Index

A

Abducens nerve injury 91
Abrasions 27
– management 130
Acceleration injuries *see* Whiplash injuries
Acid burns 134, 135
Activator orthodontic appliance 158
Adaptation osteosynthesis 162
Aderer pliers 166
Aesthetic rehabilitation 167
Airway obstruction 2
– emergency measures 3
Alkali burns 30
– management 134, 135, 206
Allogenous grafts 212
Alloplastic implants 145, 212
– nonabsorbable 212 – 213
Alveolar nerve 96
– mandibular fracture and 99
Alveolar process fractures 71, 118 – 119
– clinical signs 118
– pathomechanism 118
– treatment 119, 157, 203 – 204
Angiography 14
– carotid-cavernous sinus fistula 95
– selective 7, 8
Ankylosis 34, 196
Antibiotic treatment 210
– bite wounds 131
– puncture wounds 131
Atlas fractures 40, 41
– management 138 – 139
Audiometry 13, 61
Auditory canal injuries 151
Aural hemorrhage 59
Auricular amputation 148
Auricular injuries 148
Autogenous grafts 144 – 145, 211
Axonotmesis 35, 66, 68

B

Bellocq packing 8, 10
Benign paroxysmal positional vertigo (BPPV) 61, 62
– treatment 149, 150
Bicanalicular intubation 184, 185
Bicoronal incision 140, 173, 174 – 175
Bite wounds 28
– management 131 – 132
Bleeding *see* Hemorrhage
Bone injuries *see* Fractures
Bony labyrinth *see* Labyrinth
Brain damage
– management 137 – 138
– primary 137
– secondary 137
– *see also* Neurocranial injuries
Bronchoscopy 127
Brow incision 177 – 178, 182
Burns 29 – 30
– chemical/alkali burns 30, 134, 135, 206
– management 133 – 134, 135
Buttresses 69
– horizontal 169
– vertical 168

C

Caloric testing 62
Canthotomy, lateral 179
Cap splints 158
Carotid artery
– hemorrhage 7
– injury 120
Carotid-cavernous sinus fistula 94 – 95
Cartilage
– healing 34
– injury 34
Caustic injuries 30
– management 134, 135
Cement 112
Cephalogram 73
Cerebrospinal fluid
– drainage 145
– leakage
– – following skull base surgery 146
– – otorrhea 59 – 60, 153
– – rhinorrhea 50
Cervical spine *see* Craniocervical junction
Chemical burns 30
– management 134, 135, 206
Chin cap bandage 158
Chrome alloys 213
Circulation
– evaluation of 2
– stabilization 2
Clivus syndrome 90
Closed head injury 38
Cobalt alloys 213
Complete orbital fissure syndrome 90
Compression osteosynthesis 161 – 162
– compression plate osteosynthesis 161 – 162, 167
– lag screw osteosynthesis 162, 163
– *see also* Osteosynthesis
Compression pain 99
Computed tomography (CT) 14
– ear injuries 62
– laryngeal injury 127
– midface fractures 72, 74, 76, 79
– nasal fractures 80 – 81
– neurocranial injuries 39
– orbital injuries 89, 93
– petrous temporal bone fractures 62 – 63
– skull base injuries 51
– temporomandibular joint 105, 107, 110
– zygomatic fractures 85
Concussion
– dental 114
– – treatment 201
– labyrinth 57
– petrous temporal bone 57
Conductive hearing loss 60
Condylar head fractures 193 – 195, 197, 198
Condylar neck fractures 193 – 197, 198
Condylar process fractures 105, 108 – 111, 193 – 198
Contact healing 32
Contusion 34
– temporomandibular joint 105 – 106
Converse classification 77
Corrosion 213
Corticoid therapy, auditory dysfunction 149
Cotrimoxazole 210
Cranial fossae 45 – 46
Craniocervical junction
– osseous injuries 40 – 42
– – treatment 138 – 139
– soft tissue injuries 42 – 44

