

CONTENT

PREFACE	3
DENTOALVEOLAR SURGERY	
1. INTRODUCTION (<i>Peter Stanko</i>)	7
1.1 General considerations	7
1.2 Interdisciplinary approach	7
1.3 History of oral and maxillofacial surgery	8
2. EVALUATION OF PATIENT IN ORAL AND MAXILLOFACIAL SURGERY (<i>Peter Stanko</i>)	10
2.1 History taking	10
2.2 Clinical examination	12
2.2.1 Status praesens generalis (SPG)	12
2.2.2 Status praesens localis (SPL)	12
2.3 Basic investigations	15
3. RADIODIAGNOSTICS (<i>Dušan Holly</i>)	16
3.1 Introduction	16
3.2 Radiographic image	16
3.2.1 The radiographic shadows	17
3.2.2 The three-dimensional anatomical tissues	17
3.2.3 The limitations imposed by a two-dimensional image and superimposition	17
3.3 Imaging	17
3.3.1 Conventional radiography	18
3.3.2 Contrast investigations	24
3.3.3 Computed tomography (CT)	24
3.3.4 Diagnostic ultrasound sonography (USG)	25
3.3.5 Radioisotope imaging	26
3.3.6 Magnetic resonance imaging (MRI)	27
3.3.7 Cone Beam CT	27
3.4 Radiation protection	29
4. ANTISEPSIS, ASEPSIS, DISINFECTION AND STERILIZATION (<i>Daniela Novotňáková</i>)	31
4.1 Methods of sterilization	31
4.1.1 Sterilization with heat	32
4.1.2 Other methods of sterilization	32
4.2 Prevention of infection transfer by contact	33

4.3 Asepsis in operating tract	34
4.4 Prevention of some viral infections	35
4.4.1 AIDS and the orofacial region	35
4.4.2 Viral hepatitis	36
5. ANAESTHESIA IN DENTOALVEOLAR AND MAXILLOFACIAL SURGERY (<i>Daniela Novotňáková</i>)	38
5.1 Modes of anaesthesia	38
5.1.1 General anaesthesia (GA)	38
5.1.2 Conscious sedation (potentiated local anaesthesia)	39
5.1.3 Local anaesthesia (LA)	39
5.2 Local anaesthetic preparations	39
5.2.1 Vasoconstrictors	40
5.2.2 Local anaesthetic agents	40
5.3 Local anaesthesia on mandible	42
5.3.1 Anaesthesia to for. mandibulae (inferior dental block)	43
5.3.2 Anaesthesia to for. mentale (mental block)	45
5.3.3 Infiltration anaesthesia on mandible	46
5.3.4 Trunc anaesthesia of the mandibular nerve (to for. ovale)	46
5.4 Local anaesthesia on the maxilla	46
5.4.1 Infiltration anaesthesia on the maxilla	47
5.4.2 Anaesthesia to tuber maxillae (posterior superior alveolar block)	48
5.4.3 Anaesthesia to for. infraorbitale (infraorbital block)	48
5.4.4 Anaesthesia to for. palatinum majus (palatine block)	49
5.4.5 Anaesthesia to for. incisivum (nasopalatine block)	49
5.4.6 Trunc anaesthesia of n. maxillaris (to for rotundum)	49
5.5 Complications of injection anaesthesia	50
5.5.1 Local complications of injection anaesthesia	50
5.5.2 General complications of injection anaesthesia	52
6. INSTRUMENTS FOR EXTRACTION (<i>Daniela Novotňáková</i>)	55
6.1 Forceps for extraction	55
6.1.1 Upper forceps	56
6.1.2 Lower forceps	57
6.1.3 Technique of extraction with forceps generally	58
6.2 Elevators for extraction	59
6.2.1 Bein's elevator	60
6.2.2 Schlemmer's elevator	60
6.2.3 Lecluse's elevator	61
6.2.4 Other elevators	61
6.3 Other instruments for extraction and other surgical procedures	62
7. SUMMARY OF TEETH EXTRACTION (<i>Daniela Novotňáková</i>)	63
7.1 Indications and contraindications of tooth extraction	63
7.2 Position of patient	64
7.3 Waiting period and position of dentist	65
7.4 Wound management after extraction	66
7.5 Instruction of the patient	67

