



MAINTENANCE OF CERTIFICATION EXAMINATION IN NEUROLOGY

2016 Content Blueprint

(May 6, 2015)

Number of questions: 220		
01.	Headache disorders	7–9%
02.	Pain disorders	1–2%
03.	Epilepsy and episodic disorders	9–11%
04.	Cerebrovascular disease	9–11%
05.	Aging, dementia, and neurocognitive disorders	7–9%
06.	Spinal cord diseases	3–5%
07.	Cranial nerve palsies	1–2%
08.	Neuromuscular diseases (adult and child)	9–11%
09.	Movement disorders (adult and child)	9–11%
10.	Demyelinating diseases (adult and child)	3–5%
11.	Critical care	3–5%
12.	Trauma	1–2%
13.	Neurologic complications of systemic diseases	3–5%
14.	Neuro-ophthalmology	1–2%
15.	Neuro-otology	1–2%
16.	Neurogenetics/neurometabolic disorders	1–2%
17.	Neuro-oncology	1–2%
18.	Neuroinfectious diseases	3–5%
19.	Neurotoxicology	1–2%
20.	Sleep disorders	1–2%
21.	Ethics	1–2%
22.	Child neurology (specific disorders)	2–4%
23.	Interpersonal and communication skills	1–2%
24.	Systems-based practice issues	1–2%
25.	Diagnostic procedures	1–2%
26.	Neurorehabilitation	1–2%
TOTAL		100%

Note: A more detailed content outline is shown below.



**MAINTENANCE OF CERTIFICATION EXAMINATION IN NEUROLOGY
2016 Test Assembly Guidelines**

01. Headache disorders
A. Primary headache disorders
1. Migraine and migraine equivalent
2. Tension-type headache
3. Cluster headache
4. Other trigeminal autonomic (paroxysmal hemicranias, SUNCT, etc.)
5. Other primary headache disorders (hemicranias continua, cough headache, exertional headache, hypnic headache, new daily persistent headache)
B. Secondary headache disorders
1. Thunderclap headache (subarachnoid hemorrhage, cerebral venous thrombosis, etc.)
2. Low CSF pressure
3. Increased intracranial pressure/mass lesions (pseudotumor, neoplasms, subdural and epidural hematomas)
4. Vascular disorders (giant cell arteritis, cervicocephalic dissections, CNS vasculitis)
5. Cranial neuralgias (trigeminal neuralgia, etc.)
02. Pain disorders
A. Neuropathic pain (small fiber neuropathy, post-herpetic neuralgia, radiculopathies)
B. Central pain syndromes (thalamic, phantom, etc.)
C. Complex regional pain syndromes
03. Epilepsy and episodic disorders
A. Focal, partial epilepsy
1. Idiopathic with age-related onset
a. Benign childhood epilepsy with centrotemporal spikes (rolandic seizures)
b. Childhood epilepsy with occipital paroxysms
2. Symptomatic
a. Acute
b. Remote



B.	Generalized epilepsy
1.	Idiopathic with age-related onset
a.	Childhood absence epilepsy
b.	Juvenile absence epilepsy
c.	Juvenile myoclonic epilepsy
d.	Epilepsy with grand mal seizures on awakening
2.	Idiopathic and/or symptomatic
3.	Symptomatic
4.	Nonspecific etiology
5.	Specific syndromes
04.	Cerebrovascular disease
A.	Ischemic stroke (cerebral infarction and transient ischemic attack)
1.	Ischemic penumbra
2.	Large-artery atherosclerosis
3.	Atrial fibrillation
4.	Arterial dissection
5.	Hypercoagulability (thrombophilia)
B.	Intracerebral hemorrhage
1.	Chronic hypertension
2.	Vascular malformations
3.	Bleeding diatheses and antithrombotic agents
4.	Amyloid angiopathy
5.	Tumors
C.	Subarachnoid hemorrhage
1.	Aneurysm
2.	Vascular malformations
3.	Bleeding diatheses and antithrombotic agents
D.	Cerebral venous thrombosis
1.	Pregnancy and puerperium
2.	Hypercoagulability (thrombophilia)
05.	Aging, dementia, and neurocognitive disorders
A.	Delirium, dementia, amnestic and other neurocognitive disorders
1.	Delirium
a.	Delirium due to a general medical condition (DSM-IV)/delirium due to another medical condition (DSM-5)