– – treatment 139
Craniofacial injuries 20 – 21
Craniofacial suspension wiring 160, 173
Crepitus
– mandibular fracture 98
– snowball crepitus 126
Cricoid fracture 123
Cricothyrotomy 4 – 5
Cutaneous wounds 27 – 31
– abrasions 27, 130
– bite wounds 28, 131 – 132
– burns 29 – 30
– – chemical/alkali burns 30, 133 – 135
– cuts 27, 131
– missile wounds 28 – 29, 133
– puncture wounds 27, 131
– skin healing 30 – 31
Cuts 27
– management 131

D

Dacryocystitis 184
Decompression
– facial nerve 154 – 156
– optic nerve 94, 184
– orbital 182, 183
Dens fracture management 138 – 139
Dental concussion 114
– treatment 201
Dental fractures 112 – 113
– alveolar process fractures 118 – 119, 203 – 204
– treatment 113, 199 – 201
– – complications 201
– – crown fractures 199
– – root fractures 199 – 200
Dental injuries 24, 112 – 119
– pathomechanism 112
– *see also* Dental fractures; Dental luxation; Teeth
Dental luxation 112, 113 – 118
– central luxation 117 – 118, 203
– classification 113
– dental concussion 114, 201
– treatment 114 – 116, 118, 201 – 203
– – complications 203
– – indications 201
– – primary teeth 201
– with complete peripheral dislocation 116, 202 – 203
– with partial peripheral dislocation 115, 202
– without dislocation 114 – 115, 202
Dental vitality test 13
Dentin 112
– fractures 113
– – treatment 199
Denture splints 158
Depth gauge 164
Diplopia 88, 179, 182
Dislocation 34
– atlantooccipital 138 – 139
– dental luxation with 115 – 118
– – central luxation 117 – 118
– – complete peripheral dislocation 116
– – partial peripheral dislocation 115
– temporomandibular joint 106, 107
– – fractures with 108 – 109
– – habitual 106, 107
– *see also* Fracture-dislocation
Displacement, mandibular 102, 109 – 111
Distortion 34
– temporomandibular joint 106
Distraction force neutralization 168
Dressings 136
Drill sleeves 164
Drills 164
Dural injury 47
Dural repair 142 – 144
– ethmoid bone 143
– frontal sinus 143
– sphenoid sinus 144
– *see also* Grafts

E

Ear
– diagnostic imaging 62
– functional testing 61 – 62
– injuries 18 – 19, 54 – 57
– – auditory canal 151
– – clinical signs and symptoms 59 – 60
– – evaluation 11
– – external ear 54 – 55, 147 – 148
– – hearing loss 60, 149
– – inner ear 57 – 58
– – middle ear 55 – 57
– – ossicular injuries 56, 152
– – round window membrane rupture 57, 153
– – tympanic membrane 55 – 56, 151
– – vestibular disorder 60, 150
– surgical anatomy 53 – 54
– treatment of injuries
– – antibiotic therapy 210
– – auricular injuries 148
– – conservative management 149
– – external ear 147 – 148
– – hematoma/seroma 147 – 148
– – inner ear auditory dysfunction 149
– – surgical management 150 – 153
Ear-to-ear scalp incision 140
Electromyography (EMG) 67 – 68
– laryngeal injury 127
Electroneurography (ENOG) 67
Emergency care 2 – 3
– airways 3
– tongue fall-back 3
Emphysema
– eyelid 49
– neck and mediastinum 126
– orbital 89
– subcutaneous 126
Enamel 112
– fractures 113
– – treatment 199
Encapsulation 213
Endaural approach 150
Endonasal approach 141, 182
Endoscopy
– laryngeal 127
– maxillary sinus 89
Enophthalmos 89
Epistaxis 49
– alveolar process fracture 118
– nasal fracture 80
– orbital wall fracture 89
– zygomatic fracture 83
Esophageal injuries
– rupture 125
– treatment 206, 207
Esophagotracheal fistula 126
Ethisorb 212
Ethmoid arteries, hemorrhage 7
Ethmoid bone, dural repair 143
Ethmoid sinus
– drainage 145, 183
– surgical approaches 183, 184
Eustachian tube 53 – 54
Examination 11 – 12
– checklist 15
Exercise therapy 150, 197
Exophthalmos
– carotid-cavernous sinus fistula 94
– orbital wall fracture and 89
External ear *see* Ear
Extraoral retromandibular approach 194 – 195
Extraoral splinting 158 – 159
Eye
– functional testing 12, 13
– inferior displacement 89
Eyelid
– emphysema 49
– hematoma 48 – 49, 71 – 72, 74, 76, 83, 88

