsibility for initiating and sequencing care activities for each patient, interpreting the outcomes, and clearly outlining the medical care plan to all members of the health care team	22	1,3	*	*		*
		A3-3.10	Include the patient in discussions and decisions concerning appropriate management procedures	23	3			*	
A3-4 EMG/ Neuromuscular Service	All	A3-4.1	Formulate appropriate management plans for common neuromuscular diseases	26	1	*	*		*
		A3-4.2	Include the patient in discussions and decisions concerning appropriate management procedures	28	3			*	
A3-5 Epilepsy and Electroencephalography (EEG)	All	A3-5.1	Demonstrate proficiency in the medical management of epilepsy, including: a) Principles of anticonvulsant use b) Choice of drug c) Recognition of drug pharmacology and side effects d) Principles of monitoring anticonvulsant treatment e) Identify indications for surgical management of epilepsy, and describe an approach to the workup of potential surgical candidates	28	1	*	*		*
		A3-5.2	Take responsibility for initiating and sequencing care activities for each patient, interpreting the outcomes, and clearly outlining the medical care plan to all members of the health care team	29	1,3	*	*		*
		A3-5.3	Identify important biological, psychological, social, cultural, and economic influences on the management of epilepsy	29	1	*	*		*
		A3-5.4	Include the patient in discussions and decisions concerning appropriate management procedures	30	3			*	
A3-6 Neurocritical Care Rotation	All	A3.6.1	Demonstrate proficiency in the management of patients with life-threatening disorders of the nervous system, including the following: a) Comatose states b) Raised intracranial pressure c) Status epilepticus d) Acute myelopathy e) Neurogenic respiratory failure f) Acute peripheral nerve disease, including Guillain Barre syndrome g) Failure to wean from the ventilator h) Severe head injury i) Intracranial hemorrhage j) CNS infections k) Neurological consequences of systemic illness, including transplant-related neurological syndromes	30	1	*	*		*
		A3.6.2	Develop a strategy to offer prognostic advice and treatment recommendations for critically ill patients where decisions regarding withdrawal of life support arise	30	1	*	*		*
A3-7 Stroke	All	A3-7.1	Discuss the role of the following interventions for acute stroke: a) Endovascular treatment b) Surgical treatment for intracerebral hemorrhage c) Surgical and medical management of subarachnoid hemorrhage	32	1	*	*		*
		A3-7.2	Take responsibility for initiating and sequencing care activities for each patient, interpreting the outcomes, and clearly outlining the medical care plan to all members of the health care team	33	1,3	*	*		*
		A3-7.3	Include the patient in discussions and decisions concerning appropriate management procedures	34	3			*	

A3.8 Pediatric Neurology Service	All	A3.8.1	Develop evidence-based approaches to the management of children presenting with: a) Headache b) Altered level of consciousness c) Paroxysmal disorders, including seizures and their mimics d) Developmental delay and regression e) Hypotonia in infancy f) Ataxia g) Hemiplegia, monoplegia, paraplegia, and quadriplegia h) Movement disorders i) Disorders of vision and ocular motility j) Sensory and autonomic disturbances k) Lower brainstem and cranial nerve dysfunction	34	1	*	*		*
		A3.8.2	Develop evidence-based management strategies for common diseases in pediatric neurology, including: a) Epilepsy b) Stroke in childhood c) Hydrocephalus d) Metabolic disorders e) Neuromuscular diseases such as Duchenne and other muscular dystrophies f) Pediatric migraine g) Tourette's syndrome and other childhood movement disorders h) Neurocutaneous syndromes, including neurofibromatosis I and II, Sturge-Weber syndrome, and tuberous sclerosis i) Meningitis, encephalitis, and other CNS infections j) Inherited neuropathies, including Charcot-Marie-Tooth	34	1	*	*		*
		A3.8.3	Describe the principles of rehabilitation involved in the management of the brain-injured child	35	1	*	*		*
		A3.8.4	Take responsibility for initiating and sequencing care activities for each patient, interpreting the outcomes, and clearly outlining the medical care plan to all members of the health care team	35	1,3	*	*		*
		A3.8.5	Include the patient in discussions and decisions concerning appropriate management procedures	36	3			*	
A3.9 Neurology Longitudinal Clinic	All	A3.9.1	Outline a plan for management of a patient presenting with neurological symptoms and/or signs	39	1	*	*		*
		A3.9.2	Demonstrate an organized and effective approach to the long-term follow-up of patients with neurological diseases, including: a) Anticipating and managing side effects of treatment b) Identifying alternative treatment approaches when initial lines of treatment are ineffective or poorly tolerated c) Monitoring patients with serial directed clinical examination, supplemented as necessary with imaging or laboratory tests d) Recognizing new symptoms or signs that may require a revision of the original diagnostic impression	39	1	*	*		*
		A3.9.3	Identify appropriate situations where patients can or should be discharged from the practice	40	1	*	*		*
A3.10 Neuroradiology	All	A3.10.1	Recognize and treat reactions to radiographic contrast material	40	1	*	*		*
A3.11 Neurosurgery Service	All	A3.11.1	Describe the indications for, and provide a basic description of the performance of the following neurosurgical procedures: a) Craniotomy for tumor b) Brain biopsy (open and stereotactic) c) Craniotomy for aneurysm d) Epilepsy surgery, including awake craniotomy e) Ventriculoperitoneal shunt f) Lumbar and cervical discectomy g) Carotid endarterectomy h) Carpal tunnel release i) Nerve and muscle biopsy j) Craniotomy or burr hole procedures for trauma	42	1	*	*		*
		A3.11.2	Outline the principles of management for the following neurosurgical emergencies: a) Intracerebral hemorrhage b) Subarachnoid hemorrhage c) Acute hydrocephalus d) Acute cerebellar infarction e) Acute spinal cord compression f) Acute cauda equina compression g) Craniocerebral trauma h) Spinal cord and spinal column trauma	43	1	*	*		*
		A3.11.3	Demonstrate proficiency in the management of increased intracranial pressure.	43	1	*	*		*

		A3-11.4	Develop a clinical approach to the following scenarios, including the development of a differential diagnosis and an evidence-based plan for management: a) Bilateral weakness, including that due to spinal cord injury, spinal tumors, cervical spondylitic myelopathy, cervical disc herniation, epidural abscess, and spinal AVM b) Unilateral or focal weakness, including that due to carpal tunnel syndrome, other peripheral nerve lesions, radiculopathy, brain tumors, intracerebral hemorrhage, and acute stroke c) Bilateral numbness, including that due to spinal cord tumor or syringomyelia d) Focal or unilateral numbness, including that due to carpal tunnel syndrome, transient ischemic attacks, and partial seizures e) Anosmia, including that due to craniocerebral trauma and olfactory groove meningioma f) Visual loss, including that due to optic sheath meningioma, optic nerve or chiasmal glioma, and carotid ophthalmic aneurysm g) Diplopia, including that due to posterior communicating artery aneurysm h) Altered hearing and vertigo, including that due to acoustic neuroma, other cerebellopontine angle tumors, and glomus tumors i) Ataxia and gait disturbance, including that due to cerebellar infarction, hemorrhage, neoplasm, or hydrocephalus j) Dementia with a surgically treatable etiology, including normal pressure hydrocephalus and chronic subdural hematoma k) Coma, including that due to intracerebral or subarachnoid hemorrhage or craniocerebral trauma	43	1	*	*	*	*	
