

Index

Note: Locators in *italics* denote tables and figures (when outside locator ranges)

- 3D imaging *see* cone-beam computed tomography (CBCT)
- ABC *see* aneurysmal bone cyst
- acrocephalosyndactyly *see* Apert syndrome
- actinomycosis 465–7
- acute erythematous candidosis/candidiasis 476, 477
- acute odontogenic maxillary sinusitis
clinical features 458
treatment 459–60
- acute osteomyelitis
clinical features 446
diagnostic imaging 446–7
etiology 445
microbiology 445–6
pathogenesis 445
treatment 447–8
- adenoid ameloblastoma 533–4
- adenomatoid odontogenic tumor (AOT) 535
- ADO *see* alveolar distraction osteogenesis
- adolescents/children, implants 257
- adrenal function 16
- Advanced Trauma Life Support (ATLS) 739–40, 895–6
- AED *see* automated external defibrillator
- aesthetic adjuncts of orthognathic surgery 1000–8
aesthetic correction 1001, 1002
aesthetic principles 1001
aesthetic procedures to camouflage skeletal deformities 1001
background 1000
genioplasty 1004
occlusal plane alteration 1005–7
osteotomy type or position modification 1005, 1006
- soft tissue adjunctive procedures 1006, 1007
virtual surgical planning and patient specific implants 1001, 1003–4
- aesthetic evaluation of face 1211–17
blepharoplasty 1214–15
facelift/neck lift 1215–16
first consultation 1211–12
otoplasty 1216–17
rhinoplasty 1216
second consultation 1212
treatment package 1212–14
- aesthetic zone, implants 265–73
- AFS *see* ameloblastic fibrosarcoma
- airway
compromised, infection 444–5
respiratory disease 11
trauma 741–3
- Akinosi Vazirani technique, local anesthesia 37
- allergy, local anesthesia 45
- alloplastic patient-specific reconstruction 719–36
custom implants indications 724
future 732
imaging 721–2
implants for extraoral use and server atrophy or resection 727, 729, 731, 732–4
mandibular plates 724–6, 727, 728
orbital plates 726, 728
preformed plates 724–6, 727
recipient and donor tissue considerations 720–4, 725
surgery planning 719–20
temporomandibular joints 726, 729, 730
virtual surgical planning 722, 724
alloplastic temporomandibular joint reconstruction 1173–88
- complications 1185–6
contraindications 1177
history of 1173–4
indications 1174
preoperative planning 1178, 1179–81
prospects in 1186–7
surgical technique 1180–5
TMJ ankylosis 1174–6
types of 1177–87
- alveolar bone reconstruction
biological factors influencing 265–6
implants 265–6
- alveolar cleft repair 1074–6
- alveolar distraction osteogenesis (ADO) 1034–6
indications 1035
transverse alveolar distraction 1036
vertical alveolar distraction 1035–6
- alveolar process, midfacial fractures 825
- ameloblastic carcinoma 538
- ameloblastic fibrodentinosaoma 540
- ameloblastic fibroma 535–6
- ameloblastic fibrosarcoma (AFS) 540
- ameloblastoma 529–34
- American College of Surgeons
National Surgical Quality Improvement Program (NSQIP) 4
- American Society of
Anesthesiologists Physical Status (ASA-PS) 4, 4
- analgesia, third molar management 171
- anaphylaxis
differential diagnosis 30–1
management 31
medical emergency care 29–31
presentation 30

- anatomy
 - arthroscopy 1131–45
 - orofacial pain 1111–12
 - periorbital rejuvenation 1218–21
 - rhytidectomy 1244–6
 - salivary gland disorders 620–1
- anemias
 - coagulopathy 13–14
 - hemophilia A and B 14
 - lymphoma and multiple myeloma 13
 - states of coagulopathy 14
 - thrombocytopenia 13
- anesthesia/sedation
 - see also* general anesthesia; local anesthesia
 - benzodiazepines 50–1
 - drugs, local anesthesia 41–3
 - history 48–50
 - international perspective 48–58
 - ketamine and dissociative 53–4
 - nitrous oxide 50
 - opioids 51–2
 - pharmacology 50–4
 - propofol 52–3
 - reversal agents 54
 - UK 49–50, 54–6
 - US 50, 55–7
- aneurysmal bone cyst (ABC) 520–1
- angular cheilitis 477, 478
- angulation, third molar
 - management 158
- ankylosis
 - alloplastic temporomandibular joint reconstruction 1174–6
 - dentoalveolar ankylosis, traumatic dental injuries (TDI) 769–70
 - pediatric maxillofacial trauma 869–70
 - pediatric temporomandibular joint disorders 1203, 1204
- anorganic bovine bone, biomaterials, osseointegration 294
- anterior mandibula subapical osteotomy (AMSO) 974–5
- antibiotic prophylaxis
 - antimicrobial, dosage, and timing 422–3
 - distant or local postoperative infection 424
 - high risk of infection procedures 423–4
 - preoperative antibiotics, guided bone regeneration (GBR) 268
- antibiotics
 - cephalosporins 418
 - lincosamides 419
 - macrolides 419
 - metronidazole 419–20
 - penicillins 417–18
 - preoperative antibiotics, guided bone regeneration (GBR) 268
 - tetracyclines 418–19
- antibiotic stewardship, bacterial infection 415–16
- anticoagulation 6–7
- antifungals
 - azoles 475
 - echinocandins 475
 - flucytosine (5-fluorocytosine) 475
 - polyenes 474–5
- antiviral agents, orofacial viral infections 482
- AOT *see* adenomatoid odontogenic tumor
- Apert syndrome 1095, 1097–8
- apical cysts 514–15
- armamentarium *see* instrumentation
- arrhythmia 7–8
- arthroscopy of the
 - temporomandibular joint 1131–51
 - adjunctive therapy 1144–5
 - anatomy 1131–45
 - armamentarium 1149–50
 - arthroscopy technique (1st puncture) 1141–2
 - complications 1145, 1147, 1148
 - disc displacement stages 1133, 1136
 - endoscopic-assisted arthroplasty with double suture discopexy 1144, 1145–7
 - examination under anesthesia 1141
 - internal derangement overview 1132–3, 1134–6
 - outcomes 1148–9
 - surgical arthroscopy 1142, 1143
 - technique 1141
 - without internal derangement conditions 1136–40
- articaine, local anesthesia 42
- articular disorders (DC TMD classification), orofacial pain 1114–15
- aseptic technique, surgical principles 59–60
- aspergillosis 479–80
- assessment of injured patients
 - midface and upper-face injuries 810–11
 - trauma 739–50
- asthma 9–10
 - clinical presentation 27
 - management 27–8
 - medical emergency care 27–8
 - pathophysiology 27
 - prevention 27
- atelectasis 11
- ATLS *see* Advanced Trauma Life Support
- auriculocondylar syndrome 1198
- autogenous bone harvesting 313–38
 - see also* bone grafting
 - calvarium 324–6, 327–8
 - choosing sites 314–15
 - coronoid process 319–20
 - cortical/cancellous grafts 315–16
 - costochondral grafts 324, 326
 - femur cancellous graft 331–4, 335
 - fibula, vascularized 333–6
 - harvest sites outside the oral cavity 320–4, 325
 - ilium 320–4 325
 - intraoral harvesting sites 314, 316–20
 - mandibular and maxillary tori 320
 - mandibular ramus and retromolar area 318–19
 - mandibular symphysis 317–18
 - maxillary tuberosity 319
 - need for bone 313–14
 - proximal tibia 326–9
 - proximal ulna 329–31
 - site choice 314–15
 - tibia, proximal 326–9
 - ulna, proximal 329–31
 - vascularized fibula 333–6
 - zygomatic bone 320, 321
- automated external defibrillator (AED), cardiac arrest 25–7
- automatic implantable cardioverter (AICD) 8–9
- autotransplantation 224–43
 - congenitally missing teeth 225–8
 - crown-root fractures 228–9
 - donor teeth selection 231–2, 234
 - healing principles 234, 235
 - vs implants 234
 - indications 225–31
 - long-term prognosis 240
 - lost teeth replacement 229–31, 232–3
 - periodontal ligament healing 236, 237
 - postoperative care 238–40
 - principles of surgery 237, 238–9
 - prognosis, long-term 240
 - root fractures 228–9
 - surgical principles 237, 238
 - surgical techniques 237, 239
 - third molar surgical management 225, 228
 - unrestorable teeth 228
- avulsion
 - soft tissue trauma 915, 916
 - treatment 765–7
- azoles, antifungals 475

- bacterial infection 403–73
 - antibiotic compounds 416–20
 - antibiotic prophylaxis 422–4
 - antibiotic resistance 413–15
 - antibiotic stewardship 415–16
 - antibiotic treatment in 420–2
 - assessment of emergency level 404
 - blood examination 406–8
 - cervicofacial actinomycosis 465–7
 - computed tomography 406
 - diagnosis 408
 - examination and diagnosis 404–8
 - fascial space infections 429–45
 - fungal sinusitis 464–5
 - infection prevention 415
 - interview, observation, and palpation 404–5
 - magnetic resonance imaging 406
 - management planning 408–9
 - maxillary sinus 456–7
 - maxillary sinusitis of odontogenic origin 457–65
 - medical supportive care 412–13
 - medication-related osteonecrosis of the jaw (MRONJ) 452–6
 - non-odontogenic maxillary sinusitis 464
 - odontogenic infections 424–9
 - osteomyelitis 445–51
 - osteoradionecrosis 451–2
 - plain film radiographs 405
 - surgical treatment 409–12
 - syphilis 468–9
 - tuberculosis 467–8
- Bardach's two-flap palatoplasty
 - technique, cleft lip and palate (CLP) 1065
- Beckwith-Wiedemann syndrome 565
- benign mixed epithelial and mesenchymal odontogenic tumors 535–6
- benign tumors
 - enucleation and curettage 527–8
 - non-odontogenic tumors 540–2
 - odontogenic tumors (*see* odontogenic tumors)
 - salivary tumors 629–30
 - treatment options 527–8
- benzodiazepines 50–1
- BFPF *see* buccal fat pad flap
- bifid mandibular condyles, temporomandibular joint disorders (TMJ) 1199
- bioactive glass, biomaterials, osseointegration 295
- biodegradable membranes, guided bone regeneration (GBR) 269–70
- biomaterials, osseointegration 294–312
 - anorganic bovine bone 294
 - bioactive glass 295
 - BMP 309
 - calcium carbonate 295
 - calcium phosphate 294–5
 - calcium sulfate 295
 - characteristics 294
 - currently used 294–6
 - demineralized freeze-dried bone allograft 295
 - developments 309
 - fresh-frozen homologous bone 295–6
 - growth factors 309
 - horizontal defects 296–8
 - major advanced osseointegration 305–9
 - post-extraction sites 296
 - sinus elevation 303–5
 - surgical techniques 296–305
 - vertical defects 298–303
- biopsy
 - neck masses 506–7
 - oral cavity 504–6
 - sentinel lymph node 600
 - surgical principles, biopsy, soft tissue 63
- biopsy, soft tissue
 - mucosal surface of lip 63–4
 - surgical principles 63
- bleeding *see* hemorrhage
- blepharoplasty, aesthetic evaluation of face 1214–15
- blood disorders, anemias 13–14
- Blue rubber bleb nevus syndrome (BRBNS) 566
- BMP, biomaterials, osseointegration 309
- bone grafting 274–92
 - see also* autogenous bone
 - harvesting; grafts/grafting; osseointegration
- bone harvesting, autogenous *see* autogenous bone harvesting
- bone reconstruction, alveolar
 - biological factors influencing 265–6
 - implants 265–6
- bone substitute materials 267
 - see also* biomaterials, osseointegration
- bone tissue responses, implants 252–5
- bone transport distraction 1037–9
 - external devices for mandibular bone transport 1038–9
 - intraoral devices for mandibular bone transport 1038, 1039
- maxillary transport distraction 1038, 1039
- Bonnet-Dechume-Blanc syndrome 566
- branchial lymphoepithelial cysts 521
- breathing, trauma 743–4
- Brown classification, maxillary reconstruction 676–84
 - Brown Class I A–palatal defect only 676–7
 - Brown Class I B–D–dentoalveolar defect only 677
 - Brown Class II B–posterolateral infrastructure maxillectomy with posterior dentoalveolar defect 677–8
 - Brown Class II C–D–infrastructure maxillectomy involving most of dentoalveolar arch 678–9, 680–2
 - Brown Class III–infrastructure maxillectomy involving orbital rim and floor 679, 681
 - Brown Class IV–maxillary defect with orbital exenteration 681, 682
 - Brown Class VI–nasomaxillary defect 682–4
 - Brown Class V–orbitomaxillary defect without dentoalveolar defect 682, 683
- buccal fat pad flap 462–4
- buffered local anesthesia 43
- bupivacaine, local anesthesia 42–3
- Burkitt's lymphoma 486
- burning mouth syndrome (BMS) 1122–3
- BZDs *see* benzodiazepines
- calcifying epithelial odontogenic cyst 519
- calcifying epithelial odontogenic tumor (CEOT) 534
- calcifying odontogenic cyst 519
- calcium carbonate, biomaterials, osseointegration 295
- calcium phosphate, biomaterials, osseointegration 294–5
- calcium sulfate, biomaterials, osseointegration 295
- calvarium, autogenous bone harvesting 324–6, 327–8
- cancer *see* malignant tumors; *named tumors*; oral cancer etiologies and management
- Candida* infections 475–9
- cardiac arrest
 - see also* chest pain
 - automated external defibrillator (AED) 25–7
 - medical emergency care 24–7, 26