– – orbital wall fractures and 88, 89
– – *see also* Hematoma
– treatment of injuries 185

F

Facial nerve
– injuries 19, 153
– – classification 66
– – functional tests 12, 67
– – topodiagnostic localization 65, 67
– surgical anatomy 64 – 65
– – intracranial segment 64
– – intratemporal segment 64 – 65
– treatment of injuries 68, 153 – 156
– – conservative treatment 154
– – follow-up care 156
– – indications 153
– – surgical management 154 – 156
First aid 2
Fistula
– carotid-cavernous sinus 94 – 95
– cerebrospinal fluid 50
– esophagotracheal 126
– perilymphatic 62
– salivary 126
Fixation 33, 159
– intermaxillary 159
– mandibular fractures 186, 190
– monomaxillary 159
– screws 164
– zygomatic fractures 178
– *see also* Osteosynthesis; Splinting
Flail joint 34
Forward traction test 89
Fracture-dislocation 34
– condylar neck 196 – 197
– temporomandibular joint 108 – 109
Fractures 31
– craniocervical junction 40 – 41, 138 – 139
– dental 112 – 113, 199 – 201
– direct (primary) fracture healing 32 – 33
– – contact healing 32
– – gap healing 33
– distraction force neutralization 168
– indirect (secondary) fracture healing 33
– labyrinth 57
– laryngeal 123 – 125, 206 – 207
– mandibular *see* Mandibular fractures
– midface 69 – 85
– – alveolar process 71, 118 – 119
– – Le Fort I 71 – 73, 170 – 171
– – Le Fort II 73 – 74, 172
– – Le Fort III 75 – 76, 173 – 174
– – nasoethmoidal complex 76 – 79, 174 – 175
– – Wassmund I 73 – 74, 172
– – Wassmund IV 75 – 76, 173 – 174
– – zygomatic 82 – 83, 84, 177 – 178
– – zygomatic arch 83 – 85, 177 – 178
– nasal 79 – 81, 176
– orbital 88 – 90, 179 – 183
– petrous temporal bone 57 – 58
– – diagnostic imaging 62 – 63
– – longitudinal fracture line 57 – 58
– – transverse fracture line 58 – 59
– pseudarthrosis 33
– signs of 31
– skull base 46, 47 – 52, 140 – 146
– – bending fractures 46, 47
– – bursting fractures 46, 47, 57
– – classification 47, 48
– – clinical signs and symptoms 48 – 51
– – diagnostic imaging 51
– – surgical indications 52
– stapedial 152, 153
– temporomandibular joint 108 – 111
– – with dislocation 108 – 109
– – with displacement 109 – 111
– – without dislocation 108
– treatment 33 – 34
– – fixation 33
– – immobilization 33 – 34
– – osteosynthesis 160 – 167
– – reduction 33
– – retention 33
– – *see also specific fractures*
Frenzel lenses 61
Fretting corrosion 213
Frontal sinus
– drainage 145, 183
– dural repair 143
Frontomaxillary suspension 173, 174
Frontonasal buttress 168
Frontoorbital approach 141, 182
Functional force neutralization 168 – 169
– mandible 169
– midface 168 – 169
Functional rehabilitation 167
Functional testing 12 – 13

G

Galvanic corrosion 213
Gap healing 33
Glasgow Coma Scale 2, 38 – 39
Grafts 144 – 145, 211
– autogenous 144 – 145, 211
– homologous 145, 212
Graze wounds 28
– management 133
Greenstick fractures 31, 100
– nasal 80
Gustatory olfactory test 49

