

Contents

1. Ear	1
Applied Anatomy and Physiology	1
Basic Anatomy	1
External Ear	3
Middle Ear and Pneumatic System	4
Inner Ear, Peripheral Hearing, and Balance Organs ..	10
Central Connections of the Organ of Corti	17
Central Connections of the Balance Mechanism	17
Facial Nerve	18
Physiology and Pathophysiology of Hearing and Balance ..	20
Physiology of Hearing: Middle and Internal Ear ..	20
Physiology of Hearing: Retrocochlear Analysis of Acoustic Information	23
Pathophysiologic Basis of Hearing Disorders	25
Physiology of the Balance System	26
Pathophysiologic Basis of Functional Vestibular Disorders	30
Methods of Investigation	33
Inspection, Palpation, Otoscopy, Microscopy	33
Inspection of the External Ear	33
Radiography	38
Functional Assessment of the Eustachian Tube	40
Qualitative Assessment of Tubal Function	40
Quantitative Measures of Tubal Function	41
Audiometry	41
Testing the Hearing Without an Audiometer	41
Audiometry	43
Fundamental Physical and Acoustic Concepts	43
Pure-Tone Audiometry	43
Speech Audiometry	52
Electric Response Audiometry	57
Hearing Tests in Infants and Young Children	59
Vestibular Function Tests ..	60
Vestibulospinal Reflexes ..	60
Tests for Spontaneous and Provoked Nystagmus	63
Experimental Tests of the Vestibular System	67
Optokinetic Function and Pursuit Tracking	68
Fistula Test	69
Investigation of the Facial Nerve	69
Clinical Aspects of Diseases of the External Ear	71
Nonspecific Inflammation of the External Ear	71
Specific Forms	73
Otomycosis and Eczema ..	74
Specific Chronic Inflammation	75
Trauma	75
Wax and Foreign Bodies	77
Tumors	78
Benign Tumors	78

Precancerous and Malignant Tumors	78	Syphilis	113
Congenital Anomalies	81	Noninflammatory Diseases of the Labyrinthine Capsule . . .	114
Reconstructive Operations on the Auricle	82	Otosclerosis	114
		Otologic Manifestations of Generalized Skeletal Disorders	117
Clinical Aspects of Diseases of the Middle and Internal Ear . .	82	Trauma of the Middle and Inner Ear	117
Disorders of Ventilation and Drainage of the Middle Ear Spaces	82	Temporal Bone Fracture . .	118
Acute Tubal Occlusion (Serotympanum)	84	Labyrinthine Concussion . .	121
Chronic Seromucinous Otitis Media	85	Direct Injuries to the Middle and Internal Ear	122
Syndrome of the Patulous Eustachian Tube	86	Barotrauma	123
Nonspecific Inflammation of the Middle Ear and the Mastoid	87	Caisson Disease and Diving Accidents	124
Acute Otitis Media	87	Acute Acoustic Trauma . . .	124
Specific Types	90	Tumors of the Middle and Internal Ear, the Vestibulocochlear Nerve, and the Facial Nerve	127
Mastoiditis	91	Nonchromaffin Paraganglioma (Glomus Tumor)	127
Chronic Otitis Media	94	Bony Tumors	129
Congenital Cholesteatoma of the Temporal Bone	105	Middle Ear Carcinoma . . .	129
Course of Specific Forms of Cholesteatoma	105	Acoustic Neuroma or Schwannoma	130
Adhesive Otitis (Middle Ear Fibrosis)	105	Facial Nerve Neuroma . . .	133
Otogenic Infective Complications	106	Histiocytosis (Reticuloendotheliosis)	134
Labyrinthitis	106	True Congenital Cholesteatoma	134
Epidural Empyema	107	Congenital Anomalies of the Middle and Internal Ear	134
Otogenic Meningitis	108	Combined Anomalies of the External and Middle Ear . .	134
Otogenic Sinus Thrombosis	109	Congenital Anomalies of the Internal Ear	136
Otitic Hydrocephalus	110		
Otogenic Brain Abscess	111	Clinical Aspects of Cochleovestibular Disorders .	136
Petrositis	113	Toxic Damage to the Hearing and Balance Apparatus	136
Specific Inflammatory Disease of the Middle Ear and the Mastoid Process	113	Aminoglycoside Antibiotics .	136
Tuberculosis	113		

