

Table of Contents

Section 1 Techniques for Imaging

1 Static Anatomic Techniques

2 Dynamic Functional and Physiological Techniques

Section 2: Image and Pattern Analysis

3 Analysis of Density, Signal Intensity, and Echogenicity

4 Analysis of Mass Effect

5 Patterns of Contrast Enhancement

Section 3: Scalp, Skull, and Meninges

6 Scalp

7 Skull

8 Cranial Meninges

Section 4: Normal Brain Anatomy

9 Surface Anatomy of the Cerebrum

10 Cerebral Cortex

11 Deep Gray Nuclei and Related Fiber Tracts

12 White Matter

13 Ventricles and Intracranial Subarachnoid Spaces

14 Sella Turcica and Pituitary Gland

Infratentorial Brain

15 Brain Stem

16 Cerebellum

17 Cranial Nerves

Section 5: Cerebrovascular Anatomy and Disease

18 Normal Vascular Anatomy

19 Intracranial Hemorrhage

20 Atherosclerosis and the Chronology of Infarction

21 Other Arteriopathies

22 Venous Occlusive Disease

23 Aneurysms

24 Vascular Malformations

Section 6: Craniocerebral Trauma

25 Fracture and Hemorrhage

26 Vascular Injury and Parenchymal Changes

Section 7: Cysts and Tumors

27 Intracranial Cysts and Cyst-Like Lesions

28 Neuroepithelial Cysts, Porencephaly, and Perivascular Spaces

29 Overview of Adult Primary Neoplasms and Metastatic Disease

30 Meningeal Neoplasms

31 Vascular and Hematopoietic Neoplasms

32 Intra-Axial Neoplasms

33 Sellar and Juxtasellar Tumors

34 Pineal Region Masses

35 Posterior Fossa Intra-Axial Tumors

36 Cerebellopontine Angle and Internal Auditory Canal Neoplasms

37 Tumors of the Cranial/Spinal Nerves

38 Management of the Tumor Patient

Section 8: The Phakomatoses

39 Phakomatoses: Tumor Suppression Gene Defects

Section 9: Infection and Inflammation

40 Meningitis and Ventriculitis

41 Pyogens, Mycobacteria, and Fungus

42 Other Infections of the Brain

43 Multiple Sclerosis and Other Idiopathic Inflammatory-Demyelinating Disease

44 Neurotoxicity Associated with Pediatric Malignancies

Section 10: Aging and Degeneration

45 Neurodegeneration: Cerebrum

46 Neurodegeneration: Cerebellum and Brain Stem

Section 11: Toxic and Metabolic Conditions

47 Toxic and Metabolic Brain Disease

Section 12: Hydrocephalus

48 Classical Concepts of Hydrocephalus

49 Emerging Concepts of Cerebrospinal Fluid Physiology and Communicating Hydrocephalus

Section 13: Epilepsy

50 Epilepsy