



Clinical Neurology

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Overview

Often compared with a crab hanging onto a rock by the beach, cancer has been one of the greatest ailments faced by humanity and an engaging subject of study. For the past 150 years, ever since Virchow hypothesized the cellular origin of cancer, research has been ongoing with the ultimate goal of discovering a definitive treatment. As a result, the field of oncology developed, which can be defined as the branch of medicine dedicated to the study, classification, diagnosis, and management of cancer. The subfields of oncology include medical, surgical, radiological, and clinical oncology.

In this course, the student will be introduced to the basic concepts of the pathophysiology of carcinogenesis and neoplasia in every organ system. For optimal comprehension, the student should have a basic understanding of cell and molecular biology, especially DNA replication and the cell cycle.

With the steadily increasing incidence of noncommunicable diseases, oncological conditions and emergencies are becoming more prevalent. A competent physician should be aware of the most common oncological conditions in their area of work and know the clinical presentation of each condition. Additionally, knowledge of the available oncological services and remission pathways is important to ensure that adequate care is delivered by the oncological team.

As the field of medicine continues to acquire a more molecular focus and as antineoplastic interventions improve, a thorough understanding of the basic principles of oncology will serve as a primer to understand the many advancements in this field made in the near future.

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Acquired Neuromuscular Diseases

- Introduction to Myopathy
- Case: 54-year-old Woman with Weakness
- Clinical Approach to Muscle Disorders
- Myopathy and Myositis: Diagnosis
- Evaluation of Muscle Diseases
- Introduction to Inflammatory Myopathies with Case
- Inflammatory Myopathies: Types
- Creatine Kinase Evaluation
- Polymyositis
- Dermatomyositis
- Inclusion Body Myositis
- Necrotizing Autoimmune Myositis
- Overlap Myopathies
- Antibody Assessments – Inflammatory Myopathies
- Management of Inflammatory Myopathies
- Polymyalgia Rheumatica (PMR) – Inflammatory Myalgia
- Introduction to Infectious Myopathies with Case
- HIV-associated Myositis – Infectious Myopathies
- Pathogen Myositis with Trichinella – Infectious Myopathies
- Toxic Myopathies with Case
- Hypothyroid and Hyperthyroid Myopathy
- Statin Myopathy
- Corticosteroid Myopathy
- Critical Illness Myopathy and Other Causes for Myopathy
- Rhabdomyolysis
- Other Metabolic Muscle Diseases

Hereditary Neuromuscular Disorders

- Inherited Muscle Disorders: Evaluation
- Inherited Myopathies: Types
- Muscular Dystrophies
- Introduction to Proximal Predominant Muscular Dystrophies
- Case: 6-year-old Boy with Weakness
- X-linked Dystrophinopathies and Duchenne Muscular Dystrophy
- Becker Muscular Dystrophy and Limb-girdle Muscular Dystrophy (LGMD)
- Distal Predominant Muscular Dystrophies
- Other Muscular Dystrophies
- Case: 5-month-old Girl with Weakness
- Evaluation of the Hypotonic Infant
- Congenital Muscular Dystrophy and Congenital Myopathy

Disorders of the Neuromuscular Junctions

- General Approach to Neuromuscular Junction Disorders
- Case: 32-year-old Woman with Weakness
- Physiology of the Neuromuscular Junction
- Neuromuscular Junction Disorders: Clinical Features and Pathophysiology
- Neuromuscular Junction Disorders: Summary
- Case: 32-year-old Woman with Weakness and Sustained Upgaze
- Myasthenia Gravis: Introduction and Clinical Features
- Myasthenia Gravis: Clinical and Serological Tests – Diagnosis
- Myasthenia Gravis: Repetitive Stimulation – Diagnosis
- Myasthenia Gravis: Antibody Testing – Diagnosis

