CERTIFICATION EXAMINATION IN NEUROMUSCULAR MEDICINE

Beginning in 2024, the American Board of Psychiatry and Neurology, Inc. (ABPN) will be utilizing two-dimensional content specifications for the neuromuscular medicine certification examination. Within the two-dimensional format, one dimension is comprised of disorders and topics, while the other is comprised of competencies and mechanisms that cut across the various disorders of the first dimension. Questions for the neuromuscular medicine certification examination will conform to these content specifications. By design, the two dimensions are interrelated and not independent of each other. Each question on the examination will fall into one of the disorders/topics and will align with a competency/mechanism. For example, an item can ask about the dimension one topic of motor neuron disorders and at the same time ask about the dimension two topic of treatment or management. Candidates should use the detailed content outline as a guide to prepare for the certification examination. Please note that no single examination tests everything on the content outline.

The American Board of Psychiatry and Neurology, Inc. is a not-for-profit corporation dedicated to serving the public interest and the professions of psychiatry and neurology by promoting excellence in practice through certification and continuing certification processes. The ABPN designs and develops the neuromuscular medicine certification examination to assess the knowledge and reasoning skills needed to provide high quality patient care in the broad domain of the subspecialty. For more information, please contact us at questions@abpn.org or visit our website at www.abpn.org.

CERTIFICATION EXAMINATION IN NEUROMUSCULAR MEDICINE
Content Blueprint

Number of questions: 220		
Dimension 1		
Neurologic Disorders and Topics		
01.	Motor neuron disorders	16-20%
02.	Spinal root disorders	4-6%
03.	Plexopathies	4-6%
04.	Peripheral nerve disorders	24-26%
05.	Neuromuscular junction transmission disorders	16-20%
06.	Muscle disorders	24-26%
07.	Hyper-excitability disorders	1-3%
08.	Autonomic dysfunction in neuromuscular diseases	1-3%

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Number of questions: 220		
Dimension 2		
Physician Competencies and Mechanisms		
A.	Neuroscience and mechanism of disease	7-13%
B.	Clinical aspects of neurologic disease	35-41%
C.	Diagnostic procedures	21-27%
D.	Treatment/Management	17-23%
E.	Interpersonal and communication skills	1-3%
F.	Professionalism	1-3%
G.	Practice-based learning and improvement	1-3%
H.	Systems-based practice	1-3%

CERTIFICATION EXAMINATION IN NEUROMUSCULAR MEDICINE
Content Outline

Number of items: 220
Dimension 1
Neurologic Disorders and Topics
01. Motor neuron disorders
A. Sporadic
01. Amyotrophic lateral sclerosis (ALS)
a. Progressive muscular atrophy (PMA)
b. Primary lateral sclerosis (PLS)
c. Progressive bulbar palsy
B. Genetic
01. Familial amyotrophic lateral sclerosis
02. Spinal muscular atrophy
03. Spinal and bulbar muscular atrophy (SBMA)
04. Tay-Sachs disease
05. Distal hereditary motor neuropathy
C. Focal, including monomelic amyotrophy (Hirayama disease)
D. Paraneoplastic
E. Toxic
01. Lathyrism
F. Infectious
01. Polio
02. Rabies
03. West Nile
04. Tetanus
05. Enterovirus D8
02. Spinal root/cord disorders
A. Cervical
B. Thoracic
C. Lumbosacral
D. Polyradiculopathy
E. Specific etiologies
01. Diabetes
02. Segmental herpes zoster and post-herpetic neuralgia
03. Infectious
04. Neoplastic
05. Degenerative/trauma
xx. Other
F. Myelopathy/Myeloneuropathy