8. COMPLICATIONS OF TOOTH EXTRACTION (<i>Daniela Novotňáková</i>)	68
8.1 Local complications	68
8.1.1 Fracture of tooth (root) within extraction	68
8.1.2 Fracture of alveolar bone (minor bone fracture)	69
8.1.3 Fracture of the jaw (major bone fracture)	69
8.1.4 Luxation of the mandible	69
8.1.5 Damage of adjacent teeth	70
8.1.6 Soft tissue injuries	70
8.1.7 Opening of maxillary sinus or nasal cavity	70
8.1.8 Bleeding after extraction	70
8.1.9 Alveolitis	72
8.1.10 Loss of tooth from local reasons	73
8.2 General complications of tooth extraction	74
8.2.1 Syncope	74
8.2.2 Loss of tooth in digestive tract (deglutination)	74
8.2.3 Loss of tooth in respiratory tract (inhalation)	74
8.2.4 Risk of bacteriemia	74
9. SURGICAL EXTRACTION OF TEETH (<i>Peter Stanko</i>)	76
9.1 Indications of surgical extraction	76
9.1.1 Recently remained root	76
9.1.2 Healed remained root	76
9.1.3 Impacted (retained) teeth	77
9.1.4 Preventive surgical extraction	77
9.1.5 Hemiextraction (dissection of molars)	77
9.2 X-ray examination in surgical extraction	77
9.3 Technique surgical extraction generally	78
10. ALVEOLOPLASTY (<i>Peter Stanko</i>)	80
10.1 Single alveoloplasty	80
10.2 Multiple alveoloplasty	81
11. DENTITIO DIFFICILIS (DD) (<i>Peter Stanko</i>)	82
11.1 Etiologic factors	82
11.2 Clinical forms and examination	83
11.2.1 Dentitio difficilis acuta	83
11.2.2 Dentitio difficilis chronica	84
11.3 Therapy of dentitio difficilis	84
11.3.1 Conservative therapy	84
11.3.2 Combined conservative-surgical treatment	84
11.3.3 Surgical removal of wisdom tooth	85
12. TRISMUS (<i>Peter Stanko</i>)	86
12.1 Main types of trismus	86
12.1.1 Arthrogenic trismus	86
12.1.2 Neurogenic trismus	87
12.1.3 Myogenic trismus	87
12.1.4 Inflammatory trismus	87

12.1.5 Scar trismus	88
12.1.6 Other causes of trismus	88
12.2 Treatment of trismus	88
12.2.1 Causal therapy of trismus	88
12.2.2 Symptomatic therapy of trismus	88
13. OROFACIAL INFECTION (<i>Peter Stanko</i>)	90
13.1 Clinical ethiology of orofacial infection	91
13.2 Spread of orofacial infection	92
13.2.1 Dentogenous abscess of alveolar process of the jaws	93
13.2.2 Perimaxillary abscess and phlegmon	94
13.2.3 Abscess and phlegmon of orbit	95
13.2.4 Retromaxillary abscess and abscess of fossa pterygopalatina	95
13.2.5 Submandibular abscess	95
13.2.6 Submental abscess	96
13.2.7 Phlegmon of floor of the mouth	96
13.2.8 Deep infections of tongue	96
13.2.9 Parapharyngeal abscess	97
13.2.10 Noma (cancrum oris)	97
13.3 Treatment of orofacial infection	97
13.3.1 Extraction of tooth in orofacial infection	98
13.3.2 Intraoral and extraoral incision	99
13.3.3 Drainage	100
13.3.4 Application of cold or warm	101
13.3.5 Antibiotics and other medication	101
13.4 Prevention of dentogenous infection	102
14. PURULENT INFLAMMATIONS OF JAWS (<i>Peter Stanko</i>)	103
14.1 Acute osteomyelitis of mandible	103
14.2 Acute osteomyelitis of maxilla	104
14.3 Acute osteomyelitis in childhood	104
14.4 Chronic osteomyelitis of jaws	105
14.5 Treatment of osteomyelitis	105
15. SPECIFIC INFLAMMATIONS IN OROFACIAL REGION (<i>Peter Stanko</i>)	107
15.1 Actinomycosis	107
15.2 Syphilis	108
15.3 Tuberculosis	109
15.4 Sarcoidosis	110
15.5 Leprosy	111
15.6 Rhinoscleroma	111
16. SALIVARY GLAND DISEASES (<i>Peter Stanko</i>)	112
16.1 General examination algorithm of major salivary glands	113
16.1.1 Anamnesis in suspect salivary gland disease	114
16.1.2 Clinical examination and saliva analysis	114
16.1.3 Ultrasound sonography (USG)	115
16.1.4 Native x-rays	115

