

1	The Temporal Bone	1
1.1	Embryology of the Temporal Bone	1
1.1.1	Cartilaginous Neurocranium	2
1.1.2	Membranous Neurocranium and the Squamous Bone	4
1.1.3	The Viscerocranium	4
1.2	Perinatal Changes of the Temporal Bone	5
1.3	Postnatal Changes of the Temporal Bone	6
1.4	Anatomy of the Temporal Bone	7
1.4.1	The Petrous Bone	8
1.4.2	The Squamous Bone	8
1.4.3	The Tympanic Bone	8
1.4.4	The Styloid Bone	9
1.4.5	Temporal Bone Fissures	9
1.4.6	Temporal Bone Surfaces	10
	References	16
2	Middle Ear Cavity	19
2.1	Lateral Wall	19
2.1.1	Embryology of the Lateral Wall	20
2.1.2	Lateral Wall Anatomy	21
2.2	Inferior Wall (Jugular Wall)	26
2.2.1	Embryology of the Inferior Wall	26
2.2.2	The Inferior Wall Anatomy	27
2.3	Posterior Wall	29
2.3.1	Embryology of the Posterior Wall	29
2.3.2	Posterior Wall Anatomy	29
2.4	Superior Wall (The Tegmen)	32
2.4.1	Superior Wall Development	32
2.4.2	Superior Wall Anatomy	32
2.5	Anterior Wall (Carotid Wall)	36
2.5.1	Anterior Wall Development	36
2.5.2	Anterior Wall Anatomy	37
2.6	Medial Wall (Cochlear Wall)	39
2.6.1	Embryology of the Medial Wall Structures	39
2.6.2	Medial Wall Anatomy	41
	References	47

3	Middle Ear Contents	49
3.1	The Auditory Ossicles	50
3.1.1	Embryology of the Auditory Ossicles	50
3.1.2	Anatomy of the Auditory Ossicles	55
3.2	Middle Ear Articulations	63
3.2.1	Embryology of Middle Ear Articulations	63
3.2.2	Anatomy of Middle Ear Articulations	64
3.3	Middle Ear Muscles	65
3.3.1	Embryology of Middle Ear Muscles	65
3.3.2	Anatomy of the Middle Ear Muscles	66
3.4	Middle Ear Nerves	67
3.4.1	Facial Nerve Branches	67
3.4.2	Tympanic Plexus	67
3.5	Middle Ear Vessels	68
3.5.1	Embryology of Middle Ear Vessels	68
3.5.2	Anatomy of Middle Ear Vessels	70
3.6	Middle Ear Mucosal Folds	72
3.6.1	Mucosal Folds Development	72
3.6.2	Mucosal Folds Anatomy	72
3.6.3	The Tympanic Diaphragm	77
3.6.4	The Tympanic Isthmus	78
	References	80
4	Middle Ear Compartments	83
4.1	Embryology of Middle Ear Compartments	83
4.1.1	The Saccus Anticus	84
4.1.2	The Saccus Medius	84
4.1.3	The Saccus Superior	85
4.1.4	The Saccus Posticus	85
4.2	Anatomy of the Protympanum	85
4.2.1	Walls of the Protympanum	86
4.2.2	The Supratubal Recess (STR)	86
4.3	Anatomy of the Hypotympanum	86
4.3.1	Walls of the Hypotympanum	86
4.3.2	Air Cells in the Hypotympanum	87
4.4	Anatomy of the Retrotympanum	88
4.4.1	The Lateral Spaces	88
4.4.2	The Medial Spaces	90
4.5	Anatomy of the Attic (The Epitympanum)	92
4.5.1	The Upper Unit of the Attic	93
4.5.2	The Lower Unit of the Attic (Prussak's Space)	98
4.6	The Mesotympanum	101
4.6.1	Tympanic Membrane Compartments	101
	References	102

5	The Mastoid	105
5.1	Embryology of the Mastoid	105
5.1.1	Embryology of the Mastoid Antrum	106
5.1.2	Postnatal Mastoid Pneumatization	106
5.2	Mastoid Process Anatomy	108
5.2.1	Surface Landmarks of the Mastoid Process	108
5.2.2	Surgical Anatomy of the Mastoid Antrum	110
5.2.3	The Aditus Ad Antrum	117
5.2.4	The Mastoid Air Cells	117
5.2.5	Mastoid Air Cell System Volume	120
	References	121
6	Facial Nerve	123
6.1	Facial Nerve Development	123
6.1.1	Facial Nerve Connections	126
6.2	Facial Nerve Anatomy	126
6.2.1	The Cerebellopontine Angle (CPA) Segment	127
6.2.2	The Internal Auditory Canal Segment (IAC)	127
6.2.3	The Facial Canal (Fallopian Aqueduct)	128
6.2.4	Vascularization of the Facial Nerve	137
	References	139
7	The Eustachian Tube	141
7.1	Eustachian Tube Development	141
7.1.1	Postnatal Growth	143
7.2	Eustachian Tube Anatomy	145
7.2.1	The Bony Portion of the Eustachian Tube	145
7.2.2	The Junctional Segment	147
7.2.3	The Fibrocartilaginous Tube	147
7.2.4	The Pharyngeal End	149
7.2.5	Muscles of the Eustachian Tube	149
7.2.6	Eustachian Tube Mucosa	151
7.2.7	Eustachian Tube Blood Vessels	151
7.2.8	Eustachian Tube Nerves	151
	References	153
	Index	155