01. Hereditary
a. Spastic paraplegia
b. Friedreich ataxia
c. Adrenomyeloneuropathy
xx. Other
02. Acquired
a. Structural
b. Nutritional/metabolic
c. Infectious
d. Syringomyelia
xx. Other
03. Plexopathies
A. Brachial
01. Traumatic (neonatal, penetrating injury)
02. Radiation-induced
03. Neuralgic amyotrophy (brachial neuritis)
04. Hereditary neuralgic amyotrophy
05. Neoplastic
06. Neurogenic thoracic outlet syndrome
xx. Other
B. Lumbosacral
01. Traumatic (hematoma, ischemic)
02. Radiation-induced
03. Diabetic radiculoplexus neuropathy
04. Neoplastic
xx. Other
04. Peripheral nerve disorders
A. Mononeuropathies
01. Median
02. Ulnar
03. Radial
04. Musculocutaneous
05. Axillary
06. Spinal accessory
07. Suprascapular
08. Sciatic
09. Peroneal (fibular)
10. Tibial
11. Femoral
12. Obturator
13. Facial

14. Trigeminal
15. Lateral femoral cutaneous (meralgia paresthetica)
xx. Other
B. Mononeuropathy multiplex
01. Diabetic
02. Vasculitic
03. Inflammatory
04. Genetic
05. Neoplastic
06. Infectious
C. Polyneuropathy
01. Hereditary
a. Demyelinating
i. CMT1a
ii. CMTX
iii. Hereditary neuropathy with tendencies to pressure palsy (HNPP)
iv. Refsum disease
v. Metachromatic leukodystrophy
b. Axon loss
i. CMT2
ii. Adrenoleukodystrophy
c. TTR amyloid polyneuropathy
d. Porphyric neuropathy
02. Acquired
a. Immune mediated
i. Guillain-Barré syndrome
(a) Acute inflammatory demyelinating polyneuropathy (AIDP)
(b) Miller Fisher variant (GQ1b antibody)
(c) Acute motor axonal neuropathy (AMAN)
(d) Acute motor and sensory axonal neuropathy (AMSAN)
(e) Pharyngeal-cervical-brachial (PCB)
ii. Chronic inflammatory demyelinating polyneuropathy (CIDP)
iii. Multifocal mononeuropathy with conduction block
iv. Distal acquired demyelinating symmetric neuropathy (DADS)
v. Multifocal acquired demyelinating sensory and motor polyneuropathy (MADSAM)
vi. Paraneoplastic
vii. Amyloidosis
viii. Sarcoidosis
ix. Paraproteinemic
b. Metabolic

i. Diabetic
ii. Nutritional
(a) Vitamin B_6 deficiency
(b) Vitamin B_{12} deficiency
(c) Copper deficiency
(d) Alcohol
(e) Hypervitaminosis B_6
(xx) Other
iii. Critical illness
c. Toxic
i. Arsenic, lead, thallium
ii. n-Hexane
iii. Organophosphates
iv. Drug-induced
(a) Isoniazid
(b) Metronidazole
(c) Nitrofurantoin
(d) Chloroquine/hydroxychloroquine
(e) Lithium
(f) Chemotherapy
(xx) Other
xx. Other
d. Infectious
i. Diphtheria
ii. HIV
iii. Leprosy
iv. Lyme
v. Syphilis
xx. Other
03. Dorsal root ganglion disorders
a. Nutritional/toxic, including hypervitaminosis B_6
b. Autoimmune/inflammatory
i. Hu antibody syndrome
ii. Connective tissue disease (Sjogren syndrome)
c. Friedreich ataxia
d. Idiopathic
04. Small fiber neuropathy
05. Neuromuscular junction transmission disorders
A. Myasthenia gravis
B. Lambert-Eaton myasthenic syndrome
C. Botulism

D. Congenital/hereditary myasthenia
E. Medication-induced
xx. Other
06. Muscle disorders
A. Hereditary
01. Muscular dystrophies
a. Duchenne/Becker
b. Facioscapulohumeral
c. Limb-girdle
i. Type 1
ii. Type 2
d. Myotonic
i. Myotonic dystrophy 1 (including distal presentation)
ii. Myotonic dystrophy 2
e. Oculopharyngeal
f. Myofibrillar (including distal presentation)
g. Congenital muscular dystrophy
02. Congenital myopathies
a. Central core
b. Nemaline
c. Centronuclear/myotubular (including distal presentation)
xx. Other
03. Metabolic myopathies
a. Mitochondrial
i. Myoclonic epilepsy with ragged red fibers (MERRF)
ii. Mitochondrial encephalomyopathy with lactic acidosis and stroke-like episodes (MELAS)
iii. Kearns-Sayre syndrome
xx. Other
b. Glycogenoses
i. Pompe disease/Acid maltase deficiency
ii. Myophosphorylase deficiency (McArdle disease)
xx. Other
c. Lipidoses
i. Carnitine deficiency
ii. Carnitine palmitoyltransferase 2 deficiency (CPT2)
xx. Other
04. Periodic paralyses/channelopathies
a. Hypokalemic
b. Hyperkalemic
c. Andersen-Tawil syndrome