16.1.5 Computed tomography (CT) and magnetic resonance imaging (MRI)	116
16.1.6 Scintigraphy (functional gammagraphy)	116
16.1.7 Sialography	117
16.2 Developmental disorders	118
16.3 Sialoadenitis	118
16.3.1 Bacterial sialoadenitis	118
16.3.2 Viral sialoadenitis	119
16.3.3 Aseptic sialoadenitis	120
16.4 Sialolithiasis	120
16.4.1 Sialolithiasis in duct of submandibular gland	120
16.4.2 Sialolithiasis in parenchyma of submandibular gland	121
16.5 Sialoses	121
16.5.1 Sjögren (Howers-Gougerot) syndrome (SS sicca syndrome)	122
16.5.2 Mikulicz disease	123
16.5.3 Heerfordt syndrome	123
16.5.4 Parotidomegaly in diabetes mellitus and goitre	123
16.5.5 AOP syndrome	124
16.5.6 Frey syndrome (SSS)	124
16.5.7 Kwasiorkor	124
16.5.8 Madelung disease	124
17. PATHOLOGICAL COMMUNICATIONS WITHIN ORAL AND NASAL CAVITY OR MAXILLARY SINUS (<i>Peter Stanko</i>)	125
17.1 Oroantral communication (OA fistula)	126
17.2 Oronasal communication (ON fistula)	128
18. MAXILLARY SINUSITIS (<i>Peter Stanko</i>)	129
18.1 Forms of maxillary sinusitis	129
18.1.1 Acute maxillary sinusitis	129
18.1.2 Chronic maxillary sinusitis	129
18.2 Treatment of maxillary sinusitis	130
18.2.1 Treatment of acute maxillary sinusitis	130
18.2.2 Treatment of chronic maxillary sinusitis	131
19. SURGICAL PROCEDURES ACCOMPLISHING ENDODONTICS (<i>Peter Stanko</i>) . . .	132
19.1 Apicectomy (root resection)	132
19.1.1 Indications of apicectomy	132
19.1.2 Contraindications of apicectomy	134
19.1.3 Referring patient to apicectomy	134
19.1.4 Surgical technique of apicectomy	135
19.1.5 Complications of apicetomy	137
19.2 Periapical curettage	138
19.3 Alveolotomy (trepanation of alveolus)	139
20. CYSTS OF OROFACIAL REGION (<i>Peter Stanko</i>)	140
20.1 Bone cysts	141
20.1.1 Radicular cysts	141
20.1.2 Dentigerous follicular cysts	142