- cardiac disease *see* chest pain
cardiac pacemaker 8–9
cardiovascular disease
 AICD or cardiac pacemaker 8–9
 anticoagulation 6–7
 arrhythmia 7–8
 congestive heart failure 5–6
 coronary artery disease 5
 hypertension 8
 prosthetic valve replacement and
 infective endocarditis 6
 valvular heart disease 6
Carpenter syndrome 1100
CAS *see* computer-assisted surgery
CBCT *see* cone-beam computed
 tomography
CCOC *see* clear cell odontogenic
 carcinoma
cementoblastoma 536–7
cemento-ossifying fibroma 537
central giant cell granuloma (CGCG)
 542–4
central giant cell lesions 542–4
CEOT *see* calcifying epithelial
 odontogenic tumor
cephalometric analysis, lateral,
 orthognathic surgery 944–5
cephalosporins, antibiotic
 compounds 418
cervical spaces (deep neck space)
 lateral pharyngeal space 442, 443
 retropharyngeal space 442–3
cervicofacial actinomycosis
 clinical manifestation 465
 diagnosis 465–6, 467
 treatment 466–7
CGCL *see* central giant cell lesion
CHC *see* chronic hyperplastic
 candidosis/candidiasis
chemotherapy
 head and neck pathology
 615–19
 oral cancer 604–5
chest pain
 see also cardiac arrest
 diagnosis 23–4
 history 23–4
 management 24
 medical emergency care 23–4
 pathogenesis 23
chickenpox, orofacial viral infections
 484–5
children/adolescents
 see also pediatric
 implants 257
chondroblastoma 541
chondromyxoid fibroma 541
chondrosarcoma (CS) 548
chronic erythematous candidosis/
 candidiasis 476–7
chronic hyperplastic candidosis/
 candidiasis (CHC) 477
chronic mucocutaneous candidosis/
 candidiasis 478–9
chronic obstructive pulmonary
 disease 10
chronic odontogenic maxillary
 sinusitis
 clinical features 458
 treatment 460
circulation, trauma 744–5
clear cell odontogenic carcinoma 539
cleft lip and palate (CLP), early
 childhood 1048–69
 Bardach's two-flap palatoplasty
 technique 1065
 bilateral cleft lip repair 1059–62
 child with CL/P examination
 1053
 classification systems 1050–1, 1052
 ear, nose, and throat evaluation
 1053
 embryology 1049–50, 1051
 epidemiology 1048–9
 etiology 1049
 feeding evaluation 1053
 Furlow double opposing Z-plasty
 technique 1066
 genetics 1049
 global burden 1048
 incidence 1048
 interdisciplinary team
 management 1051–2
 international cleft centers 1054
 oronasal fistulae correction 1066–7
 prenatal diagnosis 1052–3
 presurgical orthopaedics 1054–5
 primary cheiloplasty 1055–66
 primary palatoplasty 1062–6
 record maintenance and
 photography 1052
 speech and velopharyngeal
 dysfunction 1066
 two-stage palatoplasty technique
 1065–6
 unilateral cleft lip repair 1055–9
 Vomer flap technique 1066
 Von Langenbeck technique 1064
 V-Y pushback palatoplasty
 technique 1065
cleft lip and palate (CLP), mixed
 dentition to adulthood 1070–86
 alveolar cleft repair 1074–6
 cleft nasal deformity 1082
 cleft orthognathic surgery 1076,
 1078
 cleft septo-rhinoplasty 1082–3
 conventional orthognathic
 surgery *versus* distraction
 osteogenesis 1078–80
dental anomalies in children with
 cleft deformities 1073–6
interdisciplinary team 1070–1
oronasal fistulae repair 1072–3
phase I orthodontic treatment
 (age: 6–12 years) 1073–4
phase II orthodontic treatment
 (age: 13–18 years) 1074
secondary lip deformities 1080–2
speech and velopharyngeal
 dysfunction 1071–2
surgical correction of maxillary
 hypoplasia 1076–80
surgical correction of secondary
 lip and nose deformities 1080–3
CLP *see* cleft lip and palate
cluster headaches, trigeminal
 autonomic cephalalgia (TAC)
 1124–5
CMC *see* chronic mucocutaneous
 candidosis/candidiasis
coagulopathy 13–14
collateral inflammatory cysts 515
complex wound management
 animal bites 909–10
 gunshot wounds 910–12
 tissue avulsion 912
compound frontal bone fractures
 844–5
computed tomography (CT)
 implants 258, 260
 orbital trauma and reconstruction
 878
 traumatic dental injuries (TDI)
 756
computer-assisted surgery (CAS) 711
computer-guided implant treatment
 260–2
concussion, treatment 762
condylar ankylosis fracture 1115
condylar hyperplasia (CH),
 temporomandibular joint
 disorders (TMJ) 1199
condylar shave/high condylectomy,
 TMJ 1163–4
condylar tumors, pediatric
 temporomandibular joint
 disorders 1199–200
condyle fractures, mandibular
 trauma 786
condylotomy, TMJ 1164
cone-beam computed tomography
 (CBCT)
 imaging 202
 implants 258, 260–2
 sinus augmentation 339
 traumatic dental injuries (TDI) 756
congestive heart failure 5–6
continuous distraction osteogenesis
 1042–4

- conventional ameloblastoma 530–2
- COPD *see* chronic obstructive pulmonary disease
- coronary artery disease 5
- coronoid fractures, mandibular trauma 795
- coronoid process, autogenous bone harvesting 319–20
- cortical/cancellous grafts, autogenous bone harvesting 315–16
- costochondral grafts, autogenous bone harvesting 324, 326
- COVID-19, 59, 483, 489, 625
- craniofacial distraction osteogenesis 1029–34
 - cranial distraction 1033–4
 - external maxillary and midface distraction 1029–30
 - indications for 1029
 - internal maxillary and midface distraction 1030–2
 - maxillary palatal distraction 1034
 - zygomatic distraction 1032–3
- craniofacial dysostosis syndromes 1091–102
 - Apert syndrome 1095, 1097–8
 - Carpenter syndrome 1100
 - Crouzon syndrome 1092–5, 1096
 - infancy treatment 1092
 - Muenke syndrome 1100
 - Pfeiffer syndrome 1098–9
 - Saethre-Chotzen syndrome 1099–100
 - Treacher Collins syndrome 1100–2
- craniofacial microsomia (CFM) 1102–3
 - pediatric temporomandibular joint disorders 1189–93, 1194–6
- craniofacial syndromes 1087–105
 - Apert syndrome 1095, 1097–8
 - bicoronal synostosis 1089–90, 1091
 - Carpenter syndrome 1100
 - craniofacial dysostosis syndromes 1091–102
 - craniofacial microsomia 1102–3
 - cranosynostosis 1088–91
 - Crouzon syndrome 1092–5, 1096
 - infancy treatment 1092
 - lambdoid synostosis 1090–1
 - metopic synostosis 1089, 1090
 - Muenke syndrome 1100
 - Pfeiffer syndrome 1098–9
 - positional plagiocephaly 1091
 - Saethre-Chotzen syndrome 1099–100
 - sagittal synostosis 1088, 1089
 - Treacher Collins syndrome 1100–2
 - unicoronal synostosis 1089, 1090
- cranosynostosis
 - bicoronal synostosis 1089–90, 1091
 - lambdoid synostosis 1090–1
 - metopic synostosis 1089, 1090
 - positional plagiocephaly 1091
 - sagittal synostosis 1088, 1089
 - unicoronal synostosis 1089, 1090
- Crouzon syndrome 1092–5, 1096
- crown fractures
 - traumatic dental injuries (TDI) 756–8
 - treatment 758, 760
- crown-root fractures
 - autotransplantation 228–9
 - traumatic dental injuries (TDI) 758, 760–2
 - treatment 761–2
- cryotherapy 528
- CS *see* chondrosarcoma
- CT *see* computed tomography
- cystic lesions of the jaws 513–24
 - non-epithelial lined lesions 520–1
 - non-odontogenic cysts 519–20
 - odontogenic cysts 514–19
 - soft tissue cysts 521, 522
- cysts *see named cysts*
- demineralized freeze-dried bone
 - allograft, biomaterials, osseointegration 295
- dental fistula, odontogenic infections 429, 430
- dental implants *see* implants
- dentigerous cysts 515, 516
- dentinogenic ghost cell tumor 536
- dentoalveolar ankylosis, traumatic dental injuries (TDI) 769–70
- dentoalveolar surgery
 - basic retractors 73–4
 - complications, nerve damage 213–14
 - dental elevators 71
 - dental extraction forceps 71–3
 - periosteal elevators 70–1
- dermoid cysts 521
- desmoplastic fibroma of bone 541–2
- diabetes mellitus 14–15
- digital workflow and treatment
 - planning, dental implant surgery 384–94
 - components 385–7
 - full-arch dental implant reconstruction 389–90, 391, 392
 - jaw-in-a-day 390, 392–3
 - navigation 388–9
 - surgical guides 387–8
 - transitioning 384–5
- disability (neurologic evaluation), trauma 745–7
- discectomy, open surgery of the TMJ
 - animal studies 1162
- complications 1163
- description of technique 1161
- disc excision 1161
- eminoplasty and condylar reshaping 1161–2
- interpositional graft 1162
- long-term follow-up studies 1162
- procedure 1161
- progression 1162–3
- discoid lupus erythematosus (DLE) 577, 578
- disc plication surgery, TMJ 1158–61
 - comparison of techniques 1160
 - complications 1160–1
 - description of technique 1158, 1159, 1160
 - evolution of technique 1158
 - literature review 1158–9
 - MRI stability 1159–60
- dissociative anesthesia 53–4
- distraction osteogenesis 1019–47
 - versus* acute lengthening procedures 1041
 - administration of growth factors to enhance bone healing 1042
 - alveolar distraction osteogenesis (ADO) 1034–6
 - biological process of 1020–2
 - bone transport distraction 1037–9
 - complications 1039–41
 - continuous distraction osteogenesis 1042–4
 - craniofacial DO 1029–34
 - cranio-maxillofacial skeleton 1020
 - mandibular distraction osteogenesis 1022–9
 - research and development in maxillofacial distraction 1042–4
 - resorbable distractor 1042
 - temporomandibular joint distraction 1036–7
- donor tissue, mucogingival surgery 362–4, 365
- drug interactions, local anesthesia 45–6
- drugs
 - see also named drugs*
 - local anesthesia 41–3
- Duke Activity Status Index (DASI) 4, 4
- dyskeratosis congenita (DC) 577, 578
- ear avulsion, soft tissue trauma 915, 916
- echinocandins, antifungals 475
- ectropion, orbital trauma and reconstruction 887
- Eighth Joint National Committee (JNC 8) 8