Ototoxic Occupational Toxins	137	Basis of Rehabilitation of Deafness in Children and Adults	155
Inflammatory Lesions of the Hearing and Balance Appa- ratus	138	Classification of Deafness Depending on the Degree of Severity	155
Herpes Zoster Otitis (Ram- say-Hunt Syndrome)	138	The Completely Deaf Child	157
Other Viral Infections	139	The Cochlear Implant	157
Serous Labyrinthitis	139	Hearing Aids	157
Trauma	139	Clinical Aspects of Central Balance Disorders	160
Ménière's Disease	139	Clinical Aspects of Disorders of the Facial Nerve	163
Acute Vestibular Paralysis (Vestibular Neuronitis)	144	Inflammatory of Otogenic Facial Paralysis	163
Sudden Deafness	145	Idiopathic Facial Paralysis (Bell's Palsy)	163
Symptomatic Cochleovestibu- lar Disorders	146	Traumatic Facial Paralysis	165
Presbycusis	147	Reconstructive Surgery Af- ter Facial Paralysis	165
Sensorineural Deafness Due to Other Causes	153	Synopsis of Ear Symptoms	168
Deafness in Children (Pediaudiology)	153		
Clinical Aspects of Central Deafness	153		

2. Nose, Nasal Sinuses, and Face 170

Applied Anatomy and Physiology	170	Influence of the Nose on Speech	185
Basic Anatomy	170	Function of the Nasal Sinuses	185
External Nose	170	Methods of Investigation of the Nose, Paranasal Sinuses, and Face	186
Nasal Cavity	171	External Inspection and Palpa- tion	186
Nasal Sinuses	174	Anterior Rhinoscopy	187
Basic Physiology and Patho- physiology	180	Posterior Rhinoscopy	189
The Nose as an Olfactory Organ	180	Indirect Examination	189
The Nose as a Respiratory Organ	182	Assessment of Nasal Patency	193
The Nasal Mucosa as a Pro- tective Organ	184	Olfactometry	194
The Nose as a Reflex Organ	184		

Radiology of the Nose and Sinuses	196	Complications of Sinus Infections	245
Lavage of the Sinuses	199	Orbital Phlegmon	247
Nasal Endoscopy	202	Epistaxis	253
Specific Diagnostic Methods	202	Diseases of the Septum	260
Clinical Aspects of Diseases of the Nose, Sinuses and Face	203	Trauma to the Nose, Paranasal Sinuses, and Facial Skeleton	263
Inflammatory Diseases of the Nose and Paranasal Sinuses	203	Trauma to the Nose	263
Inflammations Confined Mainly to the External Nose	203	Trauma of the Middle Third of the Face and the Sinuses	265
Inflammations Localized Mainly in the Nasal Cavity	207	Congenital Anomalies and Deformities of the Nose	279
Basics of Local Conservative Treatment of the Upper Respiratory and Digestive Tract	222	Congenital Anomalies of the Nose	279
Inflammation of the Sinuses	224	Disorders of Shape of the External Nose	281
		Tumors of the Nose and Sinuses	289
		Benign Tumors	289
		Malignant Tumors	290
3. Mouth and Pharynx	299		
Applied Anatomy and Physiology	299	Endoscopy	318
Basic Anatomy	299	Radiography	318
Oral Cavity	299	Gustometry	319
Naso-, Oro- and Hypopharynx	304	Specific Diagnostic Procedures	319
Lymphoepithelial System of the Pharynx	307	Clinical Aspects of Diseases of the Mouth and Pharynx	320
Physiologic and Pathophysiologic Principles	309	Hyperplasia of the Lymphoepithelial Organs	320
Eating, Preparation of Food, and Swallowing	309	Adenoid Hyperplasia	320
Taste	311	Tonsillar Hyperplasia	322
Immune-Specific Functions of Waldeyer's Ring	312	Inflammatory Diseases	324
Formation of Sound and Speech	315	Labial, Oral, and Pharyngeal Mucosa	324
Methods of Investigation	315	Tongue	335
Inspection, Palpation, and Examination with the Mirror	315	Waldeyer's Ring	344
		Other Pharyngeal Inflammations	361
		Other Diseases Simulating Infections	364

Basics of Conservative Treatment of Disease of the Mouth and Pharynx	369	Clefts of the Lip, Jaw, and Palate	374
Trauma of the Mouth and Pharynx	369	Tumors of the Mouth and Pharynx	376
Alkali and Acid Burns and Scalds	369	Benign Tumors of the Oral Cavity Including the Tongue and the Oropharynx	376
Foreign Bodies	370	Malignant Tumors of the Oral Cavity (Including the Lip and Tongue) and the Oropharynx	377
Mucosal Injuries of the Mouth and Pharynx due to Foreign Bodies and Trauma .	370	Benign Tumors of the Nasopharynx	385
Neurogenic Disorders	371	Malignant Tumors of the Nasopharynx	386
Hypopharyngeal Diverticulum (Synonyms: Zenker's Diverticulum, Pharyngeal Pouch) . .	372	Tumors of the Hypopharynx	387
Congenital Anomalies of the Mouth and Pharynx	373		
Median Cervical Cysts and Fistulae	374		