20.1.3 Periodontal (lateral) cysts	143
20.1.4 Non-odontogenic (fissural) bone cyst	143
20.2 Cysts of the soft tissues	144
20.2.1 Mucocele	144
20.2.2 Ranula	144
20.2.3 Cysta papillae incisivae	145
20.2.4 Atheroma	145
20.2.5 Dermoid and epidermoid cyst	145
20.2.6 Lateral branchial neck cyst	145
20.2.7 Medial branchial (thyroglossal) neck cyst	146
20.2.8 Nasolabial cyst	146
20.3 Treatment of cysts of orofacial region	146
20.3.1 Cystectomy (Partsch II)	146
20.3.2 Cystostomy (Partsch I)	147
20.4 Prevention of dentogenous cysts formation	148
21. NODE SYNDROME (<i>Peter Stanko</i>)	149
21.1 Anatomy of lymph nodes	149
21.1.1 Lymph nodes of the head and face	149
21.1.2 Lymph nodes of the neck	150
21.2 Lymphadenitis	150
21.2.1 Lymphadenitis of local origin	151
21.2.2 Systemic infectious lymphadenitis	151
21.3 Malignant lymphadenopathy	152
21.4 Examination algorithm of node syndrome	152
21.5 Treatment of lymph node diseases	153
22. DENTAL INJURIES (<i>Peter Stanko</i>)	154
22.1 Fractures of the teeth	155
22.1.1 Crown fractures	155
22.1.2 Root fractures	155
22.2 Traumatic position changes of the teeth	155
22.2.1 Concussion	156
22.2.2 Subluxation	156
22.2.3 Avulsion (luxation)	156
22.2.4 Intrusion	157
22.3 Fractures of alveolar processes of the jaws	157
22.4 Dental injuries and soft tissue trauma	158
23. PRECANCERS OF ORAL MUCOSA AND FACIAL SKIN (<i>Dušan Poruban</i>)	159
23.1 Leukoplakia	160
23.1.1 Plane leukoplakia	160
23.1.2 Fissured leukoplakia	160
23.1.3 Erythroleukoplakia	160
23.1.4 Differential diagnosis of leukoplakia	160
23.1.5 Therapy of leukoplakia	161
23.2 Lichen planus	161

23.3 Erythroplakia	162
23.4 Other oral precancers	162
23.4.1 Sjögren (Howers-Gougerot) syndrome (sicca syndrome)	162
23.4.2 Plummer-Vinson (Kelly-Patterson) syndrome	162
23.4.3 Hairy black tongue	163
23.4.4 Submucous fibrosis	163
23.4.5 Benign tumours of oral cavity	163
23.5 Skin precancers	163
23.6 Principles of precancer follow-up	164

MAXILLOFACIAL SURGERY

24. PREVENTION OF CANCER IN OROMAXILLOFACIAL REGION (<i>Dušan Poruban</i>)	167
24.1 Primary cancer prevention	167
24.1.1 General level	167
24.1.2 Dentistry level	167
24.2 Secondary cancer prevention	168
24.2.1 Basic measures of dental (medical) professionals	169
24.2.2 The basic stand-points for the patient	169
24.3 Tertiary cancer prevention	169
25. EVALUATION OF PATIENT IN OROFACIAL ONCOLOGY (<i>Dušan Poruban</i>)	170
25.1 History taking in oncology	170
25.2 Inspection and panendoscopy	171
25.3 Palpation in oncology	172
25.4 Radiology in oncology	173
25.5 Histopathologic examinations in oncology	173
25.5.1 Diagnostic and curative excision (biopsy)	173
25.5.2 Frozen sections	174
25.5.3 Cytology	175
25.5.4 Painting tests in vivo	176
25.6 Laboratory investigations in oncologic patient	176
26. COMPLEX (MULTIMODAL) THERAPY OF MALIGNANCY (<i>Dušan Poruban</i>)	177
26.1 Surgery (OP)	177
26.2 Radiotherapy (RAT)	178
26.2.1 External beam radiotherapy	179
26.2.2 Brachytherapy (interstitial radioisotope therapy)	179
26.3 Chemotherapy (CHT)	180
26.4 Targeted therapy (TT)	180
26.5 Other methods	180
26.6 Combinations in multimodal therapy of cancer	181
26.7 Additional aspects and information on oral cancer	182
26.7.1 Criteria of response to the treatment	182
26.7.2 Types of recurrence of the cancer	182
26.7.3 Psychologic reactions of the patient with cancer	182
26.7.4 Treatment of chronic pain in oncology	182