- Myasthenia Gravis: Treatment
- Case: 72-year-old Woman with Weakness
- Botulinum Toxin Toxicity: Overview
- Botulinum Toxin Toxicity: Pathophysiology and Treatment
- Case: 42-year-old Man with Weakness
- Lambert Eaton Myasthenic Syndrome (LEMS): Overview
- Lambert Eaton Myasthenic Syndrome (LEMS): Workup and Testing
- Lambert Eaton Myasthenic Syndrome (LEMS): Pathophysiology and Treatment
- Organophosphate Poisoning
- Transient Neonatal Myasthenia
- Congenital Myasthenic Syndrome (CMS)

Peripheral Neuropathies

- Introduction to Neuropathy Disorders
- Acute Inflammatory Demyelinating Polyneuropathy (AIDP)
- Chronic Inflammatory Demyelinating Polyneuropathy (CIDP)
- Other Non-inflammatory Neuropathies
- Toxic and Metabolic Polyneuropathies

Diseases of the Spinal Cord

- Case: 45-year-old Man with Bilateral Lower Extremity Weakness and Numbness
- Introduction to Spinal Cord
- Myelopathy
- Case: 53-year-old Woman with Progressive Weakness and Balance Difficulty
- How to Approach Spinal Cord Pathology (Macro)

- How to Approach Spinal Cord Pathology (Micro)
- Continuation of Case: 53-year-old Woman with Progressive Weakness and Balance Difficulty
- Case: 58-year-old Woman with Weakness and Neck Pain
- Intradural Extramedullary Myelopathy
- Case: 50-year-old Woman with Lower Extremity Weakness
- Intradural Intramedullary Myelopathy
- Case: 53-year-old Man with Numbness in Lower Extremities
- Myelopathy – Vascular Disorders with Case
- Case: 22-year-old Woman with Back Pain and Autonomic Symptoms
- Myelopathy – Conus Medullaris vs. Cauda Equina
- Case: 45-year-old Man with Lower Extremity Weakness
- Toxic and Metabolic Causes of Myelopathy
- Vitamin B12 Deficiency Myelopathy
- Case: 57-year-old Woman with Leg and Back Pain
- Radiculopathy

Diseases of the Motor Neurons

- Case: 56-year-old Woman with Left Extremity Weakness
- Introduction to Motor Neurons and Motor/Sensory Pathways
- Upper and Lower Motor Neuron Diseases: Clinical Manifestations
- Upper and Lower Motor Neuron Etiology
- Upper and Lower Motor Neuron Diseases: Diagnosis and Management
- Case: 53-year-old Man with Generalized Weakness
- Upper and Lower Motor Neuron Diseases: Differential Diagnosis
- Amyotrophic Lateral Sclerosis (ALS) and Other Motor Neuron Diseases

Multiple Sclerosis (MS) & Inflammatory Disorders of the CNS

- Introduction to Neuroinflammatory Disorders
- Neuroinflammatory Disorders: Classification
- Overview of CNS Inflammatory Diseases
- Case: 51-year-old with Left Hand Numbness
- Clinically Isolated Syndrome: Clinical Manifestations and Classification
- Clinically Isolated Syndrome: Diagnostics and Treatment
- Acute Disseminated Encephalomyelitis (ADEM)
- Case: 21-year-old Woman with Blurry Vision
- Multiple Sclerosis (MS): Pathophysiology and Clinical Manifestations
- Multiple Sclerosis (MS): Diagnosis and Evolution of Disease
- Multiple Sclerosis (MS): Management
- Neuromyelitis Optica (NMO)
- MOG Ab Disorder
- MS, NMO, MOG Disorder

Stroke & Intracranial Hemorrhage

- Stroke: Introduction and Types
- Overview of Ischemic and Hemorrhagic Stroke
- Stroke: Pathophysiology
- Case: 45-year-old Man Presenting with a Stroke – Diagnosis
- Clinical Assessment of Stroke
- Clinical Question: Anterior or Posterior Circulation Stroke?
- Clinical Question: Cortical, Subcortical or Brainstem Localization?
- Stroke: Localization
- Case: 45-year-old Man Presenting with a Stroke – Management