	b.	Substance intoxication delirium
	c.	Substance withdrawal delirium
	d.	Delirium due to multiple etiologies
	e.	Other
2.		Dementia
	a.	Alzheimer disease
	b.	Vascular disease
	c.	HIV disease
	d.	Traumatic brain injury
	e.	Parkinson disease
	f.	Huntington disease
	g.	Frontotemporal lobar degeneration
	h.	Prion disease
	i.	Multiple etiologies
	j.	Other
3.		Amnestic disorders
	a.	Aphasia
	b.	Apraxia
	c.	Agnosia
	d.	Neglect
	e.	Disconnecting syndromes
06.		Spinal cord diseases
	A.	Congenital
	B.	Vascular
	C.	Inflammation
	D.	Traumatic
	E.	Infectious
	F.	Neoplastic
	G.	Demyelinating
	H.	Malformations of the spinal cord
07.		Cranial nerve palsies
	A.	Third, fourth and sixth nerve palsy
	B.	Horner syndrome
	C.	Trigeminal neuralgia
	D.	Bell palsy
	E.	Glossopharyngeal neuralgia



F.	Vagus nerve palsy
G.	Hypoglossal palsy
08.	Neuromuscular diseases (adult and child)
A.	Muscle diseases (inherited, congenital, and acquired)
1.	Muscular dystrophies
a.	Duchenne and Becker muscular dystrophy
b.	Facioscapulohumeral muscular dystrophy
c.	Limb-girdle muscular dystrophy
d.	Myotonic dystrophy
2.	Inflammatory myopathies
a.	Dermatomyositis
b.	Polymyositis
c.	Inclusion body myositis
3.	Glycogenoses
a.	Myophosphorylase deficiency
b.	Acid maltase deficiency
4.	Lipidoses
a.	Carnitine deficiency
5.	Endocrine myopathies
a.	Hypothyroid myopathy
b.	Hyperthyroid myopathy
c.	Corticosteroid myopathy
6.	Periodic paralyses
a.	Hypokalemic periodic paralysis
b.	Hyperkalemic periodic paralysis
7.	Mitochondrial myopathies
a.	Kearns-Sayre syndrome
B.	Disorders of the neuromuscular junction
1.	Myasthenia gravis
2.	Lambert-Eaton myasthenic syndrome
3.	Congenital myasthenia gravis
C.	Polyneuropathy
1.	Hereditary neuropathies
a.	Charcot-Marie-Tooth disease
2.	Demyelinating neuropathies
a.	Guillain-Barré syndrome



	b.	Chronic inflammatory demyelinating neuropathy
3.		Acquired metabolic polyneuropathies
	a.	Diabetic neuropathy
	b.	Alcohol and nutritional neuropathies
	c.	Infectious neuropathies (HIV, syphilis, leprosy)
	d.	Toxic neuropathies (Hg, Pb, Zn, As)
D.		Mononeuropathy and plexopathy
	1.	Idiopathic brachial neuritis
	2.	Erb and Klumpke palsy
	3.	Diabetic amyotrophy
	4.	Radial nerve palsy
	5.	Ulnar nerve palsy
	6.	Median nerve palsy (carpal tunnel syndrome)
	7.	Meralgia paresthetica
	8.	Peroneal nerve palsy
E.		Radiculopathy
	1.	Cervical radiculopathy
	2.	Lumbosacral radiculopathy
	3.	Lumbar spinal stenosis
F.		Motor neuron diseases
	1.	Spinal muscular atrophy
	2.	Amyotrophic lateral sclerosis
09.		Movement disorders (adult and child)
	A.	Parkinson disease and syndromes
	B.	Secondary parkinsonism
	1.	Progressive supranuclear palsy
	2.	Corticobasal degeneration
	3.	Multiple system atrophy
	a.	Sporadic olivopontocerebellar atrophy
	b.	Shy-Drager syndrome
	c.	Striatonigral degeneration
	4.	Vascular parkinsonism
	5.	Drug-induced parkinsonism
	6.	Familial parkinsonism
	a.	Alpha synuclein
	b.	Tauopathies