H

Habitual dislocation, temporomandibular joint 106, 107
Halo frame 138 – 139, 158 – 159
– intermaxillary fixation 159
Hanging drops 74
Hangman's fracture 41, 42
– management 138
Head injuries *see* Neurocranial injuries
Head/chin strap 7, 158
Hearing loss 60
– audiometry 61
– conductive 60
– sensorineural 60
– treatment 149
Hematoma
– ear, surgical treatment 147 – 148
– eyelid 48 – 49, 71 – 72, 74, 76, 83, 88
– – orbital wall fractures and 88, 89
– intracranial 39, 40, 137
– – epidural 39, 137
– – subdural 39, 137
– – treatment 137 – 138
– mandibular fracture and 98
– midface fractures and
– – Le Fort I fractures 71 – 72
– – Le Fort II fractures 74
– – Le Fort III fractures 76
– – nasal 80
– – nasoethmoidal complex 77
– – zygomatic 83
– retrobulbar 76, 89, 90
Hemorrhage 6
– alveolar process fracture and 118, 203, 204
– aural 59
– carotid artery 7
– cut wound management 131
– ethmoid arteries 7
– following skull base surgery 146
– intracranial 137
– maxillary artery 6 – 7

– peripheral 9
– *see also* Epistaxis
History taking 11
Homologous grafts 145, 212
House–Brackmann scale 66
Hyperbaric oxygen therapy 149

I

Immobilization
– dental injuries 115
– fractures 33 – 34
– – atlantooccipital 138 – 139
– – mandible 193 – 194, 196, 197
– – temporomandibular joint 106
– *see also* Fixation; Osteosynthesis; Splinting
Implants 211
– alloplastic 145, 212
– – nonabsorbable 212 – 213
Incus injury 56
– management 152
Infraorbital incision 179, 181
Infrazygomatic fractures *see* Le Fort I fractures
Inner ear *see* Ear
Interfragmentary compression 161
Intermaxillary fixation 159
Interorbital distance (IOD) 79
Intracranial pressure (ICP) 137
– management 137 – 138
– postoperative 146
Intraoral splinting 157 – 158
Intubation 4
– bicanalicular 184, 185
– burn injuries 133, 134
– laryngotracheal injuries 125
– neck injuries 120

J

Jefferson fracture 40
Joint injuries 34
– *see also* Temporomandibular joint
Jugular vein injury 120

L

Labyrinth 54
– concussion 57
– fractures 57
Lacrimal duct
– injuries 94
– – treatment 184
– reconstruction 175
Lag screw osteosynthesis 162, 163
Laryngoscopy 127
Larynx
– injuries 4, 25, 122 – 128
– – anteroposteriorly directed trauma 124
– – classification 122, 205
– – clinical signs and symptoms 126
– – complications 126
– – evaluation 127 – 128
– – fractures 123 – 125, 206 – 207
– – laryngotracheal separation 125, 207
– – lateral trauma 124
– – pathomechanism 122
– – ruptures 125, 207
– – subglottic injuries 125
– – supraglottic injuries 124, 125
– – transglottic injuries 124
– – treatment 128, 205 – 208
– surgical anatomy 121
Lateral canthotomy 179
Le Fort I fractures 12, 71 – 73
– conservative management 170
– surgical treatment 73, 170 – 171
– – complications 171
Le Fort II fractures 12, 73 – 74
– conservative management 172
– surgical technique 74, 172
– – complications 172
Le Fort III fractures 12, 75 – 76
– conservative management 173
– surgical technique 76, 173
– – complications 174
Lingual nerve 96
– mandibular fracture and 99
Luxation, dental *see* Dental injuries