- Acute Ischemic Stroke: Management and Evaluation
- Clinical Question: Acute or Mimic Stroke?
- Clinical Question: tPA or Endovascular Therapy?
- NIH Stroke Scale (NIHSS)
- Acute Ischemic Stroke: Major Treatment Types
- Case: 45-year-old Man Presenting with a Stroke
- Stroke: Evaluating Stroke Extension
- Stroke: Work-up and Etiology
- Stroke: Complications
- Management of the Case: 45-year-old Man Presenting with a Stroke
- Stroke: Pharmacological Prevention
- Case: 35-year-old Presenting with Hemiplegia
- Intracranial Hemorrhage: Types and Epidural Hematoma
- Intracranial Hemorrhage: Subdural Hematoma and Subarachnoid Hemorrhage
- Intracranial Hemorrhage: Intraparenchymal, Intraventricular, Hypertensive, and Transformation Hemorrhage
- Intracranial Hemorrhage: Evaluation
- Intracranial Hemorrhage: Management
- Intracranial Hemorrhage: Amyloid Angiopathy, Vascular Lesions, and Neoplasms
- Intracranial Hemorrhage: Evaluation and Summary

Seizures & Epilepsy

- Seizures, Epilepsy, and Spells: Introduction and Differentiation
- Seizures: Types and Classification
- Seizures: Mechanisms
- Seizures: Semiology
- Epilepsy: Diagnosis and Syndromes

- Seizures: Evaluation and Functionality of the EEG
- Seizures: Treatment
- Diagnosis and Evaluation of a Spell with Case
- Review of Seizure Systems
- Differentiating Seizure from Syncope and from Psychogenic Nonepileptic Spells (PNES)
- Evaluation of Seizure-like Episodes
- Case: 45-year-old Man with a Seizure-like Episode
- Seizure: Classification and Focal vs. Generalized Onset
- First-time Seizure: Evaluation, History, and Examination
- Second Seizure: History and Forms of Screening
- Second Seizure: Summary and Precautions
- Case: 57-year-old Man with a History of Epilepsy
- Status Epilepticus: Evaluation, Prognosis, and Classification
- Status Epilepticus: Emergency Treatment, Initial Investigation and Long-term Treatment
- Status Epilepticus: Stages and Pathophysiology
- Status Epilepticus: Treatment and Types
- Case: 13-year-old Boy on Referral from His PCP
- Epilepsy Syndrome: Introduction and Classification
- Idiopathic Generalized Onset and Idiopathic Focal Onset Epilepsies
- Symptomatic Epilepsies
- Case: 57-year-old Woman with Seizure-like Episodes
- Partial Onset Epilepsy: Treatment
- Medication for Focal Onset and Primary Generalized Epilepsy – Seizure Treatment
- Common Seizure Medications – Seizure Treatment
- Top 10 Seizure Treatment Tips with Cases

Head Trauma

- Case: 68-year-old Man with Progressive Altered Mental Status
- Head Trauma: Introduction and Diffuse Axonal Injury
- Head Trauma: Clinical Manifestations and Glasgow Coma Scale
- Head Trauma: Diagnosis and Management
- Traumatic Brain Injury: Introduction
- Traumatic Brain Injury: Diagnosis
- Mild and Sport-related Traumatic Brain Injury
- Traumatic Brain Injury: Chronic Traumatic Encephalopathy
- Traumatic Brain Injury: Management
- Case: 6-year-old Girl Hits Her Head
- Epidural Hematoma: Etiology, Clinical Presentation, and Diagnosis
- Epidural Hematoma: Management
- Case: 68-year-old Man with Progressive Altered Mental Status and Gaze
- Subdural Hematoma: Etiology and Clinical Presentation
- Subdural Hematoma: Diagnosis and Management
- Case: 43-year-old Woman with Altered Mental Status
- Subarachnoid Hemorrhage: Etiology, Clinical Manifestations, and Diagnosis
- Subarachnoid Hemorrhage: Management

