

Contents

Chapter 1	Transtympanic Medical Therapy.....	1
	• Kinetics	2
	• Delivery Devices	4
	• Common Disorders Treated with Transtympanic Therapy	6
	– Ménière’s Disease	6
	– Sudden Sensorineural Hearing Loss	10
	– Tinnitus	13
Chapter 2	Bone Conducting Hearing Aid Solutions.....	21
	• Mechanism of Bone Conduction Hearing	22
	• Bone Conduction Hearing Aids	22
	• Bone Anchored Hearing Aids	22
	• BAHA®	23
	– Indications for BAHA®	23
	– Patient Selection	24
	– Surgical Procedure	24
	– Complications of Surgery	27
	– Results	28
	• New Developments in Implantable Bone Conduction Hearing Aids	28
	– Sophono Alpha 1 System	28
	– Indications for Sophono	29
	– Patient Selection	30
	– Surgical Procedure	30
	– Complications of Surgery	30
Chapter 3	Superior Semicircular Canal Dehiscence Syndrome Evaluation and Management.....	33
	• Pathophysiology	34
	– Excitation	34
	– Inhibition	34
	– Nystagmus	34
	– Origin of Bony Dehiscence	35
	• Symptoms	36
	• Physical Examination	37
	• Investigations	38
	• Diagnosis	38
	– Differential Diagnosis	40
	• Management	40
	– Surgical Management	40
	• Outcome	43
Chapter 4	Implantable Hearing Aids	49
	• Indications for Active Middle Ear Implant	50
	• Vibrant Soundbridge	52

	– Vibrant Soundbridge for Sensorineural Hearing Loss (Incus-Vibroplasty) 53 – Vibrant Soundbridge for Conductive/Mixed Hearing Loss 54
	• Middle Ear Transducer and Carina 56 • Esteem® 57 – Esteem® Surgery 58 • Maxum 61 • Retrox 62 – Retrox Surgery 63 • Imaging and Active Middle Ear Implants 64 • Active Middle Ear Implant versus Conventional Hearing Aid 64
Chapter 5	Electric Acoustic Stimulation and Hearing Preservation: Atraumatic Surgical Techniques and Outcome.....68
	• From Cochlear Implantation to Electric Acoustic Stimulation 68 • The History of Hearing Preservation Cochlear Implantation 69 • Indications and Criteria for EAS 71 • Defining Residual Hearing for EAS 72 • Hearing Preservation Cochlear Implant Surgery 72 – Step 1: Pre-incision Measures 73 – Step 2: Posterior Tympanotomy 74 – Step 3: Endosteum Exposure at the Cochleostomy Site or Round Window Membrane Exposure 74 – Step 4: Topical Corticoid Application 76 – Step 5: Placing the Implant 76 – Step 6: Inserting the Electrode Array 76 – Step 7: Securing the Electrode and Closing the Retroauricular Incision in Three Layers 77 • Cochlear Implant Electrode Design and Hearing Preservation 78 – Tailoring Insertion Depth 80 • Outcomes with Combined Electric Acoustic Stimulation 82 – Hearing Preservation 82 – Speech Perception with EAS 82 – Music Appreciation and Subjective Benefit with EAS 83 • EAS: Conclusion on Counseling and Future Perspectives 84
Chapter 6	Novel Approaches to the Diagnosis and Treatment of Eustachian Tube Disorders88
	• Critical Anatomical and Physiological Aspects 88 – Overview 88 • Peritubal Muscles and their Function 89 • Visual Identification and Landmarks of the Eustachian Tube 90 • General Physiological Aspects 90 • New Considerations in Physiology 91 – Eustachian Tube Dilation and Closure 91 – Middle Ear Gas Exchange 92 – Clearance of the Middle Ear 92 – Protection of the Middle Ear 93 • Evaluation of the Eustachian Tube 93 – History and Physical Examination 93 – Endoscopic Examination of the Eustachian Tube 93

	• Pathology of Eustachian Tube Dysfunction 95 – Overview, Etiology and Pathophysiology 95 – Medical Treatment for Eustachian Tube Dilatory Dysfunction 97 – Surgical Treatment for Eustachian Tube Dilatory Dysfunction 98 • Patulous Eustachian Tube Dysfunction 105 – Overview, Etiology and Pathophysiology 105 – Medical Treatment for Patulous Eustachian Tube Dysfunction 107 – Surgical Treatment of Patulous Eustachian Tube Dysfunction 107
Chapter 7	Vestibular-Evoked Myogenic Potential Testing in Otology 114 • Modes of Stimulation and Recording 116 – Air-Conducted Sound Mode 116 – Bone-Conducted Vibration Mode 117 – Galvanic Vestibular Stimulation Mode 117 – Recording of cVEMPs 118 – Recording of oVEMPs 118 • Animal Model 119 – Animal Model of cVEMP 119 – Animal Model of oVEMP 120 • Clinical Application 120 – Conductive Hearing Loss 120 – Vestibular Neuritis 120 – Ménière's Disease 121 – Posterior Fossa Stroke 121 – Acoustic Neuroma 121 • Future 122
Chapter 8	Laryngeal Electromyography..... 125 • Principle and Technique 126 • Physiology and Pathology 129 • Clinical Applications 131 • EMG for Prognosis in Vocal Fold Paralysis 133
Chapter 9	Current Techniques in Sleep-Disordered Breathing Surgery..... 140 • The Tailored Treatment 143 – Type 1: The Behavioral Treatment 143 – Type 2: Devices to be Worn 144 – Type 3: Surgery 145 – Palatal Surgery 152 – Uvulopalatal Flap Technique 153 – Z-Pharyngoplasty Technique 155 – Transpalatal Advancement Technique 156 • Tongue Surgery in the Sleep-Disordered Breathing 157 – Radiofrequency of Base of the Tongue 157 – Tongue Base Suspension 158 • Submucosal Partial Glossectomy Techniques 158 – Percutaneous Submucosal Tongue Base Excision 158 – Submucosal Minimally Invasive Lingual Excision 160

