



PART I EXAMINATION IN NEUROLOGY

**For residents who entered training in
neurology PGY-2 BEFORE July 1, 2005**

2010 Content Outline

Part A:	270 questions	Percent
I. Neuroanatomy		11%
A. Cerebral cortex		
B. Connecting systems		
C. Basal ganglia/thalamus		
D. Brainstem		
E. Cerebellum		
F. Cranial nerves		
G. Spinal cord		
H. Spinal roots/peripheral nerves		
I. Ventricular system, CSF		
J. Vascular		
K. Neuromuscular junction/muscle		
L. Autonomic nervous system		
M. Embryology		
N. Pain pathways		
O. Radiologic anatomy, cerebral blood vessels (angio or MRA)		
P. Other		
II. Neuropathology		11%
A. Basic patterns of reaction		
B. Cerebrovascular disease		
C. Trauma (cranial and spinal)		
D. Metabolic/toxic/nutritional diseases		
E. Infections		
F. Demyelinating diseases/leukodystrophies		
G. Neoplasms		
H. Congenital/developmental anomalies		
I. Degenerative/heredodegenerative disorders		



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J.	Myopathies	
K.	Peripheral nerve	
L.	Radiologic pathology (provide films) pertinent to assigned pathology sections	
M.	Other	
III.	Neurochemistry	8%
A.	Carbohydrate metabolism	
B.	Lipid metabolism	
C.	Protein metabolism	
D.	Neurotransmitters	
E.	Axonal transport	
F.	Energy metabolism	
G.	Blood-brain barrier	
H.	Biochemistry of membranes/receptors/ion channels	
I.	Neuronal excitation	
J.	Vitamins (general aspects)	
K.	Inborn errors of metabolism	
L.	Electrolytes and minerals	
M.	Neurotoxins	
N.	Free radical scavengers	
O.	Excitotoxicity	
P.	Other	
IV.	Neurophysiology	15%
A.	Basic	
	1. Membrane physiology	
	2. Synaptic transmission	
	3. Sensory receptors and perception	
	4. Special senses	
	5. Reflexes	
	6. Segmental and suprasegmental control of movement	
	7. Cerebellar function	
	8. Reticular system—mechanisms of sleep and arousal, consciousness, circadian rhythms	



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9.	Rhinencephalon, limbic system, the visceral brain	
10.	Learning and memory	
11.	Cortical organization and function	
12.	Pathophysiology of epilepsy	
13.	Cerebral blood flow	
14.	Autonomic function	
15.	Blood-brain barrier	
16.	Other	
B.	Clinical	
1.	EEG	
2.	Evoked potentials	
3.	EMG/NCS	
4.	Sleep studies	
V.	Neuropharmacology	12%
A.	Anticonvulsants	
B.	Antibiotics/antimicrobials/vaccines	
C.	Antioxidants	
D.	Neuromuscular agents	
E.	Antidyskinesia drugs (including antiparkinsonians)	
F.	Vitamins (clinical aspects)	
G.	Analgesics (non-narcotics, narcotics, and other centrally active agents)	
H.	Anticoagulants, antiplatelets, and thrombolytic agents	
I.	Hormones	
J.	Autonomic agents	
K.	Anticholinesterase drugs	
L.	Neurologic side effects of systemic drugs	
M.	Miscellaneous drugs	
VI.	Neuroimmunology/neurovirology	8%
A.	Molecular pathogenesis of multiple sclerosis	
B.	Molecular neurology of prion diseases and slow viruses	



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C.	Immunotherapy in MS, MG, and other neurologic disorders	
D.	Other	
VII.	Neurogenetics/molecular neurology and neuroepidemiology	8%
A.	Mendelian-inherited diseases	
B.	Mitochondrial disorders	
C.	Trinucleotide repeat disorders	
D.	Channelopathies	
E.	Genetics of epilepsy	
F.	Molecular genetics of brain tumors	
G.	Other genetic disorders/mechanisms	
H.	Ischemic penumbra	
I.	Molecular approaches to stroke therapy	
J.	Polymerase chain reaction	
K.	Risk factors in neurologic disease	
L.	Demographics of neurologic disease	
VIII.	Neuroendocrinology	2%
IX.	Neuroimaging	14%
A.	Plain skull/spine radiology	
B.	MRI, MRA, and MRV	
C.	CT scan	
D.	CT myelography	
E.	Angiography	
F.	SPECT/PET	
X.	Neuro-ophthalmology	7%
A.	Vision and visual pathways	
B.	Visual fields	
C.	Pupils	
D.	Ocular motility	
E.	Fundus/retina/optic nerve	
F.	Other	
XI.	Neuro-otology	2%
A.	Hearing/auditory function and testing	
B.	Vertigo/vestibular function and testing	