- embryology, cleft lip and palate (CLP) 1049–50, 1051
- emergency care, medical *see* medical emergency care
- eminoplasty/eminectomy, TMJ 1165
- endocrine
 - adrenal function 16
 - diabetes mellitus 14–15
 - pituitary disease 16–17
 - thyroid disease 15–16
- enophthalmos, orbital trauma and reconstruction 887
- entropion, orbital trauma and reconstruction 887
- enucleation and curettage 527–8
- enucleation curettage, and adjunctive treatment 528–9
- epidemiology
 - cleft lip and palate (CLP) 1048–9
 - mandibular trauma 773
 - mid-and upper-face fracture 810
 - obstructive sleep apnea 1009
 - orbital trauma and reconstruction 877
 - pediatric maxillofacial trauma 860
 - temporomandibular disorders (TMD), orofacial pain 1111
 - traumatic dental injuries (TDI) 751–2
- epinephrine, local anesthesia 41–2
- epiphora, soft tissue trauma 921–2
- eruption cysts 515–16
- erythrocyte sedimentation rate (ESR) 406
- erythroplakia 574
- ESR *see* erythrocyte sedimentation rate
- esthetic objectives and surgical solutions, orthognathic surgery 952
- etidocaine, local anesthesia 42
- etiology
 - cleft lip and palate (CLP) 1049
 - temporomandibular disorders (TMD), orofacial pain 1111
- evaluation, patient *see* patient evaluation
- exodontia 115–34
 - anxiety and pain 122–5
 - clinical evaluation 121
 - crown and root fractures 117
 - dental caries 116
 - dental elevators 128
 - dental extraction forceps and elevators 122
 - extraction forceps 122–5
 - impacted teeth 118
 - local anesthesia 122
 - luxation/extraction with dental forceps 125–8
 - luxation with dental elevators
 - principles 128–9
 - malposition of teeth 118
 - mandibular third molar 119, 120
 - medical evaluation 119–20
 - open surgical extraction technique 132–3
 - orthodontic indications 118, 119
 - before orthognathic surgery 119
 - pathologic lesions surrounding teeth 117
 - periodontal disease 116
 - preoperative assessment 121–2
 - preparation 125
 - before prosthetic therapy 118–19
 - pulp disease 116–17
 - before radiation therapy 117
 - sedation 122
 - simple (closed) extraction
 - principles 129–31
 - supernumerary teeth 118, 119
 - surgeon's position with forceps 125–8
 - surgical (open) extraction of teeth or roots 131–2
 - teeth in bone fracture lines 117
- exposure/environmental control, trauma 747
- extraction, impacted teeth 204–5
- extraoral approach to the
 - mandibular nerve, local anesthesia 38
- extraoral imaging
 - cephalometric radiography 94–5
 - computed tomography (CT) 95
 - cone beam computed tomography (CBCT) 96
 - magnetic resonance imaging (MRI) 96–7
 - multidetector row CT 95–6
 - non-radiographic imaging 96
 - panoramic radiography 93–4
 - radionuclide imaging 98
 - ultrasonography 98–9
- extraosseous ameloblastoma 533
- extrusive luxation (extrusion), treatment 763
- face, aesthetic evaluation 1211–17
 - blepharoplasty 1214–15
 - facelift/neck lift 1215–16
 - first consultation 1211–12
 - otoplasty 1216–17
 - rhinoplasty 1216
 - second consultation 1212
 - treatment package 1212–14
- facial evaluation, orthognathic surgery 932–3
- facial nerve 218–20
- inferior alveolar nerve block 218–20
- facial nerve injury 912–13
- facial nerve palsy, soft tissue trauma 921
- familial gigantiform cementoma 546
- fascial space infections 429–45
 - airway compromise 444–5
 - anatomic communications 430, 431
 - buccal space 434
 - canine space 435
 - cervical spaces (deep neck space) 442–3
 - diagnosis 431–2
 - disseminated intravascular coagulation 444–5
 - etiology and microbiology 430
 - Ludwig's angina 438–9
 - masticator space 439–42
 - sepsis 444–5
 - sublingual space 435, 436
 - submandibular space 435–6, 437
 - submental space 436–7, 438
 - treatment 432–3
- fat atrophy, orbital trauma 892
- FD *see* fibrous dysplasia
- femur cancellous graft, autogenous bone harvesting 331–4, 335
- fentanyl, opioids 52
- fibro-osseous lesions
 - cemento-osseous dysplasia 545
 - familial gigantiform cementoma 546
 - fibrous dysplasia 545–6
 - juvenile trabecular ossifying fibroma 546
 - psammomatoid ossifying fibroma 546
 - segmental odontomaxillary dysplasia (SOD) 545
- fibrous dysplasia 545–6
- fibula, vascularized, autogenous bone harvesting 333–6
- fissural cysts 519–20
- flap design, guided bone regeneration (GBR) 269
- flucytosine (5-fluorocytosine), antifungals 475
- focal epithelial hyperplasia (Heck's disease) 488, 489
- full-arch dental implant
 - reconstruction, digital workflow 389–90, 391, 392
- full mouth graftless rehabilitation 372–83
 - all-on-4 concept 372–3
 - all-on-4 surgical procedure 375, 377, 378
 - available bone height 374–5

- full mouth graftless rehabilitation (*continued*)
 - complications 381–2, 383
 - inter-arch space/restorative space 374
 - mandible 375, 376, 377
 - maxilla 375
 - presence or absence of composite defect 373–4
 - restorative-driven treatment planning 373
 - transition zone visibility 374
 - zygoma implant surgical procedure 377–81
- fungal infections, oral 474–80
- fungal sinusitis, bacterial infection 464–5
- Furlow double opposing Z-plasty technique, cleft lip and palate (CLP) 1066
- future
 - alloplastic patient-specific reconstruction 732
 - of nerve reconstruction and regeneration 709
 - sinus augmentation 349
- gap arthroplasty, TMJ 1165–6
- GBR *see* guided bone regeneration
- general anesthesia 55–6
 - see also* anesthesia/sedation; local anesthesia
 - third molar surgical management 168
- genetics, cleft lip and palate (CLP) 1049
- genioplasty, aesthetic adjuncts of orthognathic surgery 1004
- geriatric patients 19
- ghost cell odontogenic carcinoma 539
- giant cell lesions
 - central giant cell granuloma (CGCG) 542–4
 - cherubism 544–5
 - peripheral giant cell granuloma 544
- gingival cysts 519
- glandular odontogenic cyst 519
- globulomaxillary cysts 520
- glossopharyngeal neuralgia 1121–2
- Gorham-Stout syndrome 566
- Gow-Gates technique, local anesthesia 36–7
- grafts/grafting
 - see also* autogenous bone harvesting; bone grafting; guided bone regeneration (GBR)
 - graft material, guided bone regeneration (GBR) 269
 - growth factors biomaterials, osseointegration 309
 - guided bone regeneration (GBR)
 - see also* computer-guided implant treatment
 - biodegradable membranes 269–70
 - biological principles 267–8
 - bone substitute materials 267
 - clinical results 271–2
 - flap design 269
 - follow-up 270–1
 - graft material 269
 - implants 265–73
 - indications 268
 - materials, bone substitute 267
 - material selection 268
 - membrane design criteria 268
 - membrane removal 271
 - membrane selection/positioning 269–70
 - non-resorbable membranes 270
 - preoperative antibiotics 268
 - site preparation 269
 - surgical techniques 268–71
 - suturing 270
 - temporary dentures 270–1
 - hairly leukoplakia 486
 - Halstead technique, inferior alveolar nerve block 36
 - hand, foot and mouth disease, orofacial viral infections 487–8
 - hard tissue surgery
 - dentoalveolar surgery 70–4
 - orthognathic surgery 75–6
 - osteotomes, chisels, and mobilizers 76–9
 - pathologic surgery 83–6
 - temporomandibular joint surgery 86
 - trauma surgery 79–83
 - harvesting, bone *see* autogenous bone harvesting
 - HBOT *see* hyperbaric oxygen therapy
 - headache disorders, orofacial pain 1123–6
 - migraine 1123–4
 - tension-type headache 1124
 - trigeminal autonomic cephalalgia (TAC) 1124–6
 - head and neck pathology 615–19
 - chemotherapy 618
 - oral health and care during treatment 618–19
 - radiotherapy 616–18
 - head and neck pathology patient 493–512
 - appropriate setting 504
 - biopsy procedure 504, 506
 - chemoprevention 509
 - communication with pathologist 506
 - computed tomography 502
 - cone beam computed tomography 502
 - cranial nerves 501
 - dental radiographs 502
 - differential diagnosis 494, 495, 496
 - dysplasia management 507–9
 - ear 499
 - eye 499
 - FNAB technique 507
 - follow-up 509, 510
 - larynx and hypopharynx 500–1
 - magnetic resonance imaging 502–3
 - nasal cavity and nasopharynx 499–500
 - neck masses 506–7, 508
 - oral cavity and oropharynx 500
 - oral cavity lesions 504, 505
 - orthopantomogram 502
 - patient interview 494, 497
 - positron emission tomography 503
 - salivary glands 498–9
 - tissue to biopsy 504, 506
 - ultrasound 503
 - head and neck soft tissue reconstruction 686–700
 - closure/reconstructive techniques 689–99
 - flaps 691–6
 - free tissue transfer and microsurgery 697–9
 - primary closure 689
 - secondary intention healing 689
 - skin grafts 689–91
 - skin lesion excision 686–9
 - tissue expansion 697
 - healing principles, autotransplantation 234, 235
 - hemangiomas 558, 560
 - hematoma, soft tissue trauma 922–3
 - hemicrania continua, trigeminal autonomic cephalalgia (TAC) 1125
 - hemihypertrophy, temporomandibular joint disorders (TMJ) 1199
 - hemophilia A and B 14
 - hemorrhage
 - retrobulbar 879–80
 - trauma 744
 - herpangina, orofacial viral infections 488
 - herpes labialis, orofacial viral infections 483–4
 - herpes zoster (shingles), orofacial viral infections 485