M

M-fracture 83, 84
Magnetic resonance imaging (MRI)
– mandibular fractures 100
– orbital wall fractures 90
– temporomandibular joint 106, 107
– zygomatic injuries 85
Malocclusion 169
– mandibular fracture 99, 105
– temporomandibular joint injuries 105, 106
Mandible
– evaluation 11, 98 – 99
– – abnormal mobility 98
– – compression pain 99
– – crepitus 98
– – deformity and dislocation 98
– – hematoma and swelling 98
– – malocclusion 99
– – sensory disturbances 99
– – tenderness 98
– fractures *see* Mandibular fractures
– functional force neutralization 169
– surgical anatomy 96 – 97
– *see also* Temporomandibular joint
Mandibular fractures 97 – 105
– alveolar process fractures 71, 118 – 119
– classification 100
– clinical signs and symptoms 97 – 100, 104
– condylar head fractures 193 – 195, 197, 198
– condylar neck fractures 193 – 197, 198
– condylar process fractures 105, 108 – 111, 193 – 198
– diagnostic imaging 99 – 100, 101, 104, 105
– pathomechanism 97, 104 – 105
– ramus fractures 104 – 105, 190
– treatment 101 – 102, 104, 105, 186 – 198
– – articular fossa fractures 198
– – conservative management 186, 187
– – contaminated fractures 191 – 192
– – displaced fractures 102, 196 – 197
– – edentulous, atrophied mandible 190
– – functional treatment 196
– – mandibular defect fractures 191
– – nondisplaced fractures 101, 193 – 196
– – pediatric fractures 192 – 193, 198
– – splinting 157 – 159
– – teeth in fracture line 102
– with dentoalveolar involvement 100 – 102, 186 – 189
– – canine region 100
– – lateral incisor region 101 – 102
– without dentoalveolar involvement 102 – 104, 190
– *see also* Temporomandibular joint
Mandibular nerve 96
Markowitz classification 77, 78
Mastoidectomy
– cerebrospinal fluid otorrhea management 153
– facial nerve palsy management 154
Maxilla 168
– mobility evaluation 12
– splinting 7, 157, 159
Maxillary artery hemorrhage 6 – 7
Maxillary sinus endoscopy 89
Maxillomaxillary suspension wiring 160

Medial frontal bone suspension 160
Membranous labyrinth *see* Labyrinth
Meningitis
– early 51
– following skull base surgery 146
Mental nerve 96
– mandibular fracture and 99, 189
Metal arch bar/acrylic splints 157, 159
– indirect 158
Metal implants 212 – 213
– corrosion 213
– tissue reactions 213
Metallosis 213
Miami J collar 138
Microlaryngoscopy 127
Microplates 160 – 161
– *see also* Osteosynthesis
Middle ear *see* Ear
Midface
– fractures 20 – 21, 70 – 85
– – alveolar process 71, 118 – 119
– – classification 70, 83
– – Le Fort I 71 – 73, 170 – 171
– – Le Fort II 73 – 74, 172
– – Le Fort III 75 – 76, 173 – 174
– – nasal 79 – 81
– – nasoethmoidal complex 76 – 79, 174 – 175
– – Wassmund I 73 – 74, 172
– – Wassmund IV 75 – 76, 173 – 174
– – zygomatic 82 – 83, 84, 177 – 178
– – zygomatic arch 83 – 85, 177 – 178
– surgical anatomy 69
– treatment of injuries 157 – 178
– – controlled spontaneous healing 159
– – fixation 159
– – grafts 211
– – lateral midface 177 – 178
– – reconstruction principles 167 – 169
– – splinting 157 – 159
– – surgical procedures 160 – 167
– – *see also specific fractures*
Midfacial degloving 171, 172
Miniplast fabricated tray 158
Miniplates 160 – 161
– *see also* Osteosynthesis
Missile wounds 28 – 29
– management 133
Molybdenum alloys 213
Monocryl 212
Monomaxillary fixation 159
Muenster dental splint 158, 159
Muscular injury 34
Mydriasis 88

N

Nasal fractures *see* Nose
Nasal packing 6, 176
– anterior packing 7, 9
– Bellocq packing 8, 10
Nasal septal repair 175, 176
Nasoethmoidal complex 76
– fractures 76 – 79, 174 – 175
– – classification 77, 78
– – clinical symptoms 77 – 79
– – diagnostic imaging 79
– – pathomechanism 76
– – treatment 79, 174 – 175
Nasopharyngolaryngoscopy 127
Neck injuries 25 – 26, 120
– blunt trauma 120
– evaluation 11
– sharp trauma 120
– treatment 205 – 207
Necrosis
– coagulation 29, 30
– colliquation 30
Nerve injuries
– neural healing 35
– peripheral 35
– *see also specific nerves*
Neurapraxia 35, 66, 68
Neurocranial injuries 16, 38 – 39
– clinical signs and symptoms 38 – 39
– closed head injury 38
– diagnostic imaging 39
– open head injury 38
– treatment 39, 137 – 139
Neurologic status evaluation 2
Neuromyography (NMG), laryngeal injury 127
Neurotmesis 35, 66, 68
Nose
– fractures 79 – 81
– – classification 80
– – clinical symptoms 80
– – diagnostic imaging 80 – 81
– – pathomechanism 79 – 80
– – treatment 81, 176
– nasal packing 6, 176
– – anterior packing 7, 9
– – Bellocq packing 8, 10
– nasal septum repair 175, 176
– surgical anatomy 79
Nystagmus 60
– provoked 61
– spontaneous 60, 61