27. TNM CLASSIFICATION AND ORAL CARCINOMA ACCORDING TO THE SITE OF ORIGIN (<i>Dušan Poruban</i>)	184
27.1 Cancer of the lip	186
27.2 Cancer of the tongue	190
27.3 Cancer of floor of the mouth	191
27.4 Cancer of the jaws	192
27.4.1 Cancer of the lower jaw	192
27.4.2 Cancer of the upper jaw and palate	192
27.5 Cancer of the maxillary sinus	193
27.6 Neck dissections	194
27.7 Skin cancer of the face and neck	195
28. SARCOMAS OF THE OROFACIAL REGION (<i>Dušan Poruban</i>)	196
28.1 Sarcomas of soft tissues	197
28.2 Sarcomas of the jaws and facial bones	198
29. MALIGNANT MELANOMA (<i>Dušan Poruban</i>)	199
30. BENIGN TUMOURS OF OROFACIAL REGION (<i>Dušan Poruban</i>)	201
30.1 Epithelial benign tumours	201
30.1.1 Papilloma	201
30.1.2 Verruca	202
30.1.3 Adenomas	202
30.2 Mesenchymal benign tumours	202
30.2.1 Fibroma	202
30.2.2 Lipoma	203
30.2.3 Myxoma	203
30.2.4 Chondroma	203
30.2.5 Osteoma	203
30.2.6 Hemangiomas	204
30.2.7 Lymphangioma	205
30.2.8 Myomas	205
30.3 Neurogenic benign tumours	205
31. ODONTOGENIC TUMOURS (<i>Dušan Poruban</i>)	206
31.1 Epithelial odontogenic tumours	206
31.2 Mesenchymal odontogenic tumours	207
31.3 Combined ectomesenchymal odontogenic tumours	207
32. PIGMENTED LESIONS (<i>Dušan Poruban</i>)	208
32.1 Melanocytic naevi	208
32.2 Lentigo maligna	209
32.3 Paraneoplastic pigmented lesions	209
33. TUMOUR-LIKE LESIONS (PSEUDOTUMOURS) (<i>Dušan Poruban</i>)	210
33.1 Epulis	210
33.1.1 Epulis granulomatosa	210
33.1.2 Epulis gigantocellularis	210

33.1.3 Epulis fibromatosa	211
33.1.4 Epulis haemangiomatosa	211
33.2 Hyperplasia of soft tissues	211
33.2.1 Fissural granuloma	211
33.2.2 Pyogenic granuloma	211
33.2.3 Amputation neuroma	212
33.3 Exostoses of bone	212
33.3.1 Torus palatinus	212
33.3.2 Mandibular tori	212
33.3.3 Irregular exostoses (exophyts)	212
34. TUMOURS OF SALIVARY GLANDS (<i>Dušan Poruban</i>)	213
34.1 Benign tumours	214
34.1.1 Pleomorphic adenoma (mixed tumour)	214
34.1.2 Cystadenolymphoma (Whartin's tumour)	215
34.1.3 Other benign tumours of salivary glands	215
34.1.4 Operations in benign salivary gland tumours	215
34.2 Malignant tumours of salivary glands	216
34.2.1 Acinic cell carcinoma	216
34.2.2 Mucoepidermoid carcinoma	216
34.2.3 Adenoid cystic carcinoma (cylindroma)	216
34.2.4 Other cancers of salivary glands	217
34.2.5 Treatment of malignant salivary gland tumours	217
35. EVALUATION OF PATIENT WITH MAXILLOFACIAL TRAUMA (<i>Peter Stanko</i>) ...	219
35.1 Anamnesis	219
35.2 Clinical examination	220
35.2.1 Main symptoms and signs of maxillofacial fractures	220
35.2.2 Accessory symptoms and signs of maxillofacial fractures	220
35.3 Radiology in maxillofacial injury	223
35.3.1 Conventional skull projections	223
35.3.2 OPG in combination with other x-ray techniques	223
35.3.3 Other imaging methods in MF trauma	224
36. GENERAL COMPLICATIONS OF MAXILLOFACIAL INJURIES (<i>Peter Stanko</i>)	225
36.1 Death (exitus letalis)	225
36.2 Craniocerebral (intracranial) injuries	226
36.2.1 Brain injuries	226
36.2.2 Intracranial haemorrhage	227
36.3 Fractures of neurocranium	227
36.4 Injuries of cervical spine and spinal cord	228
36.5 Suffocation and airway management	228
36.6 Haemorrhage in maxillofacial region and haemostasis	230
36.7 Multiple trauma (polytrauma) and traumatic shock	232
37. TEMPORARY MANAGEMENT OF MAXILLOFACIAL FRACTURES (<i>Peter Stanko</i>) .	234
37.1 Bandages	234
37.2 Dental wirings	234

