

Part I

Organization, Cellular Components, and Topography of the CNS

1. Introduction, Organization, and Cellular Components 2
2. Spinal Cord: Topography and Functional Levels 17
3. Brainstem: Topography and Functional Levels 27
4. Forebrain: Topography and Functional Levels 39

Part II

Motor Systems

5. Lower Motor Neurons: Flaccid Paralysis 50
6. The Pyramidal System: Spastic Paralysis 67
7. Spinal Motor Organization and Brainstem Supraspinal Paths: Postcapsular Lesion Recovery and Decerebrate Posturing 81
8. The Basal Ganglia: Dyskinesia 88
9. The Cerebellum: Ataxia 104
10. The Ocular Motor System: Gaze Disorders 123

Part III

Sensory Systems

11. The Somatosensory System: Anesthesia and Analgesia 132
12. The Auditory System: Deafness 160
13. The Vestibular System: Vertigo and Nystagmus 169
14. The Visual System: Anopsia 178
15. The Gustatory and Olfactory Systems: Ageusia and Anosmia 197

Part IV

The Cerebral Cortex and Limbic System

16. The Cerebral Cortex: Aphasia, Agnosia, and Apraxia 206
17. The Limbic System: Anterograde Amnesia and Inappropriate Social Behavior 225

Part V

The Visceral System

18. The Hypothalamus: Vegetative and Endocrine Imbalance 236
19. The Autonomic Nervous System: Visceral Abnormalities 242

Part VI

The Reticular Formation and Cranial Nerves

- 20. Reticular Formation: Modulation and Activation 260
- 21. Summary of the Cranial Nerves: Components and Abnormalities 271

Part VII

Accessory Components

- 22. The Blood Supply of the Central Nervous System: Stroke 286
- 23. The Cerebrospinal Fluid System: Hydrocephalus 306

Part VIII

Development, Aging, and Response of Neurons to Injury

- 24. Development of the Nervous System: Congenital Anomalies 318

- 25. Aging of the Nervous System: Dementia 328
- 26. Recovery of Function of the Nervous System: Plasticity and Regeneration 332

Part IX

Where is the Lesion?

- 27. Principles for Locating Lesions and Clinical Illustrations 342

Appendices

- A. Answers to Chapter Questions 362
- B. Glossary 391
- C. Suggested Readings 414
- D. Atlas of Myelin-Stained Sections 415

Index 429