		A3-11.5	Identify indications for surgical management in neurological diseases, including Parkinson's disease, epilepsy, and chronic pain syndromes	43	1	*	*	*	*	
		A3-11.6	Take responsibility for initiating and sequencing care activities for each patient, interpreting the outcomes, and clearly outlining the medical care plan to all members of the health care team	44	1,3	*	*	*	*	
		A3-11.7	Include the patient in discussions and decisions concerning appropriate management procedures	45	3			*		
A3-12	General Internal Medicine Service	All	A3-12.1	Develop evidence-based management approaches to common medical illnesses, as well as less common but remediable conditions	45	1	*	*	*	
			A3-12.2	Demonstrate effective, integrated management of multiple medical problems in patients with complex illnesses	45	1	*	*	*	
			A3-12.3	Adapt patient management based on health determinants	46	3			*	
			A3-12.4	Perform common procedures used in the management of medical patients, including: a) ECG interpretation b) Central line insertion c) Bone marrow aspiration/biopsy d) Thoracentesis e) Lumbar puncture f) Paracentesis g) Joint aspiration	46	1,2	*	*	*	*
			A3-12.5	Include the patient in discussions and decisions concerning appropriate management procedures	47	3			*	
A3-13	Cardiology Service	All	A3-13.1	Develop evidence-based approaches to the management of patients presenting with: a) Chest pain b) Heart failure/dyspnea c) Disturbances of cardiac rhythm d) Hypotension/shock/cardiac arrest e) Hypertensive crisis	47	1	*	*	*	*
			A3-13.2	Develop evidence-based management strategies for the following diseases: a) Acute myocardial infarction b) Unstable angina c) Acute pulmonary edema and chronic heart failure d) Cardiac arrest/life-threatening arrhythmias e) Disorders of cardiac rhythm and conduction f) Shock/hypotension g) Hypertensive urgency/emergency h) Common forms of valvular heart disease i) Endocarditis j) Pericardial diseases k) Atherosclerosis	47	1	*	*	*	*
			A3-13.3	Include the patient in discussions and decisions concerning appropriate management procedures	50	3			*	

A3-14 Emergency medicine	All	A3-14.1	Develop an approach to the emergency management of patients presenting with: a) Fever b) Dizziness and vertigo c) Weakness d) Confusion e) Decreased level of consciousness f) Seizures g) Headache h) Dyspnea i) Chest pain j) Syncope k) Nausea and vomiting l) Abdominal pain m) Gastrointestinal bleeding n) Diarrhea or constipation o) Jaundice p) Vaginal bleeding and acute pelvic pain q) Back pain r) Orthopedic trauma s) Wound management issues t) Intoxication u) Acute psychiatric symptoms	50	1	*	*	*	*
		A3-14.2	Develop familiarity with common emergency procedures, demonstrating proficiency if possible in the following: a) Suturing b) Casting c) Foreign body removal d) Venous access e) Chest tube placement f) Intubation	50	2			*	
		A3-14.3	Adapt patient management based on health determinants	52	3			*	
		A3-14.4	Include the patient in discussions and decisions concerning appropriate management procedures	52	3			*	
A3-15 Hematology	All	A3-15.1	Develop evidence-based approaches to the management of patients presenting with: a) Anemia b) Polycythemia c) Thrombocytopenia d) Thrombocytosis e) Leukocytosis f) Neutropenia g) Pancytopenia h) Lymphadenopathy/splenomegaly i) Suspected venous thromboembolism j) Suspected bleeding disorder	52	1	*	*	*	*
		A3-15.2	Develop evidence-based management strategies for the following diseases: a) Iron-deficiency anemia b) Megaloblastic anemia c) Anemia of chronic disease d) Thalassemia e) Sickle cell disorders f) Autoimmune hemolytic anemia g) Microangiopathic hemolytic anemia h) Immune thrombocytopenia i) Chronic and acute leukemias j) Polycythemia vera and primary thrombocytosis k) Myelodysplastic syndromes l) Aplastic anemia m) Lymphomas and myeloma n) Deep vein thrombosis and pulmonary embolism o) Bleeding disorders	53	1	*	*	*	*
		A3-15.3	Identify appropriate use of blood transfusion products and appreciate potential complications of transfusion	53	1	*	*		*
		A3-15.4	Include the patient in discussions and decisions concerning appropriate management procedures	54	3			*	
A3-16 Infectious Diseases	All	A3-16.1	Develop evidence-based approaches to the management of patients presenting with: a) Fever b) Leukocytosis c) Septic shock d) Stiff neck and headache e) Heart murmurs f) Lymphadenitis/lymphadenopathy g) Soft tissue inflammation h) Inflamed joints i) Cough and sputum production j) Embolic lesions k) Painful throat, ears, or sinuses	55	1	*	*	*	*
		A3-16.2	Develop evidence-based management strategies for the following diseases: a) Fever of unknown origin b) Septicemia c) Meningitis d) Encephalitis e) Pneumonia, bronchitis f) Mediastinitis g) Endo- or pericarditis h) Intraabdominal sepsis i) Hepatitis j) Osteomyelitis and septic arthritis k) HIV infection and AIDS l) Viral syndromes m) Infections in immunosuppressed patients n) Pharyngitis, sinusitis, otitis o) Soft tissue infections p) Sexually transmitted diseases	55	1	*	*	*	*

		A3-16-3	Include the patient in discussions and decisions concerning appropriate management procedures	57	3			*	
A3-17	All	A3-17.1	Outline a treatment approach for patients with: a) New onset rheumatoid arthritis b) Recurrent gouty arthritis c) Fibromyalgia d) Osteoarthritis of the knee e) Acute low back pain	58	1	*	*		*
		A3-17.2	Include the patient in discussions and decisions concerning appropriate management procedures	59	3			*	
A3-18	All	A3-18.1	Demonstrate applied knowledge of the following: a) Respiratory dysfunction i. Determine the presence of respiratory failure, provide for its emergency support, and develop a plan of action for its investigation and management	59	1	*	*		*
		A3-18.2	Demonstrate applied knowledge of the following: b) Cardiovascular dysfunction i. Recognize the nature of the problem, provide emergency life support including ACLS, and develop a plan for its investigation and management	59	1	*	*		*
		A3-18.3	Demonstrate applied knowledge of the following: c) Neurological dysfunction i. Develop an approach to the patient with an altered level of consciousness, including instituting immediate life-sustaining measures, carrying out an appropriate neurological examination, deriving an anatomic localization and differential diagnosis, and making a plan for investigation and management ii. Recognize acute and chronic neuromuscular disorders requiring life sustaining treatment, and develop a plan for diagnosis, support, and specific therapy	60	1	*	*		*
		A3-18.4	Demonstrate applied knowledge of the following: d) Renal dysfunction i. Recognize the problem of a patient with oliguria or advancing or established renal failure ii. Institute measures to preserve remaining renal function in such patients, while developing a plan for precise diagnosis, adequate supportive measures, and appropriate definitive therapy	60	1	*	*		*
