

UNIT I: HUMAN BRAIN DEVELOPMENT

1. Neural Tube Development
2. Prosencephalic Development
3. Ventricular Development, Ventriculomegaly, and Hydrocephalus in the Fetus and Newborn
4. Normal and Abnormal Development of the Posterior Fossa Structures
5. Neuronal Proliferation
6. Neuronal Migration
7. Organizational Events
8. Myelination Events

UNIT II: FETAL NEUROLOGY

9. Specialized Diagnostic Studies for Assessment of the Fetal Central Nervous System
10. Placental Conditions With Consequences for the Fetal Brain
11. Maternal and Fetal Conditions With Consequences for the Fetal Brain

UNIT III: NEUROLOGICAL EVALUATION

12. Neurological Examination: Normal and Abnormal Features
13. Specialized Neurological Studies
14. Neurodevelopmental Follow-Up of High-Risk Newborns

UNIT IV: SEIZURES

15. Neonatal Seizures

UNIT V: HYPOXIC-ISCHEMIC AND RELATED DISORDERS

16. Pathophysiology: General Principle
17. Inflammation and the Newborn Brain
18. Encephalopathy of Prematurity: Neuropathology
19. Encephalopathy of Prematurity: Pathophysiology
20. Encephalopathy of the Preterm—Clinical Aspects
21. Intrauterine and Intrapartum Assessment of the Fetus
22. Hypoxic-Ischemic Encephalopathy in the Term Infant: Neuropathology
23. Hypoxic-Ischemic Injury in the Term Infant: Pathophysiology
24. Hypoxic-Ischemic Injury in the Term Infant: Clinical/Neurological Features, Diagnosis, Imaging, Management, and Prognosis
25. Stroke in the Newborn

UNIT VI: INTRACRANIAL HEMORRHAGE

26. Intracranial Hemorrhage: Subdural, Subarachnoid, Subpial, Intraventricular (Term Infant), Miscellaneous
27. Cerebellar Hemorrhage
28. Preterm Intraventricular Hemorrhage/Posthemorrhagic Hydrocephalus

UNIT VII: METABOLIC ENCEPHALOPATHIES

29. Glucose
30. Bilirubin and Brain Injury
31. Amino Acids
32. Organic Acids

UNIT VIII: DEGENERATIVE DISORDERS

33. Degenerative Disorders of the Newborn

UNIT IX: NEUROMUSCULAR DISORDERS

- 34. Evaluation, Special Studies
- 35. Arthrogryposis Multiplex Congenita
- 36. Levels Above Lower Motor Neuron to Neuromuscular Junction
- 37. Muscle Involvement and Restricted Disorders

UNIT X: INTRACRANIAL INFECTIONS

- 38. Viral, Protozoan, and Related Intracranial Infections
- 39. Bacterial and Fungal Intracranial Infections

UNIT XI: PERINATAL TRAUMA

- 40. Injuries of Extracranial, Cranial, Intracranial, Spinal Cord, and Peripheral Nervous System Structures

UNIT XII: INTRACRANIAL MASS LESIONS

- 41. Brain Tumors and Vein of Galen Malformations

UNIT XIII: DRUGS AND THE DEVELOPING NERVOUS SYSTEM

- 42. Passive Addiction and Teratogenic Effects

UNIT XIV: NEUROLOGY IN LOW RESOURCE SETTINGS

- 43. Neonatal Neurology in the Low Resource Setting for the Term and Preterm Newborn

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