37.2.1 Interdental wiring	235
37.2.2 Intermaxillary wiring	235
38. DENTAL SPLINTS (<i>Peter Stanko</i>)	237
38.1 Splints from free hand	237
38.2 Splints fabricated on cast models	238
39. PRINCIPLES OF MAXILLOFACIAL FRACTURE TREATMENT (<i>Peter Stanko</i>)	239
39.1 Biomechanics of the facial skeleton	239
39.2 General classification of the bone fractures	240
39.3 Fracture healing and its failures	242
39.4 Tooth in the fracture line	244
39.5 Treatment of maxillofacial fractures	245
39.5.1 Conservative treatment of MF fractures	245
39.5.2 Surgical treatment of maxillofacial fractures	246
40. OSTEOSYNTHESIS (<i>Peter Stanko</i>)	248
40.1 Techniques using wires	248
40.1.1 Osteosuture	248
40.1.2 Circumferential wiring	249
40.1.3 Suspension wirings after Adams	249
40.1.4 Intramedullar pinning	249
40.2 Plate osteosynthesis	249
40.2.1 Compressive AO plates	250
40.2.2 Miniplates and microsystems	250
40.2.3 Reconstruction plates	250
40.3 Lag screws	251
40.4 External skeletal fixation and other external fixations	251
41. MANDIBULAR FRACTURES (<i>Peter Stanko</i>)	253
41.1 Fractures of body and angle of the mandible	253
41.2 Fractures of processes of the mandible	254
41.2.1 Condylar fractures	254
41.2.2 Fractures of the coronoid process	256
42. MIDFACIAL FRACTURES (<i>Peter Stanko</i>)	257
42.1 Fractures of central part of the midface	257
42.1.1 Fractures of the midface after Le Fort	257
42.1.2 Nasal fractures	259
42.1.3 Naso-orbito-ethmoid fractures	260
42.2 Fractures of lateral part of the midface	260
42.2.1 Zygomatico-maxillary complex (ZMC) fractures	260
42.2.2 Zygomatic arch fractures	261
42.2.3 Zygoma (malar) fractures	261
42.2.4 Retromarginal fractures of the orbit	262
43. SPECIAL GROUPS OF FRACTURES (<i>Peter Stanko</i>)	264
43.1 Maxillofacial fractures in elderly patients	264

43.2	Maxillofacial fractures in children	264
43.3	Pathologic fractures of maxillofacial skeleton	265
43.4	Panfacial fractures	266
44.	GENERAL PATIENT CARE IN MAXILLOFACIAL INJURY (<i>Peter Stanko</i>)	267
44.1	Nutrition of patients	267
44.1.1	Enteral nutrition	267
44.1.2	Parenteral nutrition	268
44.2	Local and general hygiene	269
44.3	Prevention of thromboembolism	269
44.4	Prevention of bronchopneumony	269
44.5	Complex rehabilitation after maxillofacial injury	270
45.	SOFT TISSUE INJURIES OF FACE AND SCALP (<i>Peter Stanko</i>)	271
45.1	Types of soft tissue injuries	271
45.2	Management of soft tissue injuries	272
45.3	Physical and chemical injuries of the face and oral cavity, war injuries	275
46.	JUDGEMENT IN MAXILLOFACIAL TRAUMATOLOGY (<i>Peter Stanko</i>)	276
46.1	Mechanism of the MF injury	276
46.2	Inability to work	276
46.3	Insurance aspects	277
47.	PAIN IN OROFACIAL AND NECK REGION (<i>Peter Stanko</i>)	278
47.1	Trigeminal neuralgia (n. V.)	279
47.1.1	Primary trigeminal neuralgia	279
47.1.2	Secondary trigeminal neuralgia	280
47.1.3	Treatment of trigeminal neuralgia	281
47.2	Glossopharyngeal neuralgia (n. IX.)	282
47.3	Atypical neuralgias	283
48.	NERVE PALSIES IN THE HEAD AND NECK REGION (<i>Peter Stanko</i>)	284
48.1	Facial nerve palsy (n. VII.)	248
48.2	Other palsies in the orofacial region	286
49.	TEMPOROMANDIBULAR JOINT (TMJ) DISORDERS (<i>Peter Stanko</i>)	287
49.1	Diagnostics of TMJ disorders	288
49.1.1	Anamnesis	288
49.1.2	Clinical examination of TMJ	288
49.1.3	Radiology of TMJ	289
49.1.4	Arthroscopy of TMJ	289
49.1.5	Laboratory investigations	289
49.2	Classification of TMJ disorders	290
49.2.1	Intra-capsular TMJ disorders	290
49.2.2	Extra-capsular TMJ disorders	291
49.3	Treatment of TMJ disorders	292
49.3.1	Conservative treatment	292
49.3.2	Surgery of TMJ	294