4. Larynx, Hypopharynx, and Trachea 388

Larynx	388	Laryngomalacia	399
Applied Anatomy and Physiology	388	Neurogenic Disorders	400
Basic Anatomy and Physiology	388	Atresias and Webs	401
Embryology	388	Laryngoceles	401
Anatomy	388	Subglottic Stenoses	401
Physiology	393	Hemangioma	401
Methods of Investigation	395	Functional Disorders	402
Inspection	395	Recurrent Laryngeal Nerve Paralysis (Unilateral or Bilateral)	405
Palpation	395	Unilateral or Bilateral Paralysis of the Superior Laryngeal Nerve	407
Indirect Laryngoscopy	395	Combined Lesions of the Laryngeal Nerves	407
Telescopic Laryngoscopy	397	Traumatology	409
Direct Laryngoscopy	397	Vocal Abuse	409
Micro-laryngoscopy	398	Contact Ulcer	410
Radiography	399	Intubation Injury	410
Clinical Aspects	399	External Trauma	411
Congenital Anomalies	399		

Inhalational Trauma by		Basic Anatomy	434
Chemical Toxins	413	Basic Physiology	436
Foreign Bodies	414	Methods of Investigation	436
Inflammation	414	Bronchoscopy	436
Acute Laryngitis	414	Clinical Aspects	437
Croup Syndromes	415	Stenoses	437
Chronic Laryngitis	417	Tracheotomy, Laryngot-	
Tumors	420	omy, and Intubation	446
Benign Tumors	420	Foreign Bodies and Trauma . .	452
Leukoplakia, Dysplasia, and		Foreign Bodies	452
Carcinoma In Situ of the La-		Trauma	453
ryngeal Mucosa	422	Infections	453
Malignant Tumors	423	Congenital and Hereditary	
Hypopharynx	432	Anomalies	454
Tracheobronchial Tree	434	Tumors	455
Applied Anatomy and		Malignant Tracheal Tumors	455
Physiology	434		
5. Esophagus	457		
Applied Anatomy	457	Foreign Bodies	465
Physiology and		Blunt and Penetrating Inju-	
Pathophysiology	458	ries, Perforations, and the	
Methods of Investigation	458	Mallory-Weiss Syndrome . .	466
Clinical Examination	458	Esophageal Diverticulum . . .	467
Radiography	459	Inflammations and Inflamma-	
Esophagoscopy	459	tory Stenoses	468
Manometry	462	Motility Disorders of the	
Clinical Aspects	463	Esophagus	469
Traumatology	463	Esophageal Varices	470
Burns by Acid or Lye	463	Congenital Anomalies and	
		Fistulae	471
		Tumors of the Esophagus . . .	472
		Malignant Tumors	473
6. Neck (Including the Thyroid Gland)	474		
Applied Anatomy and		Basic Anatomy and	
Physiology	474	Physiology	475

Regions	475	Congenital Anomalies	501
Fascia	476	Lateral Branchial Fistulae	
Spaces	478	and Cysts	501
Blood Vessels	479	Thyroglossal Duct Cysts and	
Cervical Lymphatic System	484	Fistulae	504
Nerves	487	Musculoskeletal Defects	504
Basic Physiology	490	Tumors	505
Methods of Investigation	490	Vascular Tumors	505
Inspection	490	Neurogenic Tumors	507
Palpation	491	Torticollis	508
Technical Methods of Investi-		Cervical Lipoma	508
gation	493	Neoplastic	
Clinical Aspects	493	Lymphadenopathy	510
Inflammation of the Cervical		Principles of Surgery	517
Soft Tissues	493	Prescalene Node Biopsy	517
Superficial Infections	494	Mediastinoscopy	518
Abscesses	494	Neck Dissection	519
Mediastinitis	494	Thyroid Gland and Otorhino-	
Inflammatory Cervical		laryngology	521
Lymphadenopathy	495	Goiter	523
Nonspecific Lymphadenitis	495	Hypothyroidism	524
Specific Lymphadenopathy	496	Hyperthyroidism	524
Trauma	500	Infections of the Thyroid	
		Gland	525
		Thyroid Malignancy	526

7. Salivary Glands 529

Embryology, Structure, Con-		Clinical Findings	539
genital Anomalies	529	Inflammatory Diseases	539
Anatomy and Physiology of		Acute Bacterial Infections	539
the Major and Minor Salivary		Viral Infections	540
Glands	531	Chronic Inflammation	542
Parotid Gland	531	Sialolithiasis	545
Submandibular Gland	532	Sialadenosis	547
Sublingual Gland	532	Trauma	547
Minor Salivary Glands	533	Injury to the Nerves or	
Formation and Function of		Ducts and Salivary Fistulae	547
Saliva	533	Salivary Tumors	548
Methods of Investigation	536	Benign Tumors	548
Radiographic Diagnosis	537	Malignant Tumors	550
Biopsy	538	Basic Principles of Treatment	
		of Salivary Tumors	554

8. Emergency and First Aid Procedures	558
9. Further Reading	559
Index	560