- hyperbaric oxygen therapy 450, 917
- hypertension 8
- hyphema, orbital trauma and
 - reconstruction 879, 880
- hypoglycemia
 - management 29
 - medical emergency care 28–9
 - normal physiological response 28–9
 - signs/symptoms 29
- idiopathic condylar resorption,
 - pediatric temporomandibular joint disorders 1200–1
- IE *see* infective endocarditis
- ilium, autogenous bone harvesting 320–4, 325
- imaging 3D *see* cone-beam
 - computed tomography (CBCT) 93–111
 - alloplastic patient-specific reconstruction 721–2
- bitewing radiographs 202
- computed tomography (CT) 258, 260
- cone-beam computed
 - tomography (CBCT) 202, 258
- craniofacial anomalies 106–7
- extraoral 93–9
- impacted teeth 202
- implant site assessment 104–5
- implants, radiographic
 - examination 258, 259
- intraoral 93
- jaw pathology 99–102
- mandibular trauma 776–7
- model analyses 258
- obstructive sleep apnea (OSA) 1011
- occlusal radiographs 202
- orbital trauma and reconstruction 878
- panoramic radiographs 202, 756
- periapical radiographs 202
- postoperative and periodic
 - monitoring 108–9
- surgical procedures 259, 260, 261
- surgical treatment of pathosis 107
- temporomandibular joint 102–4
- 3D modeling facilitates treatment 107–8
- traumatic dental injuries
 - (TDI) 755–6
- traumatic injuries 106
- vascular lesions 554–7, 558
- virtual surgical planning
 - (VSP) 991
- virtual surgical simulation 107–8
- immunoglobulin G4-related chronic
 - sclerosing sialadenitis 627
- impacted teeth
 - bitewing radiographs 202
 - complications 207
 - definition 259
 - evaluation 200–2
 - exposure and bonding for guide
 - eruption 205–7
 - extraction 204–5
 - imaging 99–101, 202
 - incidence 199–200
 - occlusal radiographs 202
 - orthodontic considerations/
 - prognostic markers 204
 - panoramic radiographs 202
 - patient evaluation 200–2
 - periapical radiographs 202
 - postoperative management 207
 - prognostic markers/orthodontic
 - considerations 204
 - prognostic markers/surgical
 - considerations 204
 - radiographic evaluation 202
 - reasons for 200
 - surgical considerations/
 - prognostic markers 204
 - surgical management 204
 - surgical removal 204–5
 - surgical treatment 199–208
 - theories 200
 - third molars 118
 - treatment planning 202–3
- impaired smell, orofacial viral
 - infections 489
- impaired taste, orofacial viral
 - infections 489
- implants
 - adolescents/children 257
 - aesthetic zone 265–73
 - vs autotransplantation 234
 - biological width 266–7
 - bone reconstruction, alveolar 265–6
 - bone tissue responses 252–5
 - children/adolescents 257
 - clinical examination 257–8
 - components 256
 - computed tomography (CT) 258
 - computer-guided implant
 - treatment 260–2
 - cone-beam computed
 - tomography (CBCT) 258, 260–2
 - contraindications 256–7
 - guided bone regeneration (GBR) 265–73
 - implantology 247–64
 - indications 256
 - local contraindications 257
 - maintenance 260
 - maintenance of stability 251
 - marginal tissues 255–6
- medical contraindications 256
- nerve damage 210–12
- optimal placement in the aesthetic
 - zone 265–73
- osseointegration, biological
 - principles 247–56
- primary stability 249, 250
- radiographic examination 258
- secondary stability 249, 250, 251, 251
- stability 247–51
- systemic risk factors 256–7
- treatment planning 257–9
- incisions
 - surgical principles 60–2
 - types 61–2
- infection
 - see also* bacterial infection; wound infection
 - mandibular trauma 789–91
- infection-related (inflammatory
 - root) resorption, traumatic dental injuries (TDI) 769
- infectious mononucleosis (glandular fever) 485–6
- infective endocarditis 6
- inferior alveolar nerve block
 - facial nerve 218–20
 - Halstead technique 36
 - trigeminal nerve 209
- inferior alveolar nerve damage, root
 - canal treatment 209–10
- infiltration anesthesia 35
- inflammatory arthritis 1135
- inlay grafting, bone grafting 277–8
- innovations in maxillofacial
 - reconstruction and tissue engineering 711–18
 - computer-assisted surgery/
 - virtual surgical planning 711–12
 - dental rehabilitation 713–14
 - jaw-in-a-day 714
 - nerve regeneration 715–17
 - patient-specific implants 712–13
 - tissue engineering 714–15
- instrumentation
 - arthroscopy of the
 - temporomandibular joint 1149–50
 - hard tissue surgery 70–92
 - orthognathic surgery 74–9
 - pathologic surgery 83–6
 - soft tissue surgery 86–91
 - suture materials/needles 66–7
 - temporomandibular joint
 - surgery 86
 - trauma surgery 79–83
- internal root resorption, traumatic
 - dental injuries (TDI) 769

- International Society for the Study of Vascular Anomalies classification system (ISSVA) 553, 554
- intraligamentary (periodontal ligament) anesthesia 40
- intranasal tetracaine, local anesthesia 43
- intraoral examination, orthognathic surgery 939, 941
- intraosseous anesthesia 40
- intrapulpal anesthesia 40–1
- intrusive luxation (intrusion), treatment 763–5
- jaw-in-a-day, digital workflow 390, 392–3
- JRP *see* juvenile recurrent parotitis
- juvenile idiopathic arthritis 1133
- arthroscopy of the temporomandibular joint 1133, 1135
- pediatric temporomandibular joint disorders 1201–3
- juvenile recurrent parotitis (JRP) 628
- juvenile trabecular ossifying fibroma (JTOF) 546
- Kaposi's sarcoma 487
- Kasabach-Merritt syndrome 565
- keratocystic odontogenic tumor (KOT) *see* odontogenic keratocyst (OKC)
- ketamine 53–4
- KOT *see* keratocystic odontogenic tumor, odontogenic keratocyst (OKC)
- laser-assisted uvulopalatoplasty 1012
- lateral cephalometric analysis, orthognathic surgery 944–5
- lateral luxation, treatment 762–3, 765
- lateral periodontal cysts 519
- lateral window approach, sinus augmentation 340–1
- Le Fort II fracture 839, 841–2
- Le Fort III fracture 842–3
- leukoplakia 569, 571–3
- levobupivacaine, local anesthesia 43
- lidocaine, local anesthesia 42
- lincosamides, antibiotic compounds 419
- lingual nerve damage 272–4
- liposomal bupivacaine, local anesthesia 43
- liver disease 12–13
- loading considerations 247–51
- local anesthesia 34–47
- see also* anesthesia/sedation; general anesthesia
- Akinosi Vazirani technique 37
- allergy 45
- drug interactions 45–6
- drugs 41–3
- extraoral approach to the mandibular nerve 38
- failure of anesthesia 39–40
- Gow-Gates technique 36–7
- Halstead technique (inferior alveolar nerve block) 36
- infection 45
- inferior alveolar nerve block (Halstead technique) 36
- infiltration anesthesia 35
- intraligamentary (periodontal ligament) anesthesia 40
- intraosseous anesthesia 40
- intrapulpal anesthesia 40–1
- localized complications 44–5
- long buccal nerve block 37–8
- mandibular anesthesia 36–8
- maxillary anesthesia 38–9
- mental and incisive nerve block 37
- mode of action 34–5
- multiple local anesthetics 45
- mylohyoid nerve block 41
- nerve damage 44
- regional block anesthesia 35
- systemic complications 45–6
- techniques 35–9
- third molar management 170
- topical anesthesia 35
- toxicity 45
- long buccal nerve block, local anesthesia 37–8
- long buccal nerve damage 215, 217
- long-term prognosis, autotransplantation 240
- lymphoma and multiple myeloma 13
- macrolides, antibiotic compounds 419
- magnetic resonance imaging (MRI)
- bacterial infection 406
- extraoral imaging 96–7
- head and neck pathology patient 502–3
- malignant maxillofacial bone and cartilage tumors 546–9
- malignant non-odontogenic tumors 546–9
- malignant odontogenic tumors
- ameloblastic carcinoma 538
- clear cell odontogenic carcinoma 539
- ghost cell odontogenic carcinoma 539
- odontogenic carcinosarcoma 539
- odontogenic sarcoma 540
- primary intraosseous carcinoma 538–9
- sclerosing odontogenic carcinoma 539
- malignant salivary tumors 631
- malignant tumors
- ameloblastic carcinoma 538
- clear cell odontogenic carcinoma 539
- ghost cell odontogenic carcinoma 539
- malignant salivary tumors 631
- mucoepidermoid carcinoma 631
- nasopharyngeal carcinoma 486, 487
- odontogenic carcinosarcoma 539
- odontogenic sarcoma 540
- odontogenic tumors 526–7
- oropharyngeal carcinoma 488
- primary intraosseous carcinoma 538
- sclerosing odontogenic carcinoma 539
- squamous cell carcinoma 487, 506, 572, 573, 576, 577, 588, 589, 615, 630, 646, 677, 682, 725, 1115
- surgical treatment 529
- Mallampati classification 11, 11
- mandible, full mouth graftless rehabilitation 375, 376, 377
- mandibular and maxillary tori, autogenous bone harvesting 320
- mandibular anesthesia 36–8
- mandibular distraction osteogenesis 1022–9
- external mandibular distraction 1023–4
- indications for 1022–3
- internal mandibular distraction 1024–5
- mandibular body distraction 1025–6, 1027, 1028
- mandibular ramus distraction 1025
- mandibular symphysis distraction 1026, 1029
- mandibular hypermobility, temporomandibular joint disorders (TMJ) 1198
- mandibular hypomobility, temporomandibular joint disorders (TMJ) 1198
- mandibular osteotomies 965–78
- anterior mandibula subapical osteotomy (AMSO) 974–5
- diagnostic planning 967
- historical perspective 965–6
- indications 967–8
- intraoral vertical ramus osteotomy 968–70