		A3-18.5	Demonstrate applied knowledge of the following: e) Gastrointestinal dysfunction i. Evaluate the nature of the illness in patients presenting with gastrointestinal crisis, including the provision of immediate life-sustaining support and the development of a diagnostic and therapeutic plan	60	1	*	*		*
		A3-18.6	Demonstrate applied knowledge of the following: f) Hepatic dysfunction i. Recognize the problem of jaundice and/or hepatic failure, and provide for immediate life-sustaining support while developing a plan for diagnosis and definitive therapy	60	1	*	*		*
		A3-18.7	Demonstrate applied knowledge of the following: g) Hematological and oncological disorders i. Recognize the problem of a patient with malignancy, thrombotic, or thrombolytic disorder, bleeding, neutropenia, or anemia, and provide life sustaining support while devising a plan for investigation, support, and therapy	60	1	*	*		*
		A3-18.8	Demonstrate applied knowledge of the following: h) Metabolic and endocrine disorders i. Recognize the nature and severity of common metabolic, endocrine, or fluid and electrolyte abnormalities, and develop a plan for precise diagnosis, emergency and long-term treatment, and appropriate monitoring	60	1	*	*		*
		A3-18.9	Demonstrate applied knowledge of the following: i) Septic illness i. Identify the features of catastrophic septic illness, and provide for immediate life-sustaining treatment while devising a plan for definitive diagnosis, continued life support, and appropriate definitive therapy	60	1	*	*		*
		A3-18.10	Demonstrate applied knowledge of the following: j) Intoxication i. Formulate a differential diagnosis for patients potentially suffering from toxic syndromes ii. Devise a plan to support organ function, prevent further absorption, alter distribution, and enhance elimination of common toxins	60	1	*	*		*
		A3-18.11	Demonstrate applied knowledge of the following: k) Nutritional support i. Evaluate the nutritional status of a critically ill patient ii. Devise a management strategy for providing enteral and/or parenteral nutrition for critically ill patients	60	1	*	*		*
		A3-18.12	Demonstrate applied knowledge of the following: m) End-of-life issues i. Where death is inevitable, facilitate a dignified process of withdrawal of life-sustaining support, without withdrawal of care	60	1	*	*		*

		A3-18.13	Demonstrate practical knowledge of the following technical skills: a) Airway assessment and maintenance b) Care of patients requiring conventional and non-invasive ventilation c) Central venous cannulation d) Resuscitation of patients in undefined shock and with cardiac rhythm disturbance e) Arterial cannulation f) Thoracentesis and chest tube insertion g) Application and maintenance of a pulmonary artery catheter h) Portable chest X-ray interpretation i) Lumbar puncture j) Brain death determination k) Peritoneal tap (Not all residents will have hands-on exposure to all these experiences during their limited time in the ICU, but residents should strive to become familiar with the indications for and general principles surrounding these interventions.)	61	1	*	*	*	*
A3.19	Psychiatry service	All	A3-19.1	Develop an evidence-based approach to the management of patients presenting with: a) Mood disorders, including depression and bipolar mood disorder b) Anxiety disorders c) Psychotic disorders, including schizophrenia and other delusional disorders d) Suicidal ideation or attempt e) Somatoform disorders f) Personality disorders g) Dementia	62	1	*	*	*
			A3-19.2	Recognize the potential neurological complications of treatment for psychiatric illness, including drug-induced movement disorders, and describe a plan for managing such complications	63	1	*	*	*
			A3-19.3	Take responsibility for initiating and sequencing care activities for each patient, interpreting the outcomes, and clearly outlining the medical care plan to all members of the health care team	63	1,3	*	*	*
			A3-19.4	Counsel patients appropriately regarding prevention strategies for exacerbations of psychiatric illness	64	3		*	
			A3-19.5	Recognize the role of lay organizations and community services in providing support for individuals with psychiatric diseases, and make appropriate referrals to such organizations and services	64	1	*	*	*
			A3-19.6	Mobilize resources to assist patients with the personal financial costs of psychiatric illness and its treatment, including advocating for funding support for medications and for income support via disability programs as appropriate	64	3			
			A3-19.7	Include the patient in discussions and decisions concerning appropriate management procedures	64	3		*	
A3.20	Endocrinology	All	A3.20.1	Develop evidence-based approaches to the management of patients presenting with: a) Polyuria and polydipsia b) Weight loss and gain c) Palpitations, shakiness, and/or sweating d) Fatigue e) Visual field loss or blurred vision f) Delayed or premature sexual development g) Sexual dysfunction	65	1	*	*	*
			A3.20.2	Develop evidence-based management strategies for the following diseases: a) Diabetes (Types 1 and 2) and its complications b) Hyper- and hypothyroidism c) Clinically significant and incidentally found nodules of endocrine glands d) Pituitary dysfunction e) Dysfunction of the adrenal cortex and medulla f) Hyper- and hypocalcemia g) Hypogonadism h) Hyperandrogenism i) Hypoglycemia j) Hypertension	65	1	*	*	*
			A3.20.3	Include the patient in discussions and decisions concerning appropriate management procedures	66	3		*	
A4.	Health Promotion & Illness Prevention	All	A4.1	Recognize important risk factors for serious neurological diseases and counsel patients and their families accordingly to reduce recurrence risks where possible	31	1	*	*	*
			A4.2	Demonstrate understanding of the principles of secondary stroke prevention, including the role of anti-thrombotic agents, vascular risk factor management, and lifestyle modification	33	1	*	*	*
			A4.3	Counsel patients and their families on aspects of stroke prevention, inherited neurological diseases, medications & risk factors for neurological diseases, return to work plan following neurological procedures	33, 35, 40, 44, 45	3		*	
			A4.4	Provide genetic counseling regarding inherited neurological diseases	35	3		*	
			A4.5	Identify important determinants of health, including psychosocial, economic, and biological determinants	46,52	1	*	*	*
			A4.6	Recognize the importance of preventative strategies in patients with medical illness or risk factors for medical illness	47, 56, 59	1	*	*	*
			A4.7	Demonstrate appropriate attention to prevention counseling in patient encounters	47,49,54,56, 59,66	3		*	
			A4.8	Identify social, genetic, and economic factors that predispose to or exacerbate cardiovascular, hematological, infectious, rheumatological & endocrine diseases	49, 54, 56, 59, 66	1	*	*	*

			A4.9	Recognize the importance of preventative strategies in cardiovascular disease, particularly as they relate to: a) Modification of risk factors for atherosclerosis, including smoking, hypertension, diabetes, and hyperlipidemia b) Prevention of cardiac thromboembolism c) Recognition of the importance of identifying and treating hypertension to prevent complications, including MI, stroke, renal dysfunction, and heart failure d) Antibiotic prophylaxis to prevent endocarditis e) Secondary prevention of asymptomatic LV dysfunction and congestive heart failure	49	1	*	*	*			