CNS Infections

- Introduction to CNS Infections
- Anatomy of the Dura
- Approach to CNS Infections: CSF Analysis
- Microbes that cause CNS Infections
- Case: 76-year-old Woman with Headache

- Bacterial Meningitis: Introduction and Symptoms
- Bacterial Meningitis: Examination
- Bacterial Meningitis: Diagnosis
- Case: 76-year-old Woman with Headache – Follow Up
- Bacterial Meningitis: Treatment
- Viral and Non-bacterial Meningitis
- Case: 61-year-old Man with Headache
- Encephalitis: Introduction and Symptoms
- Encephalitis: Examination
- Other Viral Encephalitis
- Encephalitis: Treatment
- Case: 56-year-old Man with Headache
- Cerebritis and Brain Abscess
- Case: 58-year-old Woman with Headache
- Cryptococcal Meningitis
- Toxoplasmic Meningitis
- Neurocysticercosis: Introduction
- Neurocysticercosis: Life Cycle, Presentation, and Disease Stages
- Neurocysticercosis: Treatment

Parkinson Disease & Movement Disorders

- Introduction to Parkinson Disease
- Idiopathic Parkinson Disease
- Parkinson-Plus Syndromes
- Non-parkinsonian Movement Disorders

Dementia & Amnestic Conditions

- Introduction to Dementing Diseases
- Alzheimer Dementia
- Other Dementias

CNS Tumors

- Brain Tumors: Introduction, Classification, and Diagnostic Evaluation
- Case: 32-year-old-Woman with Bradyphrenia
- Metastatic Brain Tumors: Introduction
- Metastatic Brain Tumors: Surgery – Treatment
- Metastatic Brain Tumors: Radiosurgery – Treatment
- Metastatic Brain Tumors: Chemotherapy – Treatment
- Case: 40-year-old Woman with Headache
- Meningioma: Introduction
- Meningioma: Clinical Presentation and Evaluation
- Meningioma: Treatment
- Case: 67-year-old Woman with Headaches
- Pituitary Tumors: Introduction
- Pituitary Tumors: Clinical Presentation
- Pituitary Tumors: Evaluation and Imaging
- Pituitary Tumors: Treatment
- Case: 49-year-old Man with Headache
- Glioma: Introduction and Clinical Presentation
- Glioma: Grading with MRI and Contrast Enhancement
- Glioma: Grading with Tissue Sample
- Glioma: Genetic Risk Assessment
- Glioma: Treatment

- Case: 21-year-old Man with Pain
- Neurofibromatosis Type 1: Introduction
- Knudson's Two-Hit Hypothesis of Tumor Formation
- Neurofibromatosis Type 1: Diagnosing Criteria
- Neurofibromatosis Type 1: Clinical Presentation
- Neurofibromatosis Type 1: Treatment
- Case: 42-year-old Woman with Loss of Hearing
- Neurofibromatosis Type 2: Introduction
- Neurofibromatosis Type 2: Diagnosing Criteria
- Neurofibromatosis Type 2: Clinical Presentation
- Neurofibromatosis Type 2: Treatment
- Case: 2.5-month-old Infant with Spasms
- Tuberous Sclerosis: Introduction
- Tuberous Sclerosis: Diagnosing Criteria
- Tuberous Sclerosis: Clinical Presentation
- Tuberous Sclerosis: Treatment

Sleep Disorders

- Introduction to Sleep
- Circadian Rhythm
- Stages of Sleep
- Case: 45-year-old with Difficulty Sleeping
- Insomnia: Classification and Pathophysiology
- Insomnia: Diagnosis
- Insomnia: Management
- Case: 54-year-old with Excessive Daytime Sleepiness
- Circadian Rhythm Sleep-wake Disorders and Delayed Sleep-wake Phase Disorder

- Sleep-wake Phase Disorder: Advance, Irregular, and Non-24-hour
- Sleep-wake Phase Disorder: Shift Work Disorder and Jet Lag
- Sleep-wake Phase Disorder: Management
- Case: 39-year-old Acting Out Dreams
- Introduction to Parasomnias
- NREM-related Parasomnias
- REM-related Parasomnias and Management of Parasomnias
- Case: 12-year-old with Hallucinations
- Introduction to Narcolepsy
- Narcolepsy: Epidemiology and Clinical Features
- Narcolepsy: Diagnosis
- Narcolepsy: Management