	7.	Parkinsonism associated with metabolic disorders
	8.	Parkinsonism associated with systemic illness
C.		Chorea
	1.	Sydenham chorea
	2.	Wilson disease
	3.	Neuroacanthocytosis (chorea-acanthocytosis)
	4.	Drug-induced chorea
D.		Tourette disorder and other tic disorders
E.		Restless legs syndrome
F.		Essential tremor
G.		Secondary tremor
	1.	Drug-induced
	2.	Physiologic
	3.	Associated with systemic illness
	4.	Psychogenic
H.		Myoclonus
I.		Dystonia
	1.	Idiopathic generalized dystonia
	2.	Focal dystonia
	a.	Cervical dystonia
	b.	Writer's cramp and other action-induced focal dystonias
	c.	Blepharospasm
	3.	Tardive dystonia and other tardive syndromes
	4.	Secondary dystonias
	a.	Associated with systemic illness
	b.	Associated with other degenerative, familial, or systemic disorders
J.		Other
	1.	Hemifacial spasm
	2.	Stereotypies
	3.	Cerebellar disorders
10.		Demyelinating diseases (adult and child)
A.		Multiple sclerosis
B.		Neuromyelitis optica
C.		Optic neuritis



D.	Acute disseminated encephalomyelitis
E.	Transverse myelitis
F.	Other inflammatory demyelinating disorders of the CNS (acute hemorrhagic leukoencephalitis, postinfectious/post-vaccination encephalomyelitis)
11.	Critical care
A.	Coma
1.	Structural
2.	Toxic-metabolic
3.	Subclinical seizures
B.	Neuromuscular emergencies
1.	Guillain-Barré syndrome
2.	Myasthenia gravis and myasthenic crisis
3.	Upper cervical spine injury
4.	Critical illness
5.	Myopathy and neuropathy
6.	Botulism (adult and child)
C.	Intracranial hypertension
1.	Mass
2.	Edema
a.	Cytotoxic
b.	Vasogenic
3.	Meningeal process
4.	Venous thrombosis
D.	Brain death
12.	Trauma
A.	Brain
1.	Concussion
2.	Parenchymal hematoma
3.	Subdural hematoma
4.	Epidural hematoma
5.	Diffuse axonal injury
B.	Spinal cord
1.	Compression by disc or bone
2.	Epidural hematoma
C.	Abuse (adult and child)



13. Neurologic complications of systemic diseases
A. Electrolyte disturbance with acute and chronic manifestations
B. Acid-base disturbance
C. Calcium and/or magnesium disturbance
D. Nutritional deficiency states
E. Diabetes and hypoglycemia
F. Congenital heart disease
G. Pulmonary disease, including extra-corporeal membrane oxygenation
H. Renal disease (acute and chronic)
I. Hepatic encephalopathy
J. Endocrine disorders
1. Congenital hypothyroidism
2. Acquired hypothyroidism
3. Adrenal insufficiency
4. Hyposomatotropism
K. Hematological disorders
1. Sickle cell disease
2. Polycythemia
3. Disorders of coagulation
14. Neuro-ophthalmology
A. Disorders of the optic nerve and retina (optic neuropathy, papilledema, retinal emboli, retinal infarcts)
B. Chiasmal and retrochiasmal disorders (visual field defects)
C. Pupil disorders (Horner, tonic, third nerve palsy, etc.)
D. Motility disorders (cranial nerve III, IV, VI paresis, supranuclear gaze palsy, internuclear ophthalmoplegia)
15. Neuro-otology
A. Ménière disease
B. Benign positional vertigo
C. Acute labyrinthitis
D. Hearing loss due to systemic disease
E. Vertigo due to systemic disease
F. Cerebellopontine angle lesions
1. Acoustic neuroma
G. Meningioma