			A4.10	Recognize the importance of preventative strategies, and demonstrate appropriate attention to prevention counseling in patient encounters	52, 54	3			*			
			A4.11	Recognize important risk factors for critical illness and counsel patients and their families accordingly to reduce recurrence risks where possible	62	1	*	*	*			
			Junior	A4.12	Demonstrate knowledge and skills in areas of Preventive Medicine and Community Health and the ability to apply these to the problems of individual patients or groups of patients	15,25	1	*	*	*		
			A4.13	Demonstrate knowledge of aspects of prevention of neurological disorders, including risk factors, and genetic and environmental concerns	20	1	*	*	*			
			Senior	A4.14	Counsel patients and others on aspects of prevention of neurological disorders, including risk factors, and genetic and environmental concerns	13,18,23	3			*		
			B. Communicator	B1. Verbal	All	B1.1	Communicate courteously, clearly, effectively, and appropriately with nurses and other members of the health care team	12,15,17,19,22,24,27,29,31,33,44,63	3			*
			B1.2	When dealing with patients and their families, communicate effectively and regularly, responding to questions in a considerate, sympathetic, and factual manner, appropriate to the clinical situation, in terms that are understandable to the lay person	11,14,17,21,24,26,28,32,35,43,63	3			*			
			B1.3	Clearly explain the performance of all diagnostic procedures, the reasons for their performance, their risks, complications, and potential benefits, and the likely outcome of the anticipated results	11,17,21,28,32,35,44,63	3			*			
			B1.4	Address the issue of prognosis honestly and sensitively where possible	11,17,22,28,32,35,44,63	3			*			
B1.5	Explain the reason for consultations by other physicians or members of the health care team	11,17,22,28,32,35,44,51,63	3			*						
B1.6	Anticipate problems of interpretation or expression by patients and their families	11,14,17,19,21,24,26,28,32,35,43,51	3			*						
B1.7	Ensure that informed consent has been obtained for procedures or treatments and that the requisitions for investigations or consultations have been filled out clearly, concisely, legibly, and factually	12,17,19,22,29,33,44	3			*						
B1.8	When requesting investigative procedures, ensure that adequate information is provided about the patient and the reasons for the investigation to the person who will be performing or reporting the study	12,15,17,19,22,24,29,33,44,51	3			*						
B1.9	Ensure that consultation requests provide sufficient information for the physician to understand why the patient is being seen	12,15,17,19,28,32,35,44,51,63	3			*						
B1.10	Communicate effectively with medical colleagues, including referring physicians, in person, by telephone, and through dictated consultation and follow-up letters/EMG reports	17,26	3			*						
B1.11	Clearly explain the performance of electrophysiological studies, the reasons for their performance, and their risks, complications, and potential benefits	26	3			*						
B1.12	Participate in and/or lead discussions with the families of critically ill patients when life- and-death decision-making is required	31	3			*						
B1.13	Deliver information to patients and their families about suspected or confirmed diagnoses, investigation results, management plans, treatment risks, and prognosis, in a humane and understandable manner	31,39	3			*						
B1.14	Communicate effectively with all medical colleagues, including referring physicians in all settings, in person, by telephone, and through clinic or inpatient records, letters, and discharge summaries	35	3			*						
B1.15	Provide accurate verbal reports of neuropathological examinations to referring physicians when necessary	37	3			*						
B1.16	Communicate effectively with colleagues and other health care professionals	39	3			*						
B1.17	Provide accurate verbal reports of neuroradiological procedures to referring physicians in emergency situations	41	3			*						
B1.18	Develop skills in presenting and discussing medical illness-related topics at teaching and patient care rounds	46	2									
B1.19	Demonstrate effective presentation of clinically relevant information at the bedside	46,48,51,53,55,58,65	3			*						
B1.20	Convey information to patients and families about diagnosis, proposed investigations, and proposed management in a clear, understandable manner	46,48,51,53,55,58,65	3			*						
B1.21	Develop skills in presenting and discussing cardiac topics at teaching and patient care rounds	48	2									
B1.22	Develop skills in presenting and discussing hematological topics at teaching and patient care rounds	53	2									

			B1-23	Develop skills in presenting and discussing infectious disease topics at teaching and patient care rounds	56	2					
			B1-24	Develop skills in presenting and discussing rheumatological topics at teaching and patient care rounds	58	2					
			B1-25	Obtain and document informed consent for tests and procedures	61	3				*	
			B1-26	Present a concise synopsis of a patient's clinical problem to the team during rounds	61	2				*	
			B1-27	Discuss diagnosis, investigations, management, and prognosis with patients and their families in terms that are understandable	61	3				*	
		Junior	B1-28	With support from the senior resident and/or consultant, clearly explain the performance of all diagnostic procedures, the reasons for their performance, their risks, complications, and potential benefits, and the likely outcome of the anticipated results	14,19,24	2				*	
			B1-29	With support from the senior resident and/or consultant, explain the reason for consultations with other physicians or members of the health care team	14,24	2				*	
			B1-30	With support from the senior resident and/or consultant, address the issue of prognosis honestly and sensitively where possible	14,19,24	3				*	
			B1-31	In conjunction with the consultant, communicate effectively with clinic patients and their families, responding to questions in a considerate, sympathetic, and factual manner, appropriate to the clinical situation, in terms that are understandable to the layperson	19	3				*	
			B1-32	Working with the consultant, communicate effectively with medical colleagues, including referring physicians, in person, by telephone, and through dictated consultation and follow-up letters	19	3				*	
			B1-33	Demonstrate the importance of initiating and sequencing care activities for each patient, interpreting the outcomes, and clearly outlining the medical care plan to all members of the health care team	20						
		Senior	B1-34	Demonstrate effective communication with patients, family, and the health care team in the setting of a family conference	11,22	3				*	
B2. Non-verbal		All	B2.1	Ensure that clinical notes are up to date, and that the risks and benefits of proposed investigations or treatments have been explained to the patient and noted in the record	17,19	3				*	
			B2.2	Independently complete an initial consultation note and relevant progress notes, including diagnosis, treatment plan, and outcome of investigations	22,24	3				*	