	– Results in Submucosal Partial Glossectomy Techniques 160 – Mandibular Osteotomy with Genioglossus Advancement 160 – Results in Tongue Surgery for Obstructive Sleep Apnea 161 – Hyoid Surgery in the Sleep-Disordered Breathing 161 – Anesthesia in Sleep-Disordered Breathing Patient 162 – Complications in Sleep-Disordered Breathing Surgery 162	
Chapter 10	Pediatric Voice Disorders: Evaluation, Pathology and Innovations	165
	• Evaluation of Dysphonia 166 – History and Quality of Life Measurements 166 – Speech Language Pathology Assessment 168 – Otolaryngology Assessment 168 • Pathology of Dysphonia 171 – Benign Lesions of the Vocal Folds 171 – Juvenile Recurrent Respiratory Papillomatosis 172 – Laryngeal Webs 173 – Laryngopharyngeal Reflux 174 – Neurogenic Voice Disorders 174 – Functional Voice Disorders 177 – Paradoxical Vocal Fold Motion 177 – Trauma and Laryngeal Reconstruction 179	
Chapter 11	what's new in otitis media	184
	• Overview 184 • Biofilms 185 • Bacteriology of OM and the Effects of Vaccination 188 • Controversies of Antibiotic Therapy in OM 190 • Complications of OM 193	
Chapter 12	Sialoendoscopy in the Management of Salivary Gland Disease	205
	• History 206 • Anatomical and Physiological Considerations 207 • Major Salivary Gland Ductal Obstruction 208 – Sialadenitis 208 – Sialolithiasis 209 – Obstruction not Caused by Lithiasis 210 – Miscellaneous Factors 212 • Sialoendoscopy 214 – Operative Indications 214 • Endoscopes and Instrumentation 215 – Endoscopes 215 – Flexible Endoscopes 216 – Rigid Endoscopes 216 – Semi-Rigid Endoscopes 216 – Instrumentation 217 – Operative Procedure 221	

	• Interventions 224 – Operative Considerations in Sialolith Removal 224 – Operative Considerations in Ductal Strictures 226 – Considerations for Endoscopically Assisted Removal of Stones 227 • Complications 229 • Considerations in Pediatric Sialoendoscopy 230	
Chapter 13	Robotic Surgery in the Head and Neck.....	236
	• Rationale for Transoral Robotic Surgery 238 • Development and Feasibility of Transoral Robotic Surgery 240 • Oncologic and Functional Outcome 244 • Future Applications of Transoral Robotic Surgery 248 • Robotic Assisted Thyroidectomy 249	
Chapter 14	Management of Acute Trauma to the Optic Nerve.....	259
	• Special Anatomical Features of Importance for Optic Nerve Damage 260 • Epidemiology and Etiology 261 • Diagnosis 262 – Visual Evoked Potentials 264 • Indication, Timing of Intervention 265 • Conservative Therapy 266 – Expectant Management 266 – Pharmacological Therapy, Steroids, Dosage and the Literature 267 – Surgery: Endonasal, Transorbital or Neurosurgical Pterional Decompression 269 • Results, Case Reports 269	
Chapter 15	Functional Rhinoplasty	276
	– Septal Surgery 276 – Turbinate Surgery 291 – Internal Valve 293 – External Valve 295	
Chapter 16	Nasal Septal Reconstruction	310
	• Septal Suturing and Splinting Techniques 312 • Polydioxanone Plates 314 • Tongue in Groove 316 • Columellar Strut 320 • Caudal Septal Extension Graft 321 • Caudal Septal Replacement Graft 324 • Comments 331	
Chapter 17	Balloon Sinuplasty in the Treatment of Sinus Disease in the Operating Room	334
	• Devices 335 • Balloon Sinuplasty 335 • Technique 335	

- LacriCATH Device 337
- FinESS 338
- Ventera Sinus Dilation System 338
 - Balloon-Only versus Hybrid Procedure 340
 - Efficacy and Outcomes 341
 - Frontal Sinus 343
 - Use in Children 346
 - Complications 347
 - Cost 348
 - Future 348

Index.....**353**