Contents

1. Classification of Epilepsy **1**
Satinder Aneja, Suvasnini Sharma
Need for classification 1
Types of classification 2
Classification of seizures 2
Classification of epilepsy and epileptic syndromes 7
Common epileptic syndromes of infancy, childhood and adolescence 7
Changes in the classification of epilepsy syndromes as per the 2010 classification 12

2. What is Not Seizure? How to Differentiate? **17**
Renu Suthar, Naveen Sankhyan
Breath holding spells (BHS) 17
Reflex anoxic seizures 19
Syncope 19
Sleep disorders 20
Paroxysmal non-epileptic seizures (PNES) 21
Stereotypies and self-stimulation 22

3. Investigations in Epilepsy: What and When? **24**
Rachana Dubey, Sheffali Gulati, Biswaroop Chakrabarty
Clinical data 24
Electroencephalography (EEG) or interictal EEG 25
Neuroimaging 27
Therapeutic drug monitoring and routine laboratory tests 29
Genetic investigations 31
Metabolic testing in epilepsy 32
Autoantibodies in epilepsy 33

4. Demystifying EEG: Simple Steps to Read EEG for Pediatricians **36**
Lokesh Lingappa, Ramesh Konanki
Before requesting electroencephalogram 36
Technical aspects of EEG recording 37
Neonatal EEG 40
Epileptiform abnormalities 42
EEG in intensive care setting 46
Activation procedures 47
Step-by-step EEG reading 47

5. Febrile Seizures **48**
Sujata Kanhere
Case 1 48
Case 2 48
Definition 49
Classification of febrile seizures 49
Etiopathogenesis 49

Approach to child with febrile seizures 50
Investigations 51
Management 51
Prophylaxis 52
Prognosis 53

6. Neonatal Seizures **55**
Swati Mulye
Recognition and classification 55
Etiology 56
Neonatal epileptic syndromes 57
Evaluation of a neonate with seizure 58
Investigation of neonatal seizures 59
Management 61

7. Metabolic Seizures **65**
Arijit Chattopadhyay
Epilepsy due to inborn errors of energy metabolism 65
Disorders of creatine metabolism 68
Disturbed neuronal function due to accumulation of storage products 68
Toxic effects 69
Disturbed neurotransmitter systems 69
Vitamin-responsive epilepsies 70
Associated brain malformations 71
Miscellaneous disorders 71

8. Spectrum of Common Infantile and Childhood Seizures **74**
Prashant Jauhari, Sumeet Dhawan, Jitendra K Sahu
Epilepsy and epileptic syndromes in infancy and childhood 74
Epilepsy and epileptic syndromes with onset in infantile age group 75
Epilepsy and epileptic syndromes in early childhood 79
Epilepsy and epileptic syndromes in older childhood and adolescence 83

9. Post-traumatic Epilepsy **87**
SS Rawat
Post-traumatic seizures 87
Post-traumatic epilepsy 88
Evaluation 89
Management of post-traumatic seizures 89
Management of post-traumatic epilepsy 90
Prevention of post-traumatic epilepsy 90

10. Epileptic Syndromes in Late Childhood or Adolescence **92**
Ruchi Mishra, Devendra Mishra
Idiopathic generalized epilepsies 92
Idiopathic focal epilepsy 95
Symptomatic and probably symptomatic focal epilepsies 97
Epileptic encephalopathies 98

11. Reflex Seizures and Epilepsies **100**
Rekha Mittal, Saurabh Chopra
Prevalence 100
Etiology 100
Stimuli precipitating reflex seizures (ILAE 2001) 101
Types of reflex seizures 101
Characterisitics of reflex seizures 101
Pathogenesis 102
Common reflex epilepsies and seizures 102

12. Epileptic Encephalopathies in Infancy and Childhood **109**
Anita Sharma, Bidisha Banerjee
Common characteristics 109
Etiopathogenesis 109
Classification 109
Early infantile epileptic encephalopathy or Ohtahara syndrome 111
Early myoclonic encephalopathy 111
Migrating partial seizures in infancy 112
Infantile spasm or West syndrome 113
Severe myoclonic epilepsy in infancy or Dravet syndrome 115
Myoclonic astatic epilepsy or doose syndrome 116
Lennox-Gastaut syndrome 117
Landau-Kleffner syndrome or acquired epileptic aphasia 118
Continuous spike waves in slow wave sleep 119

13. Drug-resistant Epilepsies **121**
Neelu Desai, Vrajesh Udani
What is drug-resistant epilepsy? 121
Epidemiology 121
Differential diagnosis 122
Pseudorefractory epilepsy 122
Treatment options 124

14. Status Epilepticus **129**
Omkar P Hajirnis, Anaita Udwadia-Hegde
Definition 130
Incidence 130
Etiology 130
Newer epilepsies with status epilepticus 133
Pathophysiology of status epilepticus 134
Management 135

15. Comorbidities in Pediatric Epilepsy **139**
Neeta Naik
Common comorbidities 139
Comorbidities in specific pediatric epilepsy syndromes 141
Possible mechanisms 144
Psychological and social impact of epilepsy 144
Management and treatment strategies 144
The goals included 145

16. Drugs Used in Epilepsy **146**
Gouri Passi
Whom to treat 146
Which drug to use 147
Newer antiepileptic drugs 148

17. Ketogenic Diets: A Review **154**
Janak Nathan, Dhanashri Khedekar, Sonal Bailur
Indications 154
Methodology 155
Side-effects 157
Mode of action 157
Other ketogenic diets 158

18. Epilepsy Surgery **162**
Sheffali Gulati, Biswaroop Chakrabarty, Manjari Tripathi
Case 1 162
Case 2 162
Case 3 162
Key concepts of surgical evaluation 163
Surgical techniques 170
Complications 172

19. Parent Education in Pediatric Epilepsy **175**
Anoop Verma, VP Goswami
Frequently asked questions (FAQs) by parents 175
Myths about epilepsy 178
Informative handout for parents 179
Website resources 180

20. Life Beyond Childhood Epilepsy **181**
Sharad Thora
Quality of life 181
Advice to the patients and carers during epilepsy 182
Precautions against injury from epilepsy 183
Organizations 184

Index *185*