			B2.3	Request appropriate electrodiagnostic studies by providing sufficient information on an EMG requisition to permit selection of studies	27	2				*	
			B2.4	Maintain accurate and up-to-date clinical notes and records for each patient	28	3					
			B2.5	Demonstrate empathy and effective listening skills in interactions with patients and their families	31,39	3				*	
			B2.6	Produce and maintain clear and accurate written records of clinical encounters, including the dictation of consultation and follow-up notes to send to referring physicians	31,39	3					
			B2.7	Maintain accurate and up-to-date clinical notes and records for each patient, including admission history and physical notes, daily progress notes, and discharge summaries	12,32,44,63	3					
			B2.8	Prepare written reports of neuropathological examinations that offer concise descriptions of relevant pathological changes and clear neuropathological diagnoses	37	2				*	
			B2.9	Provide clinical summaries for appropriate neuroimaging protocol planning and interpretation	41	2				*	
			B2.10	Produce, with the assistance of a neuroradiologist, concise written reports of the results of neuroradiological procedures	41	2				*	
			B2.11	Produce clear and concise consultation notes that communicate effectively with referring physicians and colleagues	46,48,53,56,58,65	2				*	
			B2.12	Maintain clear and concise written records that accurately reflect the clinical encounter	51	3					
			B2.13	Maintain clear and accurate clinical notes and records	61	3					
			B2.14	Anticipate problems of interpretation or expression by patients and their families, including the potential effects of mental illness on the ability of patients to communicate accurately	63	3				*	
			B2.15	Develop skills in presenting and discussing endocrinological topics at teaching and patient care rounds	65	2					
		Junior	B2.16	Independently maintain accurate and up-to-date clinical notes and records for each patient, including admission history and physical notes, daily progress notes, and discharge summaries	15	3					
			B2.17	With support from the senior resident and/or consultant, ensure that informed consent has been obtained for procedures or treatments and that the requisitions for investigations or consultations have been filled out clearly, concisely, legibly, and factually	15,24	3					
C. Collaborator		All	C.1	Interact in a collaborative fashion with other members of the health care team to maximize the appropriate use of everyone's skills in caring for the patient	12,15,22,25	3					
			C.2	Work effectively with resident or medical student colleagues assigned to the Neurology Clinical Teaching Unit to form a collegial and efficient team	12,15,44	3					

C.3	Recognize that the optimal treatment of many patients with neurological disorders requires a team approach, and understand the role of other health care professionals (occupational therapists, physiotherapists, speech-language pathologists, and social workers) in managing patients with neurological illnesses	12,15,17,20	3					
C.4	Collaborate appropriately with patients and families on management decisions	12,15,17,20,22,25	3				*	
C.5	Work effectively with the consulting medical or surgical service to form a collegial and efficient approach to patient care	22,25	3					
C.6	Recognize that the optimal treatment for many patients with neurological disorders requires a team approach, and support the role of other health care professionals (occupational therapists, physiotherapists, speech-language pathologists, social workers) in managing patients with neurological illness. This may involve teaching the consulting medical or surgical services about the role and importance of other health care professionals	22,25	3					
C.7	Recognize and respect the roles of other health care professionals involved in the care of patients with neuromuscular disease, including EMG technicians, nurse clinicians, physiotherapists, occupational therapists, speech-language pathologists, social workers, nutritionists, and clinical and laboratory support staff	27	3					
C.8	Recognize the importance of close collaboration with EMG technicians when designing studies specific to an individual patient	27	3					
C.9	Contribute effectively to interdisciplinary team activities on the epilepsy service	29	3					
C.10	Work effectively with resident or fellow colleagues assigned to the epilepsy service	29	3					
C.11	Recognize and respect the roles of other health care providers involved in the care of patients with epilepsy, including EEG technicians, neurosurgeons, psychologists, research nurses, and clinic support staff	29	3					
C.12	Demonstrate understanding of the roles of the different health care professionals involved in the care of critically ill patients	31	3					
C.13	Demonstrate respectful interactions with other members of the health care team/neuropathology team/neuroradiology team	31,38,41	3					
C.14	Appropriately consult with other health care professionals to optimize care for critically ill patients	31	3					
C.15	Recognize the role of the neurologist within the larger context of a multidisciplinary care team for an individual with a critical illness	31	3					
C.16	Contribute effectively to interdisciplinary stroke team activities	33	3					
C.17	Work effectively with residents or fellow colleagues assigned to the stroke team	33	3					
C.18	Recognize and respect the roles of other health care providers involved in the care of patients with stroke, including physiatrists, physiotherapists, occupational therapists, speech-language pathologists, social workers, research nurses, and clinic support staff	33	3					
C.19	Recognize and respect the roles of the multidisciplinary team members involved in providing care for children with neurological illnesses, including physicians, nursing staff, clinical nurse specialists, physiotherapists, occupational therapists, social workers, psychologists, music and art therapists, pharmacists, and clerical and support staff	35	3					
C.20	Consult appropriately with other physicians and health care professionals	35,44,46,48,51,54,56,58,63,65	3					
C.21	Contribute effectively to interdisciplinary team activities, providing leadership where appropriate	35	3					
C.22	Demonstrate understanding of the roles of the different members of the neuropathology team, including physicians, laboratory technicians, and clerical and support staff	38	3					
C.23	Work appropriately with other physicians (including neurologists and neurosurgeons) to ensure the best care for patients requiring neuropathology service/neuroimaging	38,41	3					
C.24	Demonstrate effective consultation and collaboration with other health care professionals	39	3					
C.25	Work effectively within an interprofessional team of health care professionals to provide care for patients with chronic neurological illnesses	39	3					
C.26	Recognize when referral to other health care professionals, including other physicians, physiotherapists, occupational therapists, speech-language pathologists, social workers, psychologists, and others is appropriate for patients with chronic neurological illnesses	39	3					
C.27	Recognize when referral for subspecialty neurology consultation is appropriate	39	3					
C.28	Demonstrate understanding of the roles of the different members of the neuroradiology team	41	3					