H.	Other
1.	Pulsatile tinnitus
2.	Gait disequilibrium
16.	Neurogenetics/neurometabolic disorders
17.	Neuro-oncology
A.	Primary CNS tumors (brain, spinal cord, intra- and extra-axial)
B.	Metastatic tumors to the CNS (brain, spinal, skull, carcinomatous meningitis)
C.	Paraneoplastic syndromes
18.	Neuroinfectious diseases
A.	Bacterial meningitis
B.	Viral meningitis
C.	Fungal meningitis
D.	TB meningitis
E.	Viral encephalitis (including herpes encephalitis)
F.	Neurocysticercosis
G.	Transverse myelitis
H.	West Nile virus encephalitis-myelitis-polyradiculopathy
I.	Poliomyelitis
J.	Infection in immunosuppressed patients
1.	Toxoplasmosis
2.	Progressive multifocal leukoencephalopathy
3.	HIV encephalitis
4.	Complications of HIV
K.	Prion disease
L.	Other
1.	Lyme disease
2.	Syphilis
3.	Rabies
4.	Diphtheria
5.	Botulism
19.	Neurotoxicology
A.	Environmental toxins, including mercury, lead, organophosphate poisons
B.	Illegal recreational chemicals
C.	Legal recreational chemicals



	D.	Complications of childhood ingestion of parental medication
20.		Sleep disorders
	A.	Narcolepsy
	B.	Obstructive sleep apnea
	C.	Periodic limb movements of sleep
	D.	REM behavior disorder
	E.	Insomnia
	F.	Hypersomnia
	G.	Circadian rhythm sleep disorder (DSM-IV)/circadian rhythm sleep-wake disorder (DSM-5)
	H.	Parasomnias
	1.	Sleep terror disorder (DSM-IV)/non-rapid eye movement sleep arousal disorder, sleep terror type (DSM-5)
	2.	Sleepwalking disorder (DSM-IV)/non-rapid eye movement sleep arousal disorder, sleepwalking type (DSM-5)
21.		Ethics
	A.	Informed consent
	B.	Brain death
	C.	End-of-life issues (withholding and withdrawing life support)
	D.	Adolescent decision making
	E.	Protective service referral
	F.	Research in children, adults, prisoners
	G.	Allocation of resources
	H.	Futility issues
	I.	Caregivers' moral integrity
22.		Child neurology (specific disorders)
	A.	Paroxysmal disorders
	1.	Seizure syndromes, video recognition, and EEG pattern recognition
	a.	Infantile spasms
	b.	Absence (childhood and juvenile)
	c.	Benign focal epilepsy
	d.	Lennox-Gastaut syndrome
	e.	Juvenile myoclonic epilepsy
	f.	Benign familial neonatal seizures
	g.	Benign frontal lobe epilepsy



	h.	Febrile seizures
2.		Nonepileptic paroxysmal disorders
	a.	Breath holding
	b.	Kinesigenic chorea
	c.	Chorea
	d.	Parasomnias
	e.	Pseudoseizures
	f.	Benign myoclonus
3.		Syncope
	a.	Vasovagal
	b.	Prolonged QT interval
23.		Interpersonal and Communication Skills
	A.	Interview techniques and mental status testing
	B.	Management of difficult patients
	C.	Relationships with other professionals
	D.	Particularly common errors
	E.	Role of physician attitudes in therapy
	F.	Ethics and professionalism
	G.	Other
24.		Systems-based practice issues
	A.	Public policy issues (e.g., parity, gender)
	B.	Systems-based practice
	C.	Practice-based learning and improvement
	D.	Other
25.		Diagnostic procedures
	A.	Mental status examination
	B.	Cognitive and neuropsychological testing
	C.	Neuroimaging
26.		Neurorehabilitation
TOTAL		