O

Objective olfactometry 50
Occlusion 169
– restoration of 186
– testing 12
Ocular fundus evaluation 93
Oculomotor nerve injury 91
Odontoblasts 112
Odontoid process fractures 40, 41
Ofloxacin 210
Olfactory disturbances 49 – 50
Olfactory tests 13, 49 – 50
Open head injury 38
Ophthalmic artery 86, 87
Ophthalmoplegia
– external 91
– internal 91
Optic canal syndrome 90
Optic nerve 86, 87
– decompression 94, 184
– injury 91 – 93
– – tests 93
Oral vestibule, evaluation 11 – 12
Orbit
– injuries 22 – 23, 92
– – treatment 179 – 185
– – *see also specific injuries*
– surgical anatomy 86 – 87
Orbital apex injuries 90 – 94
– classification 90
– clinical signs and symptoms 91 – 93
– – abducens nerve injury 91
– – oculomotor nerve injury 91
– – optic nerve injury 91 – 93
– – trigeminal nerve injury 93
– – trochlear nerve injury 91
– diagnostic imaging 93
– pathomechanism 90
– treatment 94
Orbital compression 7
– decompression 182, 183
Orbital fissure syndrome 90
Orbital floor fractures 88 – 90
– treatment 179 – 181
– – approaches 179
– – complications 179 – 181
– – indications 179
– – surgical technique 179
Orbital reconstruction 175
Orbital roof fractures 90
– treatment 182 – 183
Orbital septum 49
Orbital wall fractures 88 – 90
– blow-out fracture 77
– clinical signs and symptoms 88 – 89, 90
– diagnostic imaging 89 – 90, 90
– lateral orbital wall 90
– maxillary sinus endoscopy 89

– pathomechanism 88, 90
– traction test/forward traction test 89
– treatment 90
– – grafts 211
– *see also* Orbit
Orthopantomogram 72
Osseous injuries *see* Fractures
Ossicular injuries 56
– management 152
Osteosynthesis 160 – 169
– adaptation osteosynthesis 162
– alveolar process fractures 119, 203 – 204
– compression osteosynthesis 161 – 162
– distraction force neutralization 168
– Le Fort I fractures 170 – 171
– Le Fort II fractures 172 – 173
– Le Fort III fractures 173
– mandibular fractures 167, 169, 186 – 195, 197
– materials 162 – 167
– – plates 166 – 167
– – screws 163 – 166
– reconstruction principles 167 – 169
– – neutralization of distraction forces 168
– – neutralization of functional forces 168 – 169
– – occlusion 169
– systems 167
– wire osteosynthesis 161
– with miniplates and microplates 160 – 161
– zygomatic fractures 178
Outer table grafts 211
Oval window rupture management 153

P

Paintball injury 29
– management 133
Palate, evaluation 12
Palpation 11 – 12
Paranasal sinuses *see specific sinuses*
Parasymphyseal fracture 100
Pediatric fractures, mandible 192 – 193, 198
Perilymphatic fistulae 62
Pharynx 120
– injuries 120
– – treatment 205 – 207
Phonation, evaluation of 127
Plates 166 – 167, 212
– adaptation 166
– distraction force neutralization 168
– microplates 160 – 161
– miniplates 160 – 161
– placement procedure 166 – 167
– types of 166
– *see also* Osteosynthesis
Pneumocephalus 51
Polydioxanone (PDS) 212
Position testing 61
Positional testing 61
Postauricular approach 150
Prednisolone therapy
– auditory dysfunction 149
– facial nerve palsy 154
Procaine 149
Pseudarthrosis 33, 138
Pterygomaxillary buttress 168
Puncture wounds 27
– management 131
Pupillary response testing 93
Pure tone audiometry 61