Vertigo, Dizziness, & Disorders of Balance

- Case: 34-year-old Woman with Severe Dizziness
- Dizziness: Signs and Symptoms
- Introduction to Nonspecific Dizziness
- Dysequilibrium and Cerebellar Diseases
- Case: 67-year-old Woman with Gait Dysfunction
- Cerebellum: Lobes – Anatomy Review
- Case: 14-year-old Girl with Dizziness
- Cerebellum: Afferent and Efferent Pathways – Anatomy Review
- Case: 53-year-old Man with Ataxia
- Cerebellum: Nuclei – Anatomy Review
- Case: 68-year-old Man Presenting with Fainting Episodes
- Syncope: Definition, Etiology, and Causes

- Neurally Mediated Syncope: Definition, Pathophysiology, and Classification
- Syncope: Evaluation, Treatment, and Management
- Case: 34-year-old with Dizziness
- Review of the Vestibular System and Evaluation of Vertigo
- Vertigo: Types
- Acute Vestibular Syndrome: Causes and Differentiation
- Exam Techniques: Head Impulse Test (HIT), Nystagmus, and Test of Skew
- HINTS of INFARCT

Headache

- Introduction to Headaches: Groups and 3-Step-Evaluation System
- Step 1: Primary and Secondary Headaches and Types of Headaches
- Step 2: Options for Diagnostic Testing and Clues to Severe Disease
- Step 3: Treatment of Headaches
- Case: 45-year-old Woman with Headache
- Thunderclap Headache: Overview, Evaluation, and Management
- Case: 67-year-old Woman with History of Migraines
- Headache with Visual Disturbances
- Case: 68-year-old Man with Squamous Cell Carcinoma
- Neuralgiform Headaches
- Case: 57-year-old Woman with Headache when Sitting Up
- Low-pressure Headache
- Case: 38-year-old Obese Woman with Headache
- High-pressure Headache
- Case: 30-year-old Woman with Episodic Headache
- Chronic, Recurrent, and Episodic Headaches
- Migraine: Aura, Triggers, Evaluation, and Treatment

- Migraine: Prophylaxis and Medications
- Case: 25-year-old Man with Cluster of Headaches
- Trigeminal Autonomic Cephalalgias (TACs)
- Cluster Headaches
- Paroxysmal Hemicrania
- SUNCT and SUNA
- Hemicrania Continua

Neuropathic Pain Syndromes

- Neuropathic Pain: Esthesia, Algesia, Pathia, and Dynia
- Neuropathic Pain: Understanding Reflex Arcs
- Neuropathic Pain: Clues to Locate the Lesion (CNS or PNS)
- Neuropathic Pain: Locating a Lesion in the PNS
- Case: 53-year-old Man with Intense Hip Pain
- Case: 31-year-old Woman with Pruritic Vesicles
- Diabetic Polyneuropathy
- Chemotherapy-induced Polyneuropathy
- Case: 43-year-old Woman with Sharp Pain on the Right Side of Her Face
- Neuropathic Pain: Thalamic Pain Syndrome
- Neuropathic Pain: Treatment

Neurologic & Psychiatric Emergencies

- Altered Mental Status (AMS – Emergency Medicine)
- Altered Mental Status (AMS): Common Causes
- Altered Mental Status (AMS): First steps
- Altered Mental Status (AMS): History
- Altered Mental Status (AMS): Management