C.29	Interact in a collaborative fashion with the research supervisor to develop a research design and carry out the research project	42	3					
C.30	Contribute effectively to the presentation materials for the research project (this may include an oral presentation, poster, or manuscript)	42	3					

			C-31	Contribute effectively to interdisciplinary team activities, including attending multidisciplinary team meetings for hospital inpatients and leading such meetings when appropriate	12,17,44,63	3						
			C-32	Recognize and respect the role of other health care professionals (neurosurgeons, neuroradiologists, neuropathologists, physiatrists, clinical nurse specialists, ward nurses, OR nurses, occupational therapists, physiotherapists, speech-language pathologists, pharmacists, social workers, and clerical staff) in managing patients requiring neurosurgical treatment	44	3						
			C-33	Participate effectively in the multidisciplinary management of medical patients	46	3						
			C-34	Recognize and respect the roles of the various team members, including other physicians, nursing staff, respiratory therapists, social workers, occupational therapists, physiotherapists, pharmacists, nutritionists, and support staff	46,51,54	3						
			C-35	Participate effectively in the multidisciplinary management of cardiovascular patients	48	3						
			C-36	Recognize and respect the roles of the various team members, including invasive and noninvasive cardiologists, cardiac surgeons, nursing staff, technicians in various cardiologic services, respiratory therapists, social workers, occupational therapists, physiotherapists, pharmacists, nutritionists, and clinic support staff	48	3						
			C-37	Participate effectively in the multidisciplinary management of patients in the emergency department	51	3						
			C-38	Participate effectively in the multidisciplinary management of hematological patients	53	3						
			C-39	Participate effectively in the multidisciplinary management of infectious disease patients	56	3						
			C-40	Recognize and respect the roles of the various team members, including infection control nurses, pharmacists, clinical microbiology laboratory staff, and clinic support staff	56	3						
			C-41	Participate effectively in the multidisciplinary management of rheumatological patients	58	3						
			C-42	Recognize and respect the roles of the various team members, including occupational therapists, physiotherapists, pharmacists, and clinic support staff	58	3						
			C-43	Recognize and respect the roles of other physicians, nursing staff, respiratory therapists, physiotherapists, occupational therapists, nutritionists, pharmacists, social workers, secretarial staff, and support staff in the provision of optimal patient care in an ICU setting	61	3						
			C-44	Recognize that effective teamwork is critical in the ICU setting, and demonstrate proficiency in working effectively within the ICU health care team	61	3						
			C-45	Consult specialist physicians appropriately to optimize patient care	61	3						
			C-46	Work effectively with resident or medical student colleagues assigned to the Psychiatry Service to form a collegial and efficient team	63	3						
			C-47	Recognize that the optimal treatment of many patients with mental illness requires a team approach, and understand the role of other health care professionals (nurses, psychologists, occupational therapists, social workers) in managing patients with psychiatric illness	63	3						
			C-48	Identify community agencies that may play a key role in the management of patients with mental illness	63	3						
			C-49	Participate effectively in the multidisciplinary management of endocrine patients	65	3						
			C-50	Recognize and respect the roles of the various team members, including nurse educators, nutritionists, pharmacists, and clinic support staff	65	3						
		Junior	C-51	Recognize his/her limitations and consult with the senior resident and/or Neurology consultant appropriately	15,25	3						
			C-52	Demonstrate an understanding of the reasons to consult with other physicians and health care professionals	15,25	3						
			C-53	Work with the consultant; consult appropriately with other physicians and health care professionals	20	3						
			C-54	Contribute effectively to interdisciplinary team activities	20	3						
		Senior	C-55	Consult appropriately and in a timely fashion with other physicians and health care professionals	12,17,22	3				*		
D. Manager		All	D.1	Utilize personal time and energy effectively to balance patient care responsibilities, learning needs, and personal needs	12,15,17,20,22,25,27,29,33,35,44,44,63	3						
			D.2	Use information technology to provide optimal patient care and life-long learning opportunities	12,15,17,20,22,25,27,29,33,35,44,64	3						
			D.3	Identify principles of quality assurance important in the management of an EMG laboratory	27	1	*	*				*
			D.4	Identify the measures required to ensure patient safety in the EMG laboratory setting	27	1	*	*				*
			D.5	Identify basic principles of physician billing for medical services, including billing for the technical and professional components of electrodiagnostic services	27	1	*	*				*

			D.6	Demonstrate an appreciation of the cost-benefit of various interventions, and develop strategies for wise use of finite health care resources for patients with neurological diseases & epilepsy	12,17,22,27,29,33,35,44	1,3					
			D.7	Recognize and analyze the costs and benefits of available diagnostic procedures and therapeutic interventions to facilitate allocation of finite resources to patients with critical illnesses, neurological and mental diseases	31,38,39,64	1	*	*			*
			D.8	Manage time effectively, including providing consultation on patients with life-threatening neurological illnesses in a timely manner, and prioritize patient assessments based on the acuity of the presenting problem	31,38,41	3				*	
			D.9	Develop a practice management plan that includes scheduling of office patients, maintenance of patient records, and billing for services	40	3					
			D.10	Manage time effectively to balance career demands and personal responsibilities and needs	40	3					
			D.11	Recognize and analyze the costs and benefits of available diagnostic procedures in neuroradiology to facilitate optimal allocation of finite resources to patients with neurological illnesses	41	1	*	*			*
			D.12	Set priorities for the timing of the implementation of the research project	42	3					
			D.13	Participate in the functioning of the health care team, assuming leadership responsibilities where appropriate	46,48,51,54,56,58,66	3					
			D.14	Demonstrate appropriate use of available resources, including diagnostic tests, inpatient services, and consultative services	46,48,51,54,56,58,66	3					
			D.15	Recognize the economic implications of clinical decisions regarding resource allocation	46,49,51,54,56,58,66	1	*	*			*
			D.16	Develop an understanding of the costs of treatment for individual patients, and an awareness of the resources available to assist in paying for those aspects of care for which patients are financially responsible	46,49,51,54,56,59,66	1	*	*			*
			D.17	Demonstrate effective time management to achieve balance between career and personal responsibilities	46,51,61	3					