R

Raccoon eye 72, 74, 76, 77
Radiographic evaluation 13 – 14
– alveolar process fractures 119
– craniocervical junction fractures 42, 44
– dental injuries 113, 114, 115, 117
– esophageal rupture 125
– laryngeal injury 127
– mandibular fractures 99, 101, 104, 105
– midface fractures 72 – 73, 74
– – zygomatic 85
– nasal fractures 80 – 81
– neurocranial injuries 39
– orbital wall fractures 89 – 90
– skull base 51
– temporomandibular joint 105, 107, 108
Reconstruction
– eyelid 185
– lacrimal duct 175
– principles 167 – 169
– – neutralization of distraction forces 168
– – neutralization of functional forces 168 – 169
– – occlusion 169
Rectus muscle entrapment 88, 89
Reduction, fractures 33
– nasal fractures 176
– temporomandibular joint 107 – 108, 109
– zygomatic fractures 177 – 178
Reflex myography (RMG), laryngeal injury 127
Rehabilitation
– aesthetic 167
– functional 167
Replantation, luxated teeth 116, 202 – 203
Respiratory distress 126
Respiratory status evaluation 2
Retained missile injury 29
– management 133
Retention, fracture treatment 33
Retrobulbar hematoma 76, 89, 90
Retrobulbar hemorrhagic orbital apex syndrome 90
Rinne test 61
Romberg test 62
Root fractures *see* Teeth
Round window membrane rupture 57
– management 153

S

Saddle nose 77
Salivary fistula 126
Salivary gland injuries 120
Schirmer test 65, 67
Schuchardt splint 157, 159
Screwdrivers 165
Screws 163 – 166, 212
– fixation 164
– placement 164 – 166
– – insertion procedure 165 – 166
– types of 163
Seiferth sign 49
Selective angiography 7, 8
Self-tapping screws 163
Semiquantitative analysis of olfactory function 49
Sensorineural hearing loss 60
Septal repair 175
Seroma treatment, ear 147 – 148
Sharpey's fibers 112
Sigmoid sinus 53
Skin healing 30 – 31
Skin wounds *see* Cutaneous wounds
Skull base
– injuries 17, 18 – 19, 46 – 52
– – bending fractures 46, 47
– – bursting fractures 46, 47, 57
– – clinical signs and symptoms 48 – 51, 59 – 60
– – diagnostic imaging 51
– – dural injury 47
– surgical anatomy 45 – 46
– – anterior cranial fossa 46
– – middle cranial fossa 46
– – posterior cranial fossa 46
– treatment of injuries 140 – 146, 175
– – antibiotic therapy 210
– – approaches 140 – 141
– – complications 146

– – dural repair 142 – 144
– – grafts 144 – 145
– – indications 140
– – postoperative management 145
– – surgical indications 52
Snowball crepitus 126
Sphenoid sinus
– drainage 145
– dural repair 144
Splinting 157 – 159
– alveolar process fractures 119, 157, 203 – 204
– dental injuries 115, 116, 200 – 202
– extraoral 158 – 159
– intraoral 157 – 158
– Le Fort I fractures 170
– Le Fort II fractures 172
– Le Fort III fractures 173
– mandibular fractures 186, 190, 193, 196, 197, 198
– nasal fractures 176
Stainless steel implants 212 – 213
Stapedial reflex 67
Stapes injury 56
– management 152, 153
Stress corrosion 213
Stroboscopy 127
Subciliary incision 179, 180
Subluxation
– dental 114 – 115
– temporomandibular joint 106 – 107
Surgical approaches
– dental injuries 200, 203
– ear 150 – 151
– facial nerve 154
– laryngeal injuries 206
– mandible 186, 190, 194 – 195, 197
– midface fractures 170 – 175, 177 – 178
– nasal fractures 176
– orbital injuries 179, 182 – 184
– skull base injuries 140 – 141
– tracheal injuries 206
Suspension wiring 160, 173
Sutures
– material 135
– technique 135, 136
Swinging flashlight test 93
Symphyseal fracture 100