50. DENTOFACIAL AND CRANIO-MAXILLOFACIAL DEFORMITIES (<i>Daniela Novotňáková</i>)	295
50.1 Development of face	296
50.2 Aetiology of dentofacial deformities	298
50.3 Clinical examination of patient with dentofacial deformity	298
50.4 Dentoalveolar surgery in orthodontics	299
50.4.1 Extractions of teeth in orthodontics	299
50.4.2 Surgical exposure of the impacted tooth and orthodontic extrusion into the dental arch	300
50.4.3 Correction of diastema	300
50.5 Orthognathic surgery	301
50.5.1 Mandibular prognathism – excess (progeny)	301
50.5.2 Mandibular retrognathism – deficiency (microgeny)	303
50.5.3 Mandibular and facial asymmetries	304
50.5.4 Open bite (apertognathia)	304
50.5.5 Malformations of chin	305
50.5.6 Maxillary protrusion	306
50.5.7 Bimaxillary surgery	306
50.6 Cranio-maxillofacial anomalies	307
50.6.1 Clefts	307
50.6.2 Craniosynostoses	309
50.6.3 Cranio-facial syndromes	310
51. PREPROSTHETIC SURGERY (<i>Peter Stanko</i>)	311
51.1 Dentoalveolar preprosthetic surgery	311
51.1.1 Minor procedures on soft tissues	311
51.1.2 Minor preprosthetic procedures on bones	313
51.2 Maxillofacial preprosthetic surgery	314
51.2.1 Major preprosthetic operations on soft tissues	314
51.2.2 Major preprosthetic operations on bones	316
51.3 Dental implantology	317
51.3.1 Division of dental implants	317
51.3.2 Evaluation of patient in implantology	320
51.3.3 Indications for dental implants	321
51.3.4 Prosthetic treatment and follow-up of patient	322
51.3.5 Complications in dental implantology	322
51.4 Non-dental implants	323
52. OROFACIAL MANIFESTATION OF GENERAL BONE DISEASES (<i>Peter Stanko</i>)	325
52.1 Paget's disease (Paget)	325
52.2 Fibrous dysplasia (Jaffé-Lichtenstein)	325
52.3 Ostitis fibrosa generalisata (Recklinghausen)	326
52.4 Osteosclerosis (Albers-Schönberg)	326
52.5 Osteoporosis	326
53. BIOMATERIALS (<i>Dušan Holý</i>)	327
53.1 Types of biomaterials	327
53.1.1 Metallic biomaterials	327

53.1.2 Ceramic biomaterials	328
53.1.3 Synthetic polymeric biomaterials	329
53.1.4 Composite biomaterials	329
53.1.5 Biodegradable polymeric biomaterials	330
53.2 Bone grafts	331
53.3 Uses of biomaterials	332
53.4 Microvascular surgery	333
53.5 Suture materials	335
53.5.1 Absorbable suture materials	335
53.3.2 Non-absorbable suture materials	335
RERERENCES	337
ABBREVIATIONS	340