- inverted L osteotomy 970, 971
- postoperative care 976
- sagittal split osteotomy (SSO) 971–4, 975
- surgical anatomy 966–7
- surgical techniques 968–75
- mandibular ramus and retromolar area, autogenous bone harvesting 318–19
- mandibular reconstruction 645–72
 - alloplastic joints 668–9
 - autogenous tissue 667–8
 - benign pathology 646
 - custom *versus* freehand plates 648–9
 - deep circumflex iliac artery 662–4
 - historical technique 649–50
 - indications for reconstruction 645–6
 - inferior alveolar nerve reconstruction 669
 - jaw-in-a-day 669, 670
 - malignant pathology 646
 - mandibular condyle reconstruction 667–9
 - marginal defects 650–1
 - marginal resection 646–7
 - non-vascularized bone grafts harvest sites 651–7
 - non-vascularized grafts reconstruction 650–1
 - osteonecrosis of the jaw 646
 - scapula 661–2
 - segmental defects 650–1
 - segmental resection 647, 648
 - soft tissue management 666–7
 - timing of bony reconstruction 649
 - timing of dental implants 665–6
 - tissue engineering 664–5
 - traditional *versus* computer-aided treatment planning 646
 - trauma 645–6
 - vascularized bone grafts harvest sites 660–4
 - vascularized free flaps reconstruction 657, 659
- mandibular repositioning, orthognathic surgery 952–4
- mandibular symphysis, autogenous bone harvesting 317–18
- mandibular trauma 772–805
 - see also* temporomandibular joint (TMJ) surgery
 - background/historical overview 772–3
 - classification 773–5
 - clinical presentation 775–6
 - closed reduction 778–81
 - comminuted fractures 795–6
 - complications 789
 - condyle fractures 786
 - coronoid fractures 795
 - edentulous mandible fractures 796–800
 - epidemiology 773
 - etiology 773
 - facial widening 792–3
 - imaging 776–7, 778
 - infection 789–91
 - internal fixation 784–6
 - malunion 793
 - nerve injury 791–2
 - nonunion/fibrous union 793, 794
 - objectives 777, 778
 - open reduction 781–2
 - osteomyelitis 791
 - patient evaluation 775–6
 - pediatric mandible fractures 800–1, 802
 - plate exposure 794–5
 - postoperative course 788–9
 - radiological examination 776–7
 - ramus and angle fractures 787, 788
 - special considerations 795–801
 - surgical approaches 782–4
 - symphyseal/parasymphyseal and body fractures 787, 788
 - teeth in the line of fracture 795
 - treatment options 778–82
 - treatment principles 772–3
- masticatory muscle disorders, orofacial pain 1115–17
 - fibromyalgia/widespread pain 117
 - local myalgia 116
 - muscle contracture 117
 - muscle neoplasia 117
 - myofascial pain 116
 - myositis 116
 - myospasm 116
 - tendonitis 116
- material selection, guided bone regeneration (GBR) 268
- maxilla, full mouth graftless rehabilitation 375
- maxillary anesthesia 38–9
- maxillary defects reconstruction 673–85
 - Brown classification 676–84
 - classification 673–4
 - deep circumflex iliac flap 676
 - dental obturators 674
 - fibula flap 674
 - free flaps 674
 - radial forearm flap 675–6
 - rectus abdominus flap 676
 - scapular flap 674–5
- maxillary osteotomies 979–89
 - insert surgical technique 979–85
 - osteotomy design variations 985–9
- maxillary sinusitis of odontogenic origin
 - chronic odontogenic maxillary sinusitis 458
 - clinical features 458
 - diagnosis 458–9
 - etiology and pathogenesis 457
 - microbiology 457
 - surgery 460–4
 - treatment 459–60
- maxillary surgery, orthognathic surgery 954–6
- maxillary tuberosity, autogenous bone harvesting 319
- maxillofacial distraction
 - osteogenesis *see* distraction
 - osteogenesis
- maxillofacial nerve repair 701–10
 - clinical evaluation and diagnosis 703–5
 - external neurolysis (decompression) 706
 - goals of treatment 705
 - internal neurolysis 706
 - nerve grafts 707–8
 - nerve preparation/neuroma resection 706–7
 - of nerve reconstruction and regeneration 709
 - neurorrhaphy 707
 - postoperative management 708
 - surgical techniques 706–8
 - surgical treatment for trigeminal nerve injuries 705–6
 - trigeminal nerve anatomy 702–3
 - trigeminal nerve injuries incidence 703
- maxillofacial reconstruction 711–18
 - computer-assisted surgery / virtual surgical planning 711–12
 - dental rehabilitation 713–14
 - jaw-in-a-day 714
 - nerve regeneration 715–17
 - patient-specific implants 712–13
 - tissue engineering 714–15
- maxillomandibular advancement, obstructive sleep apnea (OSA) 1014–17
- measles, orofacial viral infections 489
- median mandibular cysts 520
- median rhomboid glossitis 477, 478
- medical emergency care 21–33
 - anaphylaxis 29–31
 - asthma 27–8
 - cardiac arrest 24–7, 26
 - syncope 22–3
- medical management and preoperative patient assessment
 - blood disorders 13–14
 - cardiovascular disease 5–9

- medical management and
 - preoperative patient assessment (*continued*)
 - endocrine 14–17
 - geriatric patients 19
 - liver disease 12–13
 - neurological disease 17
 - obesity 18–19
 - pediatric patients 19
 - pregnancy 19, 20
 - renal disease 11–12
 - respiratory disease 9–11
 - substance abuse 17–18
- medication-induced hyposalivation 628–9
- medication-related osteonecrosis of the jaw (MRONJ) 637–44
 - adjunctive therapies 641–2
 - clinical presentation and staging 453, 638
 - definition and prevalence 452, 637
 - diagnosis 455
 - etiology 452–3
 - incidence and risk factors 453
 - management 455–6
 - nonoperative management 640–1
 - operative management 641
 - osteomyelitis and
 - osteoradionecrosis
 - differentiation 638–9
 - pathophysiology 639–40
 - prevention 453–5
- membrane design criteria, guided
 - bone regeneration (GBR) 268
- membrane removal, guided bone regeneration (GBR) 271
- membrane selection/positioning, guided bone regeneration (GBR) 269–70
- mental and incisive nerve block, local anesthesia 37–8
- mepivacaine, local anesthesia 42
- mesenchymal chondrosarcoma (MCS) 548
- metabolic equivalent of tasks (METs) 4
- metastasizing ameloblastoma 533
- metronidazole, antibiotic compounds 419–20
- microneurosurgery 220–2
- mid- and upper-face fractures 806–58
 - airway management 852–3
 - anesthesia 852–3
 - biodegradable screws and plates 848–9
 - classification 808–10
 - compound frontal bone fractures 844–5
 - computer-assisted techniques 849–51
 - coronal incision 819–21, 822, 823
 - CSF leak management 847
 - endoscopic approaches 823–5
 - epidemiology 810
 - fracture patterns 828, 829, 830
 - frontal bone 807–8
 - frontal bone fracture 843–4
 - fronto-nasal outflow tract (FNOT) 845–7
 - Gillies approach 823, 824
 - hard palate fractures 828
 - infraorbital incision 813, 814
 - injured frontal sinus 845–7
 - intraoral incisions 812–13
 - lateral canthotomy 815–17
 - lateral eyebrow incision 818
 - Le Fort I fracture (Guérin fracture, suborbital maxillary fracture) 826–8
 - Le Fort II fracture 839, 841–2
 - Le Fort III fracture 842–3
 - limited transcutaneous
 - approaches 821–2
 - maxillary alveolar process fractures 825
 - maxillary sinus walls fractures 825
 - midfacial degloving by intraoral incision 813
 - midfacial skeleton, three dimensional structure 806–7
 - nasal bones and related structures 828, 830
 - nasal bones fractures 830–2
 - nasal intubation 852
 - naso-orbito-ethmoidal fractures 832–3
 - open or closed reduction 811
 - oral intubation 852
 - orbit fractures 839
 - patients assessment 810–11
 - periorbital incisions 813
 - radiographic examination 811
 - simple frontal bone fractures 844
 - strategy of management of
 - complex 851–2
 - sub-ciliary incision 814–15
 - sub-frontal fractures 839, 841–5
 - submental intubation 852–3
 - subtarsal incision 814
 - surgical approaches to midfacial skeleton 812–25
 - surgical technique 849
 - symptoms 826
 - timing of repair 851–2
 - tracheostomy 852
 - transcaruncular incision 817–18
 - transconjunctival incision 815, 816
 - transcutaneous bone hook or screw 822–3, 824
 - traumatic wounds 823, 825
 - treatment 825–39
 - upper blepharoplasty incision 819
 - zygomatic arch fractures 833–4
 - zygomatic bone fractures 833
 - zygomatoco-maxillary complex (zygomatoco-orbital fractures) 834–9, 840
- migraine, orofacial pain 1123–4
- MMA *see* maxillomandibular advancement
- model analyses, imaging 258
- MRI *see* magnetic resonance imaging
- mucogingival surgery
 - donor tissue types 362–4, 365
 - reconstructive soft tissue
 - procedures 359–62, 363
 - regenerative tissue procedures 364, 366
 - resective soft tissue procedures
 - around implants 366–8
- mucormycosis 479
- Muenke syndrome 1100
- mumps, orofacial viral infections 489
- musculoskeletal disorders
 - management 1117–20
 - behavioral intervention 1118
 - injection therapy 1120
 - occlusal appliances 1119–20
 - patient education 1117–18
 - pharmacotherapy 1118–19
 - physical therapy 1118
 - self-care 1117–18
- myasthenia gravis 17
- mylohyoid nerve damage 217
- nasolabial cysts 521
- nasolacrimal apparatus injury, soft tissue trauma 915
- naso-orbito-ethmoid (NOE) fracture 832–3
- nasopalatine cysts 520
- nasopharyngeal carcinoma 486, 487
- needles/materials, suturing 66–7
- nerve damage 209–23
 - dentoalveolar surgery 213–14
 - implants 210–12
 - inferior alveolar nerve, root canal treatment 209–10
 - local anesthesia 44
 - microneurosurgery 220–2
 - Semmes-Weinstein filaments (Von Frey's hairs) 217
 - sensory testing 217–18
 - trigeminal nerve 209–18
- nerves 209–23
 - facial nerve 218–20
 - microneurosurgery 220–2
 - trigeminal nerve 209–18