T

Taps 165
Taste, disturbance of 67
Teeth 112
– crown fractures 199
– in mandibular fracture line 102
– root fractures 199 – 200
– – apical third 200
– – coronal third 199
– – middle third 200
– *see also* Dental injuries; Dental luxation
Telecanthus 77, 79
Temporal bone 53
– concussion 57
– fractures 57 – 58
– – diagnostic imaging 62 – 63
– – longitudinal fracture line 57 – 58
– – transverse fracture line 58 – 59
Temporomandibular joint 96 – 97
– contusion 105 – 106
– diagnostic imaging 105 – 106, 107, 108, 110
– dislocation 106, 107
– – habitual 106, 107
– distortion 106
– evaluation 11
– fractures 108 – 111
– – classification 108, 109
– – clinical signs and symptoms 108, 109, 110
– – condylar process fractures 108 – 111
– – pathomechanism 108, 109 – 110
– – with dislocation 108 – 109
– – with displacement 109 – 111
– – without dislocation 108
– subluxation 106 – 107
– treatment 106 – 109, 111
– – manual reduction 107 – 108
– *see also* Mandible; Mandibular fractures; Maxilla
Thread-cutting screws 163
Thread-forming screw 163
Threaded holes 163
Through-and-through wounds 28
– management 133
Thyroarytenoid muscle avulsion 124
Thyroid cartilage 121
– injuries 124
Titanium/titanium alloys 213
Tongue fall-back 3
Trachea
– injuries 4, 25, 122, 125
– – clinical signs and symptoms 126
– – complications 126
– – evaluation 127 – 128
– – laryngotracheal separation 125, 207
– – pathomechanism 122
– – ruptures 125, 207
– – treatment 128, 205 – 207
– surgical anatomy 121, 122
Tracheobronchoscopy 127
Tracheotomy 5 – 6
Traction test 89
Transconjunctival incision 179, 180
Transtemporal approach 151, 152, 156
Trap door mechanism 88, 179
Trauma management priorities 10
Trigeminal nerve
– functional testing 13
– injury 93
Trochlear nerve injury 91
Tuning fork tests 61
Tympanic membrane injuries 55 – 56
– management 150, 151 – 152
Tympanometry 61
Tympanoplasty 150, 151, 152, 153
Tympanoscopy 149

U

Ultrasound
– carotid-cavernous sinus fistula 95
– mandibular fractures 100
– temporomandibular joint 105
– zygomatic fractures 85
Unterberger stepping test 62

V

Vertebral artery injury 44
Vertigo 60
– benign paroxysmal positional vertigo (BPPV) 61, 62
– – treatment 149, 150
Vestibular disorder 60
– treatment 150
Vestibular incision 171, 172
Vestibular tests 61 – 62
Vestibulocochlear system 53 – 54
– treatment of injuries 149 – 153
– – conservative management 149 – 150
– – surgical management 150 – 153
– *see also* Ear
Vestibulospinal reflexes 62
Vicryl 212
Vision testing 93
Vocal ligament avulsion 124
Vocal output evaluation 127

W

Wallerian degeneration 35
Wassmund I fractures 73 – 74, 172
Wassmund IV fractures 75 – 76, 173 – 174
Weber test 61

Whiplash injuries 42 – 44
– classification 42, 43
– clinical signs and symptoms 42
– imaging modalities 44
– pathomechanism 42, 43
Wire ligature 157
Wire osteosynthesis 161
Wound management 130 – 136
– abrasions 130
– bite wounds 131 – 132
– burns 133 – 134
– – chemical/alkali burns 134
– closure 135 – 136
– – dressings 136
– – suture material 135
– – suture technique 135, 136
– cut wounds 131
– missile injury 133
– puncture wounds 131

Z

Zygoma 82
– fractures 82 – 83, 84
– – management 85, 177 – 178
Zygomatic arch 82
– fractures 83 – 85
– – management 85, 177 – 178
– suspension wiring 160
Zygomatic buttress 168