- Headache (Emergency Medicine)
- Migraine: Presentation & Diagnosis
- Migraine: Management
- Cluster Headache (Emergency Medicine)
- Secondary Headache (Emergency Medicine)
- Acute Ischemic Stroke (AIS – Emergency Medicine)
- Acute Ischemic Stroke (AIS): Signs & Symptoms
- Acute Ischemic Stroke (AIS): Examination
- Acute Ischemic Stroke (AIS): Diagnosis
- Acute Ischemic Stroke (AIS): Management
- Spontaneous Intracerebral Hemorrhage (ICH – Emergency Medicine)
- Spontaneous Intracerebral Hemorrhage (ICH): Examination & Diagnosis
- Spontaneous Intracerebral Hemorrhage (ICH): Management
- Subarachnoid Hemorrhage (SAH – Emergency Medicine)
- Subarachnoid Hemorrhage (SAH): Diagnosis
- Subarachnoid Hemorrhage (SAH): Management
- Seizures (Emergency Medicine)
- Seizures: Pathophysiology
- Seizure: Examination
- Seizure: Diagnosis
- Seizure: Management
- Meningitis and Encephalitis (Emergency Medicine)
- Meningitis and Encephalitis: Examination
- Meningitis and Encephalitis: Diagnosis
- Meningitis and Encephalitis: Management & Prophylaxis
- Suicidal Patients (Emergency Medicine)
- Methods of Suicide
- Suicidal Patients: Diagnosis
- Suicidal Patients: Management
- Suicidal Patients: Documentation and Disposition

Pediatric Neurology

- Seizures in Children: Introduction
- Status Epilepticus: Management
- Generalized Seizure in Children
- Febrile Seizure
- Ataxia in Children
- Migraines and Headaches in Children
- Secondary Headache in Children
- Guillan-Barré Syndrome (GBS) and Acute Disseminated Encephalomyelitis (ADEM)
- Muscular Dystrophy in Children
- Spinal Muscular Atrophy (SMA) in Children
- Infant Botulism
- Myasthenia Gravis in Children
- Cerebral Palsy (CP)
- Intellectual Disability in Children
- Tics and Tourettes in Children
- Tuberous Sclerosis in Children
- Neurofibromatosis (NF) and Sturge Weber Syndrome
- Increased Intracranial Pressure (ICP), Hydrocephalus & Dandy-Walker Variant (DWV)
- Arnold-Chiari Malformations and Craniosynostosis

Why Mediversal?

	Mediversal	Competitor
CPD hours/ Credit	✔ 110 hours/Credit	⚠ 3—50 hours/Credit
NMC Guideline	✔ Advantages in accordance with provision 1.4.2 of NMC regulations	⚠ Not all. (Very few)
Renowned International faculties	✔ Yes	⚠ Only for few subjects
Faculty to learner ratio	✔ 1:10	✔ 1:50 or 1:75
Case based learning	✔ Yes	✘ No
AI supported learning	✔ Yes	✘ No
Live Interaction Sessions	✔ Yes	✘ No
Clinical Attachments	✔ Yes (Case to Case basis)	✔ Yes
Associated with Hospitals for Clinical Training	✔ Yes	✔ Yes
Books	✔ Yes (Printable Pdf copy)	✘ No
Complementary e-Learning Module & Certification	✔ Yes	✘ No
Learner Support	✔ Yes	✘ No
Community of Doctors for peer support (Mediversal Alumni only)	✔ Yes	✘ No
Alumni Support	✔ Yes	⚠ Only a few
e-Certification	✔ Yes	✔ Yes
Physical Certification	✔ Yes	⚠ Only a few
Lifetime certificate validity	✔ Yes	✔ Yes
Digital Marketing and Business Support for your hospital/clinic	✔ Yes	✘ No
Admission process	✔ Smooth, Transparent & all details provided	⚠ Spamming through multiple channels.
Data and privacy protection	✔ Yes	✘ No
CME access	✔ Yes (Lifetime)	✘ No
Medico Legal Session	✔ Yes (Free. By renowned high court advocates)	✘ No
National Level Felicitation Award (for Mediversal Alumni)	✔ Yes	✘ No



Mediversal Academy

Landmark Cyber Park,
AIPL Joy Street, Sector 67,
Gurgaon (HR)- 122102
+91 9053027318

contact@mediversal.co.in
www.mediversal.co.in