- nervus intermedius (geniculate) neuralgia 1122
- neurological disease
 - myasthenia gravis 17
 - seizures 17
 - trauma 17
- neuropathic orofacial pain
 - burning mouth syndrome (BMS) 1122–3
 - glossopharyngeal neuralgia 1121–2
 - nervus intermedius (geniculate) neuralgia 1122
 - persistent idiopathic dentoalveolar pain 1122
 - persistent idiopathic facial pain 1122
 - trigeminal neuralgia 1120–1
- nitrous oxide 50
- NOE fracture *see* naso-orbito-ethmoid (NOE) fracture
- non-odontogenic tumors 540–2
 - bone and cartilage tumors 540
 - chondroblastoma 541
 - chondromyxoid fibroma 541
 - desmoplastic fibroma of bone 541–2
 - osteoblastoma 541
 - osteochondroma 540–1
- non-resorbable membranes, guided bone regeneration (GBR) 270
- non-surgical management, orofacial pain 1109–30
- non-vascularized bone grafts
 - harvest sites
 - anterior iliac crest 651, 653–5
 - posterior iliac crest 655–6
 - ribs 651, 652
 - tibia 656–7, 658
- nose
 - cleft septo-rhinoplasty 1082–3
 - nasal fractures 79–80, 828, 830–2, 861
 - naso-orbito-ethmoidal fractures 832–3
 - orthognathic surgery 942–3
 - primary cosmetic rhinoplasty (*see* primary cosmetic rhinoplasty)
 - rhinoplasty 1216
 - soft tissue trauma 908
- obesity 18–19
- obstructive sleep apnea (OSA) 1009–18
 - diagnosis 1009–10
 - epidemiology 1009
 - genioglossus advancement and hyoid suspension 1012–14
 - history 1010
 - imaging 1011
- maxillomandibular advancement 1014–17
- palatal procedures 1011–12
- pathophysiology 1009
- patient evaluation 1010–11
- physical examination 1010
- surgical management 1011–17
- symptoms 1010
- tracheostomy 1011
- occlusal plane alteration, aesthetic adjuncts of orthognathic surgery 1005–7
- odontogenic carcinosarcoma 539
- odontogenic cysts 514–19
 - apical cysts 514–15
 - calcifying odontogenic cyst 519
 - collateral inflammatory cysts 515
 - dentigerous cysts 515, 516
 - eruption cyst 515–16
 - gingival cysts 519
 - glandular odontogenic cyst 519
 - lateral periodontal cysts 519
 - malignancy within odontogenic cysts 519
 - odontogenic keratocyst (OKC, primordial cyst, keratocystic odontogenic tumor) 516–19
 - orthokeratinized odontogenic cyst 519
 - radicular cysts 514–15
 - residual cysts 515
- odontogenic fibroma 536
- odontogenic infections
 - bacteriology 427–8
 - dental fistula 429, 430
 - diagnosis 428
 - endodontic diseases 424–5
 - pericoronitis 426
 - periodontal disease 425–6
 - progression and spreading manners 426–7
 - treatment 428
- odontogenic keratocyst (OKC) (primordial cyst) 516–519
- odontogenic myxoma/myxofibroma 537–8
- odontogenic/non-odontogenic tumors of the jaws 525–52
- odontogenic sarcoma 540
- odontogenic tumors 526–7, 529–34
 - adenomatoid odontogenic tumor 535
 - ameloblastomas 529–34
 - benign mesenchymal odontogenic tumors 536–7
 - benign mixed epithelial and mesenchymal odontogenic tumors 535–6
 - benign tumors 526–7
- calcifying epithelial odontogenic tumor (CEOT) 534
- cemento-ossifying fibroma 537
- classification 526–7
- dentinogenic ghost cell tumor 536
- malignant tumors 526–7
- molecular biology 527
- odontogenic myxoma 537–8
- primordial odontogenic tumor 536
- squamous odontogenic tumor (SOT) 534
- odontoma 535
- OF *see* odontogenic fibroma
- OLP *see* oral lichen planus
- OM *see* odontogenic myxoma/myxofibroma
- onlay grafting, bone grafting 276–7
- open surgery of the TMJ 1152–72
 - biology 1153–4
 - condylar shave/high condylectomy 1163–4
 - condylotomy 1164
 - diagnostic workup 1153
 - discectomy 1161–3
 - disc plication surgery 1158–61
 - eminoplasty/eminectomy 1165
 - gap arthroplasty 1165–6
 - historical background 1152–3
 - interpositional allografts 1166, 1167, 1168
 - surgical approach and dissection 1154–7
 - tissue engineering 1167–8
- opioids
 - fentanyl 52
 - remifentanyl 52
- oral cancer etiologies and management 583–614
 - buccal mucosa 595–7
 - chemotherapy and radiation therapy 604–5
 - epidemiology and risk factors 583–4
 - extent neck dissection for the N0 neck 600–1
 - floor of mouth 597
 - follow-up 606
 - histologic grading, tumor staging, and clinical behavior 584–8
 - immunotherapy 605–6
 - lip 597, 598
 - mandibular gingiva 595
 - maxillary gingiva 593–5
 - N0 neck management 598–600
 - N+ neck managing 602
 - non-resectable SCC or poor surgical candidates 606
 - perineural invasion 587

- oral cancer etiologies and management (*continued*)
 - postoperative complications 603
 - postsurgical management 602–3
 - preoperative assessment, staging, and workup 588–91
 - proliferative verrucous leukoplakia 587–8
 - quality-of-life considerations 601–2
 - radiation therapy for the N0 neck 602
 - sentinel lymph node biopsy 600
 - surgery and postoperative radiation 603–4
 - surgical treatment of oral cancer based on subsite 591–2
 - tongue 592–3
 - tumor differentiation 584
 - tumor invasive pattern 586–7
 - tumor size and staging 586
 - tumor thickness and depth of invasion 584–6
- oral fungal infections 474–80
 - antifungals 474
 - azoles 475
 - echinocandins 475
 - flucytosine (5-fluorocytosine) 475
 - polyenes 474–5
- oral lichen planus and related lesions 575–7
- oral mucosal lesions/dysplasia 567–82
 - adjunctive aids for early detection of malignant transformation for oral dysplasia 578–80
 - malignant transformation 569, 570
 - oral potentially malignant disorders 567–9
- oral potentially malignant disorders (OPMDs) 567–82
 - adjunctive techniques 578–80
 - discoid lupus erythematosus (DLE) 577, 578
 - dyskeratosis congenita (DC) 577, 578
 - erythroplakia 574
 - histology (grading of dysplasia) 567–9
 - leukoplakia 569, 571–3
 - malignant transformation 569, 570
 - management of 569, 571–8
 - management of oral potentially malignant disorders 569–78
- oral lichen planus and related lesions 575–7
- oral submucous fibrosis 574–5
 - prevalence 567
 - proliferative verrucous leukoplakia (PVL) 573
- oral submucous fibrosis 574
- orbital apex syndrome 881
- orbital revision surgery
 - custom implants and virtual surgical planning 888, 889, 890
 - intraoperative CT scans 890, 891
 - intraoperative navigation 888, 890, 891
 - large posterior orbital floor defect 887–8
 - orbital floor with medial wall 887, 888
 - orbital floor with ZMC 887
 - postoperative imaging 892
 - tools for 888
- orbital trauma and reconstruction 873–94
 - classification 881–3
 - clinical signs and symptoms 878, 879
 - complications 886–7
 - deep orbit 874–5
 - diagnosis 878–81
 - ectropion 887
 - enophthalmos 887
 - entropion 887
 - epidemiology 877
 - extraocular muscles 876–7
 - fat atrophy 892
 - globe 875–6
 - imaging 878
 - indications for repair 881–2
 - lateral orbital wall fractures 881
 - lynch incision 884–5
 - materials 882–3
 - optic nerve 877
 - orbital bones 873–4
 - orbital roof fractures 881
 - orbital soft tissue 876
 - orbital trauma mechanism 877
 - patient-specific implants 883
 - pediatric pearls 892
 - postoperative instructions 886
 - revision surgery 887–92
 - soft tissue injuries of the globe 878–81
 - soft tissue issues 892
 - surgical access, medial orbital wall–transcaruncular approach 883–4
 - surgical anatomy 873–6
 - surgical approaches 883–6
 - technique 885–6
 - vascular supply 876–7
- orofacial pain 1109–30
 - attributed to dental pain 1110–11
 - classification of orofacial pain conditions 1110–23
 - diagnosis 1109–30
 - headache disorders 1123–6
 - neuropathic orofacial pain 1120–3
 - nonsurgical management of 1109–30
 - red flags in orofacial pain and headache patient 1126
 - temporomandibular disorders (TMD) 1111–20
 - temporomandibular joint disorders 1111
- orofacial viral infections 481–90
 - antiviral agents 482
 - Burkitt's lymphoma 486
 - chickenpox 484–5
 - focal epithelial hyperplasia (Heck's disease) 488, 489
 - hairy leukoplakia 486
 - hand, foot and mouth disease 487–8
 - herpangina 488
 - herpes labialis 483–4
 - herpes zoster (shingles) 485
 - impaired smell 489
 - impaired taste 489
 - infectious mononucleosis (glandular fever) 485–6
 - Kaposi's sarcoma 487
 - measles 489
 - mumps 489
 - nasopharyngeal carcinoma 486, 487
 - orofacial viral infections 482–3
 - oropharyngeal carcinoma 488
 - primary herpetic gingivostomatitis 483
 - Ramsay-Hunt syndrome 485
 - recurrent herpetic ulceration 484
 - Roseola infantum 486–7
 - verruca vulgaris 488
- oropharyngeal carcinoma 488
- orthodontic considerations/ prognostic markers, impacted teeth 204
- orthodontic principles, orthognathic surgery 950–1
- orthodontics without prior surgical consideration, orthognathic surgery 951–2
- orthognathic surgery 75–6
 - see also* cleft lip and palate (CLP)
 - aesthetic adjuncts of 1000–8
 - analysis of dental relations 946–7
 - cephalometric analysis, lateral 944–5
 - chin surgery 959–63
 - dental model analysis 948–50
 - diagnosis 929–64
 - diagnosis and treatment planning 944
 - double jaw surgery: repositioning the maxilla and the mandible 956–7

- double jaw surgery: rotation of the maxillomandibular complex 957–9
- esthetic objectives and surgical solutions 952
- facial evaluation 932–3
- frontal view 936–9, 940–2
- goals of treatment 931
- influences 931
- intraoral examination 939, 941
- introducing the patient to orthognathic treatment concepts 931–2
- lateral cephalometric analysis 944–5
- mandibular repositioning 952–4
- maxillary surgery 954–6
- nose 942–3
- orthodontic principles 950–1
- orthodontics without prior surgical consideration 951–2
- orthognathic surgery 932–9
- patient evaluation 932–9
- postero-anterior cephalometric analysis 947
- postsurgical orthodontics 951
- profile view 933–6, 937, 938
- radiographic evaluation 944–5
- single jaw surgery: mandibular repositioning 952–4
- single jaw surgery: maxillary surgery 954–6
- skeletal antero-posterior relationships 945
- temporomandibular joint (TMJ) evaluation 941–2
- transverse planes 948
- treatment goals 932
- treatment planning 929–64
- treatment principles 952–6
- treatment priorities 963
- treatment sequencing 963
- triangular analysis 948
- vertical cephalometric midline 948
- vertical skeleton relations 945–6
- orthokeratinized odontogenic cyst 519
- OS *see* osteosarcoma
- OSA *see* obstructive sleep apnea
- OSF *see* oral submucous fibrosis
- osseointegration
 - see also* autogenous bone harvesting; grafts/grafting; implants
 - biological principles 247–56
 - biomaterials 294–312
 - implant stability 247–51
 - loading considerations 247–51
 - major advanced osseointegration 305–9
 - osteoblastoma 541
 - osteochondroma 540–1
 - osteoma, bone and cartilage tumors 540–1
 - osteomyelitis
 - acute osteomyelitis 445–50
 - primary chronic 450, 451
 - secondary chronic osteomyelitis 445–50
 - osteoradionecrosis 451–2
 - osteosarcoma (OS) 546–8
 - pain *see* chest pain; orofacial pain
 - panoramic radiographs
 - impacted teeth 202
 - traumatic dental injuries (TDI) 756
 - paracoccidiomycosis 479
 - parotid duct injury 913–15
 - paroxysmal hemicrania, trigeminal autonomic cephalalgia (TAC) 1125
 - pathologic surgery
 - curettes 83–4
 - scissors 85–6
 - tissue forceps 84–5
 - pathophysiology, obstructive sleep apnea (OSA) 1009
 - patient evaluation
 - impacted teeth 200–2
 - mandibular trauma 775–6
 - obstructive sleep apnea (OSA) 1010–11
 - pediatric mandible fractures, mandibular trauma 800–1, 802
 - pediatric maxillofacial trauma 859–72
 - angle fractures 865
 - condylar and subcondylar fractures 865, 867–8
 - craniofacial growth and development 859–60
 - epidemiology 860
 - general considerations 859–61
 - general evaluation and diagnosis 860–1
 - growth disturbances 869
 - hardware removal and use of resorbable fixation materials 868–9
 - Le Fort fractures management 863, 864
 - mandibular fractures management 864–5
 - nasal fractures management 861
 - notable complications and postoperative considerations 868
 - orbital fractures management 861–3
 - symphyseal, parasymphyseal, and body fractures 865, 866
 - TMJ ankylosis 869–70
 - pediatric patient assessment 19
 - pediatric pearls, orbital trauma 892
 - pediatric salivary gland disorders 627–8
 - pediatric temporomandibular joint disorders 1189–207
 - ankylosis 1203, 1204
 - auriculocondylar syndrome 1198
 - condylar tumors 1199–200
 - congenital disorders 1189–93
 - craniofacial microsomia (CFM) 1189–93, 1194–6
 - idiopathic condylar resorption 1200–1
 - juvenile idiopathic arthritis 1201–3
 - mandibular mobility disorders 1198–9
 - post-radiation therapy deformity 1203
 - post-traumatic defect 1203
 - Treacher-Collins syndrome (TCS) 1193, 1196–7
 - penicillins, antibiotic compounds 417–18
 - periapical abscesses, endodontic diseases 425
 - peri-implantitis 395–400
 - clinical features 396, 397
 - definition and classification 395–9
 - management 398–9
 - pathogenesis 397–8
 - prevention of 399
 - peri-implant soft tissue procedures 352–71
 - implant placement 353–4, 355–6
 - keratinized tissue around implants 352
 - maintaining 358
 - mucogingival surgery 359–68
 - pre-implant placement site development 352–3
 - recession 357
 - restorative treatment 354, 357, 358
 - soft tissue procedures staging 352–8
 - periodontal complications, traumatic dental injuries (TDI) 769–70
 - periodontal ligament healing, autotransplantation 236, 237
 - periodontal surgery, trigeminal nerve 212–13
 - periodontal tissues, traumatic dental injuries (TDI) 758, 759
 - peri-orbital rejuvenation 1218–26
 - anatomy 1218–21