d. Nondystrophic myotonias
B. Acquired
01. Inflammatory myopathies
a. Polymyositis
b. Dermatomyositis
c. Inclusion body myositis
i. Sporadic (including distal presentation)
ii. Hereditary (including distal presentation)
d. Sarcoidosis
e. HIV
02. Critical illness myopathy
03. Toxic/drug-induced myopathy
a. HMG-CoA reductase
b. Alcohol
c. Chloroquine/hydroxychloroquine
d. Corticosteroids
e. Colchicine
f. Antiretroviral medications
04. Metabolic/endocrine
a. Hypothyroid
b. Hyperthyroid
c. Hypokalemic
d. Cushing disease
05. Necrotizing autoimmune myopathy
a. Anti-HMG-CoA reductase myopathy
b. Anti-signal recognition particle (anti-SRP)
C. Rhabdomyolysis
07. Hyper-excitability disorders
A. Stiff-person syndromes
B. Potassium channelopathies (Isaac syndrome)
08. Autonomic dysfunction in neuromuscular diseases
A. Autoimmune autonomic neuropathy and ganglionopathy (including Sjogren syndrome)
B. Guillain-Barré syndrome (autonomic manifestations)
C. Paraneoplastic autonomic neuropathies
D. Fabry disease
E. Autonomic neuropathies due to infectious disease
01. Chagas disease
02. Leprosy
03. Diphtheria
04. HIV
F. Diabetes (autonomic manifestations)

G. Amyloidosis
H. Adie syndrome
I. Small fiber polyneuropathy (autonomic manifestations)
J. Toxic neuropathies
01. Vacor
02. Hexane
03. Ciguatera toxin
04. Vincristine
05. Cisplatin, paclitaxel
06. Heavy metals (arsenic, mercury, thallium)
07. Postural orthostatic tachycardia syndrome (POTS)
xx. Other
XX. Other

Number of items: 220
Dimension 2
Physician Competencies and Mechanisms
A. Neuroscience and mechanism of disease
01. Neuroanatomy
a. Cranial nerves
b. Spinal cord
c. Spinal roots/peripheral nerves
d. Neuromuscular junction/muscle
e. Autonomic nervous system
f. Pain pathways
g. CSF anatomy, physiology, normal and abnormal patterns (cellular, chemical, enzymatic, serologic)
h. Meninges
i. Plexus
xx. Other
02. Neuropathology
a. Basic patterns of reaction
b. Trauma (cranial and spinal)
c. Metabolic/toxic/nutritional diseases
d. Infections
e. Demyelinating diseases/leukodystrophies
f. Neoplasms
g. Congenital/developmental anomalies
h. Degenerative/heredodegenerative disorders
i. Myopathies
j. Peripheral nerve
k. Neuromuscular junction disorders
xx. Other
03. Neurochemistry
a. Carbohydrate metabolism
b. Lipid metabolism
c. Protein metabolism
d. Neurotransmitters
e. Axonal transport
f. Energy metabolism
g. Biochemistry of membranes/receptors/ion channels
h. Neuronal excitation
i. Vitamins (general aspects)
j. Inborn errors of metabolism
k. Electrolytes and minerals