			D.18	Assign priority to patient care tasks taking into account the acuity of the presenting problem	51	3					
			D.19	Utilize health care resources in a scientifically, ethically, and economically defensible manner	61	3					
			D.20	Identify indications for inpatient care for patients with mental illness, and demonstrate awareness of the costs and benefits of institutional versus community care	64	1	*	*			*
		Senior	D.21	Supervise more junior medical trainees and students in a manner that ensures the efficient and effective delivery of health care to patients	12,22	3					
			D.22	Develop an approach to the scheduling of clinical patients in a way that suits his or her style of practice and minimizes patient waiting time	17	1					
			D.23	Identify basic principles of physician billing for medical services	17	1	*	*			*
E. Health Advocate		All	E.1	Recognize the role of lay organizations and community services in providing support for individuals with neurological diseases, and make appropriate referrals to such organizations and services	13,18,20,23,27,29,33,36,44	1	*	*			*
			E.2	Advocate effectively for timely access to investigations, consultations, and treatment interventions for patients based upon the urgency of the presenting problem	13,18,20,23,27,29,33,36,45	3					
			E.3	Recognize and respect the diverse cultural, social, biological, economic, and religious factors that may influence patient health and affect patient interaction with the health care system	15,23,25,31,40,62	1	*	*			*
			E.4	Demonstrate awareness of the medical and societal issue of brain death and organ donation, and develop a strategy to introduce this issue in family discussion when necessary	31,62	3				*	
			E.5	Recognize the role of the neurologist in advocating for timely access to acute stroke care, and describe opportunities for reducing barriers to such access, including education at the community level	33	1	*	*			*
			E.6	Identify opportunities to contribute, as a neurologist, to improving the health of patients and communities	13,18,23,36	3					
			E.7	Recognize opportunities for health advocacy within the field of neuropathology, including advocating for adequate resources to meet the needs of patients and referring physicians	38,41	3					
			E.8	Mobilize community resources as appropriate to meet the health needs of individual patients	40	3					
			E.9	Advocate where appropriate for timely patient access to tests or consultations, based upon the acuity of the presenting problem	47,49,52,59	3					
			E.10	Recognize the advocacy role of the infectious disease physician in controlling infectious diseases in hospitals, communities, and populations through methods such as advocating vaccinations, contact tracing in certain illnesses, use of prophylactic antibiotics for contacts of infected individuals where appropriate, and counseling to communities regarding methods of reducing the risk of transmission of infection	56	3					
			E.11	Demonstrate understanding of biological, social, cultural, and economic determinants of mental health	64	1	*	*			*
		Junior	E.12	Recognize the role of lay organizations and community services in providing support for individuals with neurological diseases	15,25	1	*	*			*
F. Scholar		All	F.1	Critically assess the neurological literature as it relates to patient diagnosis, investigation, and treatment	18,20,27,29,36	1					
			F.2	Identify gaps in knowledge, and educational methods by which these gaps may be filled	18,20	1					

F.3	Develop the ability to pose good learning questions relevant to patient care	18,20,27	3				
F.4	Develop a strategy to maintain professional competence through various methods of continuing medical education	13,18,23,27,29,33,36,45,47,49,52,54,56,59,64,66	3				
F.5	Participate, when feasible, in clinical or basic-science studies as a member of a research team	13,23,29,34,42	3				
F.6	Develop effective teaching skills through teaching other physicians (including medical students, house officers and residents), other health care personnel, and patients	13,23,36,45,47,49,52,54,56,59,64,66	3				
F.7	Identify gaps in knowledge, and educational methods by which these gaps may be filled, including reviewing key readings relevant to an understanding of the basic principles of neurophysiology and electrophysiology	27	1				
F.8	Attend and participate in formal and informal team learning sessions, including EMG lab educational sessions, daily reviews of EMG studies, and neuromuscular rounds	27	3				
F.9	Participate in Epilepsy Rounds, including presenting and discussing interesting cases	29	3				
F.10	Attend EEG reading sessions to improve familiarity with normal and abnormal EEG patterns	29	3				
F.11	Participate actively in organized educational activities, including rounds and team meetings	31,38,62	3				
F.12	Critically assess the neurological literature and apply evidence-based principles to the investigation and management of patients with critical illness	31	1				
F.13	Identify gaps in his or her knowledge and develop appropriate learning questions and strategies to fill these gaps	31,38,40,41	1				
F.14	Critically assess the neurological literature as it relates to the diagnosis, investigation, and treatment of cerebrovascular disease	34	1				
F.15	Critically assess the literature and apply evidence-based principles to the use of neuropathological techniques in the diagnosis of neurological illness	38	1				
F.16	Recognize the need to engage in lifelong learning in neurological practice, and begin to develop a plan to maintain professional competence	40	3				
F.17	Critically assess the neurological literature and apply evidence-based medicine principles to practice	40	1				
F.18	Participate actively in organized educational activities and teaching rounds	41	3				
F.19	Critically assess the neuroradiological literature and apply evidence-based principles to the imaging of patients with neurological symptoms and signs	41	1				
F.20	Develop a research question, in conjunction with the research supervisor	42	1				
F.21	Review the literature using critical appraisal skills to support your research hypothesis	42	1				
F.22	Write a research proposal that may be used to apply for ethics submissions and/or grant funding (grant funding is not a requirement of the research objects)	42	1				
F.23	Implement a research project, with support from the research supervisor	42	3				
F.24	Analyze the study results with support from the research supervisor	42	1				
F.25	Interpret the findings of the study	42	1				
F.26	Present the research in a scholarly forum	42	1				
F.27	Present a completed research project, including design, results, and conclusions, in at least one scientific presentation (e.g., Resident Research Day)	42	2			*	
F.28	Critically assess the neurosurgical literature as it relates to patient diagnosis, investigation, and treatment	45	1				
F.29	Demonstrate the ability to generate clinical questions related to patient care and utilize and analyze available resources to develop and implement evidence-based solutions to such questions	47,52,62	1				
F.30	Critically assess the medical literature as it relates to the diagnosis, investigation, and treatment of cardiovascular diseases	47,49	1				