- periorbital rejuvenation (*continued*)
 clinical evaluation 1221
 direct infrabrow lift 1223
 direct suprabrow lift 1222–3
 lateral brow lift 1222
 lower blepharoplasty 1224–6
 risks and complications 1226
 upper blepharoplasty 1223–4
 peripheral giant cell granuloma 544
 peripheral osteotomy 528
 persistent idiopathic dentoalveolar pain (PIDP) 1122
 persistent idiopathic facial pain (PIFP) 1122
 PET *see* positron emission tomography
 Pfeiffer syndrome 1098–9
 PHACE syndrome 565
 phosphatase and tensin homolog (PTEN) syndrome 562
 PIK3CA-related overgrowth spectrum (PROS) 565
 planning, treatment *see* treatment planning
 platelet-rich plasma (PRP) 287
 PMD *see* potentially malignant disorders
 pneumonia 10
 polyenes, antifungals 474–5
 positron emission tomography (PET) 503
 postextraction sites, biomaterials, osseointegration 296
 postoperative management
 autotransplantation 239–40
 impacted teeth 207
 postsurgical orthodontics, orthognathic surgery 951
 potentially malignant disorders (PMD) 567–9
 pregnancy 19, 20
 preoperative antibiotics, guided bone regeneration (GBR) 268
 prilocaine, local anesthesia 42
 primary chronic osteomyelitis 450, 451
 primary cosmetic rhinoplasty 1227–40
 anesthesia 1229
 autospreader flap 1235, 1236
 cartilage grafting techniques 1232–3, 1234
 cephalic resection/trim 1230, 1231
 component hump resection 1234–5
 composite hump resection 1233–4, 1235
 CT scan 1229
 docile splay 1235, 1236
 dorsal hump reconstruction 1235
 dorsal hump surgery 1233, 1234
 functional evaluation 1228–9
 hump resection 1233–6
 incisions 1229–30
 local anesthesia 1229
 nasal endoscopy 1229
 nose physical examination 1228
 photography 1229
 preoperative assessments 1228–9
 selection of approach 1229
 septoplasty 1237–9
 skeletonization 1230
 spreader grafts 1235, 1236
 suturing techniques 1231–2
 techniques for 1229–33
 tip plasty 1230
 water's view: X-ray 1229
 primary herpetic gingivostomatitis 483
 primary intraosseous carcinoma 538–9
 primordial odontogenic tumor (PIT) 536
 prognosis, long-term, autotransplantation 240
 prognostic markers/orthodontic considerations, impacted teeth 204
 prognostic markers/surgical considerations, impacted teeth 204
 proliferative verrucous leukoplakia (PVL) 573
 prophylaxis *see* antibiotic prophylaxis
 propofol 52–3
 prosthetic valve replacement 6
 proximal tibia, autogenous bone harvesting 326–9
 proximal ulna, autogenous bone harvesting 329–31
 PRP *see* platelet-rich plasma
 psammomatoid ossifying fibroma (PsOF) 546
 pseudomembranous candidosis 476
 PTEN hamartoma tumor syndrome 562
 pulmonary edema 11
 pulmonary embolus 10–11
 pulp complications, traumatic dental injuries (TDI) 769
 pulp canal obliteration, traumatic dental injuries (TDI) 769
 pulp healing, autotransplantation 235–6
 pulpitis/pulp necrosis, endodontic diseases 425
 pulp necrosis, traumatic dental injuries (TDI) 769
 PVL *see* proliferative verrucous leukoplakia
 radiation, head and neck pathology 615–19
 radicular cysts 514–15
 radio frequency-assisted uvulopalatoplasty (RAUP) 1012
 radiographic evaluation
 impacted teeth 202
 orthognathic surgery 944–5
 radiographic imaging *see* imaging
 Ramsay-Hunt syndrome 485
 recession, peri-implant soft tissue procedures 357
 reconstruction, maxillofacial *see* maxillofacial reconstruction
 reconstructive soft tissue procedures, mucogingival surgery 359–62, 363
 recurrent herpetic ulceration 484
 regenerative tissue procedures, mucogingival surgery 364, 366
 regional block anesthesia 35
 remifentanyl, opioids 52
 renal disease 11–12
 Rendu-Osler-Weber syndrome (HHT) 566
 resective soft tissue procedures around implants, mucogingival surgery 366–8
 residual cysts 515
 resorbable distractor, distraction osteogenesis 1042
 respiratory disease
 airway 11
 asthma 9–10
 atelectasis 11
 chronic obstructive pulmonary disease 10
 pneumonia 10
 pulmonary edema 11
 pulmonary embolus 10–11
 resuscitation, trauma 741–7
 retrobulbar hemorrhage, orbital trauma and reconstruction 879–80
 Revised Cardiac Risk Index (RCRI) 4, 4
 rhabdomyosarcoma with TFCP2 rearrangement 549
 rhytidectomy 1241–51
 anatomy 1244–6
 cervicofacial analysis 1243, 1244
 complications 1248–50
 deep plane facelift 1248
 facial nerve anatomy 1245
 intraoperative techniques 1247–8
 minimally invasive facelift 1248
 occipital incision 1246
 patient selection/evaluation 1243
 postauricular incision 1246
 preauricular incision 1246

- retaining ligaments 1245–6
- SMAS plication and imbrication 1248
- superficial musculoaponeurotic system 1244
- superficial musculoaponeurotic system (SMAS) dissection 1241–3
- surgical techniques 1246–8
- temporal incision 1246
- tumescent anesthesia 1246–7
- vascular anatomy 1244–5
- root canal treatment, inferior alveolar nerve damage 209–10
- root fractures
 - autotransplantation 228–9
 - traumatic dental injuries (TDI) 756–8, 762, 763
 - treatment 762, 763
- ropivacaine, local anesthesia 43
- Roseola infantum 486–7
- Rubinstein-Taybi syndrome 565

- Saethre-Chotzen syndrome 1099–100
- sagittal split osteotomy (SSO) 971–4, 975
- salivary cutaneous fistulas, soft tissue trauma 920–1
- salivary gland disorders 620–36
 - anatomy 620–1
 - atypical salivary gland conditions 625–6
 - autoimmune salivary gland disorders 626–7
 - bacterial salivary gland infections 622–3
 - HIV-associated salivary gland disease 625
 - immunoglobulin G4-related chronic sclerosing sialadenitis 627
 - medication-induced hyposalivation 628–9
 - parotid gland 620–1
 - pediatric salivary gland disorders 627–8
 - physiology and the function of saliva 621–2
 - salivary tumors 629–31
 - sialolithiasis 623–4
 - Sjögren's syndrome 626–7
 - Sublingual gland 621
 - submandibular gland 621
 - systemic granulomatous disease 627
 - viral salivary gland infections 624–5
- salivary tumors
 - benign tumors 629–30
 - malignant 631
- scars/keloids, soft tissue trauma 917, 919
- sclerosing odontogenic carcinoma 539
- secondary chronic osteomyelitis
 - clinical futures 446
 - diagnostic imaging 446–7
 - etiology 445
 - microbiology 445–6
 - pathogenesis 445
 - treatment 448–50
- sedation *see* anesthesia/sedation
- segmental odontomaxillary dysplasia (SOD) 545
- seizures 17
 - management 31–2
 - medical emergency care 31–2
 - status epilepticus 32
- Semmes-Weinstein filaments (Von Frey's hairs), nerve damage 217
- sensory testing, nerve damage 217–18
- septoplasty, primary cosmetic rhinoplasty 1237–9
 - external dotted osteotomy 1238
 - internal continuous 1237
 - lateral oblique osteotomy 1238, 1239
 - lateral osteotomy 1237
 - medial osteotomy 1238
 - postoperative care 1239
 - suturing, internal splints 1239
 - taping and external splints 1239
- sequencing of care, orthognathic surgery 963
- shock, trauma 744–5
- short-lasting unilateral neuralgiform headache attacks 1125–6
- simple frontal bone fractures 844
- sinus augmentation 339–51
 - complex grafting 342–3, 344–8
 - complications of 343–5, 347, 349
 - computed tomography (CBCT) 339
 - future 349
 - lateral window approach 340–1
 - trans-crestal approach 341–2
- sinus elevation, biomaterials, osseointegration 303–5
- site preservation and ridge augmentation 274–92
 - block or particulated bone 275
 - bone graft behavior 275
 - complications 288
 - implant rehabilitation 280–1
 - inlay grafting 277–8
 - jaw reconstruction before implant placement 278–80
 - morphologic aspect 281–2
 - onlay grafting 276–7
 - particulated bone grafts 275
- platelet-rich plasma (PRP) 287
- sinus lift procedure 287
- split crest surgery 288
- staging of grafting procedures 288
- surgical technique 282–6
- Sjögren's syndrome 626–7
- soft tissue adjunctive procedures 1006, 1007
- soft tissue injuries, orbital trauma and reconstruction
 - hyphema 879, 880
 - lens detachment 879
 - open globe injuries 879
 - orbital apex syndrome 881
 - retinal detachment 880
 - retrobulbar hemorrhage 879–80
 - superior orbital fissure syndrome 880
 - traumatic optic neuropathy 880
- soft tissue surgery/reconstruction
 - basic surgical tools and sequencing 86–8
 - diathermy devices/electrocautery 88–9
 - head and neck soft tissue reconstruction 686–700
 - hemostatic agents 89–91
 - pathology 91–2
 - suture 89
- soft tissue trauma 895–925
 - advanced trauma life support (ATLS) management 895–6
 - aesthetic considerations 899–900
 - antimicrobial considerations 900–2
 - armamentarium 902–3
 - chronic wounds, inflammation, and infection 919–20
 - complex wound management 909–12
 - complications 917, 919–23
 - ear 905–7
 - ear avulsion 915, 916
 - epiphora 921–2
 - facial nerve injury 912–13
 - facial nerve palsy 921
 - hematoma 922–3
 - intraoral tissue 903–5
 - local anesthesia *versus* sedation 898
 - location of injury 899
 - nasolacrimal apparatus injury 915
 - nose 908
 - parotid duct injury 913–15
 - patient history 897–8
 - periorbital tissue 905
 - postoperative management 916–17, 918
 - preoperative assessment 896–7
 - salivary cutaneous fistulas 920–1

