

BASIC NEUROPHYSIOLOGY

Chapter 1. Basics of Neurophysiology (Potentials, synaptic transmission, muscle physiology)

Chapter 2. Electrophysiologic Generators in Clinical Neurophysiology

Chapter 3. Waveforms and Artifacts

CLINICAL ELECTROENCEPHALOGRAPHY

Adult EEG

Chapter 4. Adult EEG - Normal and Benign Variants

Chapter 5. Adult EEG - Artifacts

Chapter 6. Adult EEG - Epileptiform Activity

Chapter 7. Adult EEG - Abnormal Non-epileptiform Activity and Brain Death

Pediatric EEG

Chapter 8. Pediatric EEG - Normal Maturational Changes

Chapter 9. Pediatric EEG - Epileptiform Activity

EEG - Special Studies and Surgical Monitoring

Chapter 10. Long Term, Computer Assisted Ambulatory EEG Recording

Chapter 11. Long Term Video EEG Recording in Epilepsy Monitoring Unit

Chapter 12. EEG Trend Analysis in the ICU

Chapter 13. Intracranial Monitoring and Electrocorticography (Nasopharyngeal, Sphenoidal. Depth, Subdural electrodes)

Chapter 14. Quantitative EEG Analysis, EEG Mapping, and Magnetoencephalography Applications

Chapter 15. Assessment of Spells and Seizure in the Outpatient Setting

Chapter 16. Epilepsy Surgery Evaluation

CLINICAL ELECTROMYOGRAPHY

Nerve Conduction Studies

Chapter 17. Motor Nerve Conduction Studies

Chapter 18. Sensory Nerve Conduction Studies

Chapter 19. Late Responses: F waves and H reflexes

Chapter 20. Repetitive Nerve Stimulation Studies

Chapter 21. Cranial Nerve Studies

Chapter 22. Quantitative Motor Unit Number Estimates

Chapter 23. Technical Issues and Potential Complications of Nerve Conduction Studies

Needle Electromyography

Chapter 24. Needle Electromyography

Chapter 25. Quantitative Electromyography

Chapter 26. Single Fiber Electromyography

Chapter 27. Pitfalls and Potential Complications of Needle EMG

Applications of Electromyography

Chapter 28. Assessment of Mononeuropathies

Chapter 29. Assessment of Radiculopathies

Chapter 30. Assessment of Plexopathies

Chapter 31. Assessment of Polyneuropathies

Chapter 32. Assessment of Motor Neuron Diseases

- Chapter 33. Assessment of Neuromuscular Junction Diseases
- Chapter 34. Assessment of Myopathies
- Chapter 35. Neuromuscular ICU Testing
- Chapter 36. Neuromuscular Ultrasound in the EMG Lab

EVOKED POTENTIALS

- Chapter 37. Somatosensory Evoked Potentials
- Chapter 38. Visual Evoked Potentials
- Chapter 39. Brainstem Auditory Evoked Potentials
- Chapter 40. Motor Evoked Potentials

ASSESSMENT OF AUTONOMIC FUNCTION

- Chapter 41. Autonomic Physiology
- Chapter 42. Quantitative Sudomotor Axon Reflex and Related Tests
- Chapter 43. Evaluation of Adrenergic Function
- Chapter 44. Thermoregulatory Sweat Test
- Chapter 45. Cardiovagal Reflexes

CLINICAL NEUROPHYSIOLOGY OF MOVEMENT DISORDERS

- Chapter 46. Movement-Related Potentials and Event-Related Potentials
- Chapter 47. Long Latency Reflexes and the Silent Period
- Chapter 48. Electrophysiology of Movement Disorders

ASSESSMENT OF SLEEP

- Chapter 49. Assessment of Sleep and Sleep Disorders: Polysomnography and Other Tests
- Chapter 50. Pediatric Sleep Assessment
- Chapter 51. Abnormal Sleep and Sleep Disorders

INTRAOPERATIVE MONITORING

- Chapter 52. Cerebral Function Monitoring and Cortical Mapping for Non-epilepsy surgery
- Chapter 53. Brain Stem and Cranial Nerve Monitoring
- Chapter 54. Spinal Cord Monitoring
- Chapter 55. Peripheral Nervous System Monitoring

ELECTRICAL CONCEPTS AND SAFETY

- Chapter 56. Electricity and Instrumentation in Clinical Neurophysiology (including electrodes, amplifiers, stimulators)
- Chapter 57. Volume Conduction
- Chapter 58. Digital Signal Processing
- Chapter 59. Electrical Safety in the Neurophysiology Laboratory