F.31	Critically assess the medical literature as it relates to emergency medicine	52	1				
F.32	Participate actively in Emergency Medicine Grand Rounds and journal clubs	52	3				
F.33	Critically assess the hematological literature as it relates to patient diagnosis, investigation, and treatment	54	1				
F.34	Critically assess the medical literature as it relates to patient diagnosis, investigation, and treatment in infectious diseases	56	1				
F.35	Critically assess the medical literature as it relates to the diagnosis, investigation, and treatment of rheumatological diseases	59	1				

			F.36	Be aware of and utilize clinical practice guidelines where appropriate	61	1	*	*		*
			F.37	Develop an effective personal learning strategy	62	3				
			F.38	Demonstrate effective teaching skills in dealings with more junior trainees, patients, families, and other health care personnel	62	3				
			F.39	Critically assess the psychiatric literature as it relates to patient diagnosis, investigation, and treatment	64	3				
			F.40	Develop the ability to ask and answer learning questions that address gaps in knowledge and enhance patient care	64	3				
			F.41	Critically assess the endocrinological literature as it relates to patient diagnosis, investigation, and treatment	66	1				
		Junior	F.42	Formulate a personal plan of study to acquire the necessary knowledge, skills, and attitudes to successfully achieve the competencies of the Neurology training program	16,25	3				
			F.43	Demonstrate the ability to critically appraise the neurological literature as it relates to patient diagnosis, investigation, and treatment	16,25	3				
			F.44	With support from the senior resident and consultant, present a clinical case and review of the literature at CNS Grand Rounds	16	1,2				
		Senior	F.45	Demonstrate proficiency in critical appraisal of the neurological literature as it relates to patient diagnosis, investigation, and treatment	13,23	1				
			F.46	Present clinical cases and pertinent reviews of the literature at CNS Grand Rounds	13	1,2				
G. Professional		All	G.1	Demonstrate professional behaviors, including punctuality and reliability	13,16,18,21,23,25,28,32,38,40,41,47,50,52,54,57,59,62,66	3				
			G.2	Describe how ethical principles guide the practice of medicine	13,16,25	1	*	*		*
			G.3	Demonstrate self-awareness, including recognition of his or her own limitations	13,16,21,23,26,28,30,32,34,36,38,40,44,47,50,52,54,57,59,62,64,66	3				
			G.4	Show appropriate consideration for the opinions of other members of the health care team, including fellow trainees, in the management of patient problems and be able to provide means to discuss and resolve differences of opinion	13,16,18,36,45,64	3				
			G.5	Demonstrate personal and professional attitudes, including integrity, honesty, and compassion, consistent with developing into the consulting physician role	13,18,20,23,28,30,34,36,44,47,50,52,54,57,59,64,66	3				
			G.6	Recognize the ethical principles that guide the practice of neurology, including principles of informed consent for electrodiagnostic tests and specific treatments (such as IVIG and medications), acute stroke care, pediatric population	18,21,30,34,36,28	1	*	*		*
			G.7	Be punctual and reliable in all professional activities	30,34,45,64	3				
			G.8	Demonstrate professional attitudes and qualities, including honesty, integrity, compassion, and respect for patient dignity and confidentiality	16,25,32,38,40,41,62	3				
			G.9	Describe how ethical principles guide the approach to managing patients with life-threatening neurological diseases, including principles related to surrogate decision-making for critically ill patients unable to speak for themselves	32	1	*	*		*
			G.10	Describe how ethical principles guide the approach to neuropathology, including an understanding of consent for autopsy and/or use of tissue samples	38	1	*	*		*
			G.11	Describe how ethical principles guide the approach to managing patients with neurological diseases	40	1	*	*		*
			G.12	Describe methods of ensuring patient privacy and confidentiality in an office setting and in a hospital setting	40	1	*	*		*
			G.13	Describe how ethical principles guide the approach to imaging patients with neurological signs and symptoms, including the process of obtaining informed consent for procedures and tests	41	1	*	*		*
			G.14	Demonstrate professional attitudes, including integrity and honesty, as they relate to medical research	42	3				
			G.15	Describe how ethical principles guide the research process	42	1	*	*		*
			G.16	Recognize the ethical and medico-legal principles that guide the practice of neurosurgery, including principles of informed consent for procedures, emergency consent, and surrogate decision-making	45	1	*	*		*
			G.17	Recognize his or her professional obligations to patients and colleagues	47,49,52,54,57,59,66	3				

			G.18	Demonstrate understanding of the ethical underpinnings of medical and research practice, including the ethics surrounding consent to treatment and end-of-life care, cardiovascular diseases, including the ethics surrounding consent to treatment, ethics surrounding consent to treatment in the emergency setting, hematological disease, including the ethics surrounding consent to transfusion of blood products and the ethical principles underlying decision-making for end-of-life care in patients with hematological disease, care for patients with infectious diseases, including the ethics surrounding consent to investigation and treatment as well as ethical issues related to managing patients with HIV infection, rheumatological diseases, including the ethics surrounding consent to treatment and endocrine disease, including the ethics surrounding consent to investigation and treatment	47, 49, 52, 54, 57, 59, 66	1	*	*		*
			G.19	Demonstrate awareness of the responsibility of the medical profession to society, including requirements to inform various licensing authorities regarding patients where the severity of their cardiac disease imposes physical limitations that impact occupational or driving safety	49, 47, 52, 54, 57, 59, 66	3				
			G.20	Identify diseases that are reportable to the Ministry of Health, and recognize the societal responsibility involved in such reporting	57	1	*	*		*
			G.21	Describe how ethical principles guide the approach to managing patients with critical illness, including principles related to surrogate decision-making for critically ill patients unable to speak for themselves	62	1	*	*		*
			G.22	Recognize the ethical and medico legal principles that guide the practice of psychiatry, including guidelines for involuntary hospitalization, consent to treatment in the mentally ill, and patient privacy and confidentiality	64	1	*	*		*
	Senior		G.23	Show appropriate consideration for the opinions of other members of the health care team, including the referring medical or surgical service in the management of patient problems and be able to provide means whereby differences of opinion can be discussed and resolved	23	3				
			G.24	Show appropriate consideration for the opinions of other members of the health care team, including the consulting service team in the management of patient problems and be able to provide means whereby differences of opinion can be discussed and resolved	23, 26	3				