- soft tissue trauma (*continued*)
 - scalp 908–9
 - scars/keloids 917, 919
 - timing of repair 898–9
 - Wharton duct injury 915
 - wound dehiscence 919
 - wound healing stages 896
- solitary bone cysts 521
- SOT *see* squamous odontogenic tumor
- splinting of traumatic dental injuries (TDI) 767, 768
- split crest surgery, bone grafting 288
- squamous odontogenic tumor (SOT) 534
- stafne/static bone cyst 520
- status epilepticus 32
 - see also* seizures
- Sturge-Weber syndrome (SWS) 565
- sub-frontal fractures 839, 841–5
 - compound frontal bone fractures 844–5
 - frontal bone fracture 843–4
 - Le Fort II fracture 839, 841–2
 - Le Fort III fracture 842–3
 - simple frontal bone fractures 844
- sublingual dermoid cysts 521
- subluxation, treatment 762
- substance abuse 17–18
- superficial musculoaponeurotic system (SMAS)
 - dissection 1241–3
- superficial musculoaponeurotic system, rhytidectomy 1244
- superior orbital fissure syndrome 880
- suppurative osteomyelitis 445
- surgical considerations/prognostic markers, impacted teeth 204
- surgical principles 59–69
 - aseptic technique 59–60
 - autotransplantation 237, 238–9
 - biopsy, soft tissue 63
 - economy of motion 65
 - incisions 60–2
 - needle driver holding 64
 - needle setting 65
 - suturing principles 64
- surgical techniques
 - autotransplantation 237, 239
 - biomaterials, osseointegration 296–305
 - guided bone regeneration (GBR) 268–71
 - literature review 286–7
 - site preservation and ridge augmentation 282–6
- suturing
 - guided bone regeneration (GBR) 270
- materials 64–7
 - needles 66–7
 - principles 64–7
 - techniques 67–9
 - types 65–6
- syncope, medical emergency care 22–3
- syphilis 468–9
- systemic complications, local
 - anesthesia 45–6
- systemic granulomatous disease 627
- systemic risk factors, implants 256–7
- TCS *see* Treacher Collins syndrome
- TDI *see* traumatic dental injuries
- temporary dentures, guided bone regeneration (GBR) 270–1
- temporomandibular disorders (TMD), orofacial pain 1111–20
 - articular disorders (DC TMD classification) 1114–15
 - basic anatomy of 1111–12
 - behavioral and psychosocial assessment 1112
 - classification 1114
 - condylar ankylosis fracture 1115
 - developmental and acquired disorders 1115
 - diagnostic tests 1112–14
 - epidemiology 1111
 - etiology 1111
 - history and examination 1112
 - hypermobility disorders/condylar dislocation 1115
 - intra-articular disc derangement disorders 1114–15
 - joint diseases 1115
 - masticatory muscle disorders 1115–17
 - musculoskeletal disorders management 1117–20
- temporomandibular joint (TMJ)
 - see also* arthroscopy; arthroscopy of the temporomandibular joint; open surgery of the TMJ
 - evaluation, orthognathic surgery 941–2
- temporomandibular joint distraction 1036–7
- temporomandibular joint (TMJ) surgery 86
 - see also* mandibular trauma
- tension-type headache, orofacial pain 1124
- tetracyclines, antibiotic compounds 418–19
- third molar management 135–98
 - adjacent second molar 162, 163
 - analgesia 171
 - angulation 158, 159–60
- antibiotics 170–1
 - application depth 157, 158
- atrophic mandible or very long roots 164, 165
- autotransplant 187
- avoid root mobilization 186
- chronic complications 192
- clinical decision-making 143
- clinical review *versus* active surveillance 153
- complications associated with treatment 190–2
- cone-beam CT scanning 162–4
- consent 167–8
- contraindications 151
- coronectomy 175–6, 178, 183–5, 184
- crown size and condition 157, 159, 160, 160
- cyst enucleation 188, 190
- data from surgically treated 139–40
- decision analysis 145–7
- definitions and terminology 137
- dental patients 140–1
- displacement of tooth or root fragment 190–1
- dry socket 190
- ensure primary closure 186–7
- eruption of 187
- exodontia principles 171–2, 173
- failure of eruption of 136
- follicular width 160, 161
- follow-up of defined populations 139
- fractured mandible or tuberosity 191
- germectomy or lateral trepanation 187
- grade of difficulty 166–7
- indications for third molar intervention 150–1
- infection 191
- inferior alveolar canal 162, 163
- interventional extractions 153–5
- interventional extractions or clinical review 152–3
- judgment analysis 143–5
- lingual nerve injury 186
- local anesthesia 170
- medically compromised patient 168, 169
- nerve damage 192
- obliteration 188
- oral antral fistula 191
- orthodontic traction 187
- pathology associated with third molars 161, 162
- pathology related 138–9
- patient information 168

- patient preferences 147–50
- periodontal healing after TMS 191
- periodontal status 161, 162
- periodontal therapy 188
- preoperative considerations 168, 170
- presurgical assessment 155–6
- presurgical management 167–71
- prevalence of 137–8
- prophylactic third molar removal 151–2
- proximity of upper third molars 164, 165
- public health aspects 138
- radiological assessment 156–67
- referral 167
- removal of 136
- restoration of adjacent tooth 187
- retained foreign body 191
- retention of root fragment 190
- risk assessment 165–6
- root number and morphology 160, 161
- root retrieval 188
- root surface area 160, 161
- sedation 168, 170
- steroids 171
- surgical damage to adjacent structure 191
- surgical extraction 172–5, 176–83
- surgical procedure 171–87
- systematic reviews and guidelines 141–3
- therapeutic indications 152
- TMS outcomes 188–90
- third molar surgical management
 - autotransplantation 225, 228
 - general anesthesia 168
- thrombocytopenia 13
- thyroglossal cysts 521
- thyroid disease 15–16
- tibia, proximal, autogenous bone harvesting 326–9
- TJR *see* total joint replacement
- TMD *see* temporomandibular disorders
- TMJ *see* temporomandibular joint
- topical anesthesia 35
- total joint replacement (TJR) 669
- toxicity, local anesthesia 45
- trans-crestal approach, sinus augmentation 341–2
- trauma 17
 - Advanced Trauma Life Support (ATLS) 739–40
 - airway 741–3
 - assessment of injured patients 739–50
 - breathing 743–4
 - circulation 744–5
 - disability (neurologic evaluation), trauma 745–7
 - exposure/environmental control, trauma 747
 - hemorrhage 744
 - initial treatment 740–7
 - primary survey 741–7
 - resuscitation 741–7
 - secondary survey 747–9
 - shock 744–5
 - trauma centers 740
 - trauma systems 740
 - triage 740–1
- trauma surgery
 - mandibular fractures 80–2
 - maxillary and zygomatic fractures 80
 - nasal fractures 79–80
 - orbital fractures 82–3
 - pediatric maxillofacial trauma 859–72
- traumatic dental injuries (TDI) 751–71
 - see also* mandibular trauma; soft tissue trauma
 - avulsion 765–7
 - classification 756–8, 759, 760
 - clinical findings 756–8, 759, 760
 - complications 768–9
 - computed tomography (CT) 756
 - concussion 762
 - cone-beam computed tomography (CBCT) 756
 - crown fractures 756–8
 - crown-root fractures 758, 760–2
 - dental films 756
 - dentoalveolar ankylosis 769–70
 - diagnosis 752–5
 - epidemiology 751–2
 - examination 752–5
 - extrusive luxation (extrusion) 763
 - imaging 755–6
 - infection-related (inflammatory root) resorption 769
 - internal root resorption 769
 - intrusive luxation (intrusion) 763–5
 - lateral luxation 762, 763, 764
 - panoramic radiographs 756
 - periodontal complications 769–70
 - periodontal tissues 758, 759
 - primary dentition 768
 - pulpal complications 769–70
 - pulp canal obliteration 769
 - pulp necrosis 769
 - radiographic examination 755–6
 - root fractures 756–8, 762
 - splinting of TDI 767, 768
 - subluxation 762
 - treatment 758, 760–7
- traumatic optic neuropathy 880
- Treacher-Collins syndrome (TCS) 1100–2, 1193, 1196–7
- treatment planning
 - impacted teeth 204
 - implants 257–9
 - orthognathic surgery 929–64
- treatment principles
 - mandibular trauma 772–3
 - orthognathic surgery 952–6
- triage, trauma 740–1
- trigeminal autonomic cephalalgia (TAC) 1124
 - cluster headaches 1124–5
 - hemicrania continua 1125
 - paroxysmal hemicrania 1125
 - short-lasting unilateral neuralgiform headache attacks 1125–6
- trigeminal nerve 209–18
 - evaluation, damage 217–18
 - inferior alveolar nerve block 209
 - inferior alveolar nerve damage, root canal treatment 209–10
 - lingual nerve 214–15
 - long buccal nerve 215, 217
 - mylohyoid nerve 217
 - nerve damage, dentoalveolar surgery 213–14
 - nerve damage, implants 210–12
 - periodontal surgery 212–13
- trigeminal nerve anatomy 702–3
- trigeminal neuralgia 1120–1
- tuberculosis 467–8
- tumescent anesthesia, rhytidectomy 1246–7
- tumors
 - see also* benign tumors; malignant tumors
 - odontogenic/non-odontogenic tumors of the jaws 525–52
- two-stage palatoplasty technique, cleft lip and palate (CLP) 1065–6
- ulna, proximal, autogenous bone harvesting 329–31
- unicystic ameloblastoma 532–3
- uvulopalatopharyngoplasty (UPPP) 1011–12
- valvular heart disease 6
- vascularized fibula, autogenous bone harvesting 333–6
- vascular lesions 553–66
 - classification and developments 553, 554
 - clinical examination and diagnosis 553–7
 - genetic testing in 557–8

- vascular lesions (*continued*)
 - medical management 558–60
 - sclerosing therapy 559, 560
 - surgical therapy 560–2, 562–4
 - syndromes associated with 562, 565–6
- vascular malformations 558–60
- verruca vulgaris 488
- virtual surgical planning (VSP)
 - 990–9
 - aesthetic adjuncts of orthognathic surgery 1001, 1003–4
 - clinical evaluation 992
 - clinical examples 996–8
 - data acquisition 991–2
 - facial reconstructive surgery and complex trauma 994–5
 - imaging 991
 - patient-specific implants 995–6
 - planning session 992–4
 - surgical implementation 994, 995
 - workflow in orthognathic surgery 990–4
- Vomer flap technique, cleft lip and palate (CLP) 1066
- Von Frey's hairs (Semmes-Weinstein filaments), nerve damage 217, 218
- Von Langenbeck technique, cleft lip and palate (CLP) 1064
- V-Y pushback palatoplasty technique (Veau-Wardill-Kilner), cleft lip and palate (CLP) 1065
- Wharton duct injury 915
- Woburn-Mason syndrome 566
- wound dehiscence, soft tissue trauma 919
- wound healing
 - see also* wound infection
 - soft tissue trauma 896
- wound infection
 - see also* wound healing
 - oral fungal infections 475–9
- ZMC fracture *see* zygomatico-maxillary complex (ZMC) fracture
- zygomatic bone
 - autogenous bone harvesting 320, 321
 - mid-and upper-face fractures 833
- zygomatico-maxillary complex (ZMC) fracture 834–9, 840