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XII. Cerebrospinal fluid	2%
A. Normal CSF constituents and volume	
B. Pathologic CSF patterns (cellular, chemical, enzymatic, serologic)	
TOTAL	100%

Part B: Psychiatry including cognition and behavior	
150 questions	Percent
I. Development and disorders of childhood	10%
A. Teratology	
B. Mental retardation	
C. Hyperactivity	
D. Learning and behavioral disorders	
E. Childhood diseases that characteristically produce psychiatric disturbances (e.g., autistic disorder)	
F. Childhood problems that present to neurologists (e.g., enuresis, encopresis, anorexia/bulimia, headache, child abuse, masturbation, Tourette disorder)	
G. Developmental milestones	
H. Other	
II. Psychopathology and diagnostic criteria for common psychiatric disorders	10%
A. <i>DSM-IV-TR</i>	
B. Major disorders, definitions, and presentations	
C. Somatic features of common psychiatric disorders	
D. Depression (including atypical), schizophrenia, catatonia, hallucinosis	
E. Psychodynamic considerations	
F. Other	
III. Physician-patient relationships	5%
A. Interview techniques and mental status testing	



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B.	Management of difficult patients	
C.	Relationship with other professionals	
D.	Particularly common “errors” – vignettes, etc.	
E.	Death and dying, normal grief versus depression	
F.	Role of physician attitudes in therapy	
G.	Therapy in liaison psychiatry	
H.	Legal responsibilities	
I.	Factitious phenomena	
J.	Suicide	
K.	Treatment of pain	
L.	Other	
IV.	Behavioral and personality changes associated with structural changes	10%
A.	Lobar phenomena, hemispheric phenomena	
B.	Body image concepts	
C.	Epileptic phenomena, “borderline” disorders, pseudoseizures	
D.	Neurology of aging (effects on psyche and cognition)	
E.	Chronic pain	
F.	Other brain/behavior relationships	
V.	Alcohol abuse and substance abuse	10%
A.	Phenomena of withdrawal, tolerance, etc.	
B.	Therapy – medication and psychological	
C.	Personality – genetic and environmental influences	
D.	Prognostic concepts	
E.	Supportive services generally available (AA, etc.)	
F.	Neurologic side effects of alcohol abuse and substance abuse	
G.	Other	
VI.	Psychopharmacology	10%



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A.	Major drugs (antipsychotics, antidepressants, antianxiety agents, lithium, etc.)	
B.	Side effects (e.g., acute, motor, neuroleptic malignant syndrome)	
C.	Movement abnormalities caused by drugs	
D.	Changes in mental state secondary to therapy	
E.	Iatrogenic disorders in psychiatry and neurology (including tardive dyskinesia)	
F.	Pharmacokinetics	
G.	Other	
VII. Therapeutic modalities other than drugs		3%
A.	Analysis and variants	
B.	Electroconvulsive therapy	
C.	Behavior therapy, conditioning, relaxation therapy	
D.	Biofeedback	
E.	Other	
VIII. Altered states of consciousness		5%
A.	Pathophysiology of coma	
B.	Brain death criteria	
C.	Delirium	
D.	Diagnostic procedures	
E.	Other	
IX. Memory disorders and cortical changes with dysfunction		15%
A.	Normal phenomena, changes with aging	
B.	Recognition of pseudodementia, subvarieties of depression as they affect therapy	
C.	Effects of trauma on the CNS, especially psychological and cognitive concomitants	
D.	Dementia	
E.	Amnesia	



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F.	Other	
X.	Diagnostic procedures	10%
A.	Neuropsychology	
B.	EEG and psychiatric disorders	
C.	Other	
XI.	Psychiatric/neurologic problems associated with medical disease	10%
A.	Cardiac	
B.	Renal	
C.	Skin	
D.	Secondary therapy (e.g., Parkinson disease)	
E.	Phenomena of state-dependent learning and effect of drugs on cognitive behavior	
F.	Effects of radiation and chemotherapy	
G.	Infection	
H.	Other	
XII.	Forensic psychiatry and neurology, epidemiology, transcultural psychiatry, public mental health and systems-based practice	2%
A.	Forensic psychiatry/neurology	
B.	Epidemiology	
C.	Transcultural psychiatry	
D.	Community psychiatry, public mental health	
E.	Systems-based practice	
TOTAL		100%