l. Neurotoxins
m. Free radical scavengers
n. Excitotoxicity
o. Normal CSF constituents and volume
xx. Other
04. Neurophysiology
a. Membrane physiology
b. Synaptic transmission
c. Sensory receptors and perception
d. Special senses
e. Reflexes
f. Segmental and suprasegmental control of movement
g. Autonomic function
h. Physiology of pain
i. Physiology of peripheral nerve and muscle
xx. Other
05. Neuroimmunology/neuroinfectious disease
a. Pathogenesis of diseases (including prion diseases)
b. Immunotherapy in myasthenia gravis and other neurologic disorders
xx. Other
06. Neurogenetics/molecular neurology, and neuroepidemiology
a. Mendelian-inherited diseases
b. Other modes of inheritance
c. Mitochondrial disorders
d. Nucleotide repeat disorders
e. Channelopathies
f. Risk factors in neurologic disease
g. Demographics of neurologic disease
07. Neuroendocrinology
a. Thyroid gland
b. Cushing syndrome
c. Corticosteroids
d. Adrenal gland
08. Pathophysiology
a. Neuromuscular
b. Peripheral nerve
B. Clinical aspects of neurologic disease
01. Epidemiology
02. Risk factors
03. Signs and symptoms
04. Comorbidities

05. Course of illness
06. Prognosis
07. Localization
08. Pregnancy/peripartum
09. Complications of illness/differential diagnosis
C. Diagnostic procedures
01. Neuroimaging
a. Structural imaging (computed tomography, magnetic resonance imaging)
i. Neuromuscular ultrasound
ii. Spine and spinal cord neuroimaging (CT, MRI, myelogram)
02. EMG/NCS, including SFEMG
03. Autonomic function testing
04. CSF examination/lumbar puncture
05. Laboratory studies
06. Neuropsychological and cognitive testing
07. Cardiac testing
08. Skin/nerve/muscle biopsy
09. Genetic testing
10. Pulmonary function test
11. Systemic imaging (CT, MRI, PET, etc..)
xx. Other
D. Treatment/management
01. General principles of neuropharmacology
a. Neuropharmacokinetics/neuropharmacodynamics
b. Drug toxicity/side effects/idiosyncratic reactions/medication withdrawal
c. Drug interactions
d. Teratogenicity
e. Age, gender, and ethnicity issues
f. Pharmacogenomics
g. Mechanisms of action
02. Pharmacotherapy
a. Analgesics (nonnarcotic, narcotic, etc.)
b. Drugs for neuromuscular disorders
c. Vitamins/minerals/nutrients
d. Immunomodulatory agents, including oral medications, prednisone, IV Ig, and plasma exchange
e. Drugs for autonomic dysfunctions
xx. Other
03. Neuromodulation
a. TENS
04. Critical care

05. Surgical treatment/interventions
06. Rehabilitation
a. Exercise
b. Assistive devices
c. Assistive technologies
d. Braces
e. Physical therapy and occupational therapy
f. Pulmonary
g. Speech/swallowing
h. Nutrition management
i. Wheelchair
07. Psychotherapy, biofeedback etc.
08. Reassurance, observation, no further diagnostic testing, etc.
09. Specific dietary treatment
10. Genetic counseling
11. Complications of management
12. Gene therapy/enzyme replacement therapy
xx. Other
E. Interpersonal and communications skills
01. Communication with patients
a. Communication of progress
02. Communication with patients' families
03. Communication with other professionals
04. Communication with the healthcare team
05. Communication with the public
06. Management of conflict
07. Common errors in communication
08. Patient education
F. Professionalism
01. Professional behavior
02. Adherence to ethical principles (e.g., informed consent, research issues, clinical care, admission of errors)
03. Participation in the professional community
04. Sensitivity to diverse patient populations
05. End-of-life issues and brain death
06. Fatigue management/burnout
G. Practice-based learning and improvement
01. Development and execution of lifelong learning
a. Self-assessment and self-improvement
b. Use of evidence-based guidelines
c. Critical review of scientific literature

02. Formal practice-based quality improvement
H. Systems-based practice
01. Patient safety and the healthcare team
a. Medical errors and their prevention
b. Communication in patient safety
c. Regulatory and educational activities related to patient safety
02. Resource management
a. Parity
b. Access to care
c. Negotiation with payers
03. Community-based care
a. Community-based programs
b. Prevention
c. Recovery and rehabilitation
d. Knowledge of the legal aspects of neurological practice
04. Referral for appropriate consultation/decision making
05. Working with local and national disease-based and advocacy groups