Index

Note: Italicized page locators indicate illustrations; tables are noted with t.

AAOMR. See American Academy of Oral and Maxillofacial Radiology

ACF. See Anterior cranial fossa

acromegaly, 43

acute maxillary sinusitis, common cold and, 47, 48

acute sinusitis, 47–48
definition/clinical characteristics/radiographic description, 47
differential interpretation/treatment/recommendation, 48
treatment for, 49

ADA. See American Dental Association

adenoidal hyperplasia
definition/clinical characteristics/radiographic description, 81
differential interpretation/treatment, 81
mild, sagittal slice showing, 82
moderate, sagittal slice showing, 82

adenoids, involution of, 81

agger nasi cells, 41, 43, 70
directly medial to the orbits, coronal slices showing, 73
left, coronal slices of, 71
pneumatization of, 72
sagittal slice slightly lateral to midline showing, 65
type 1 frontal cell directly medial to the right orbit and superior to, 73
type 1 frontal cell directly superior to, coronal slice showing, 73
type 2 frontal cells superior to, coronal and sagittal slices showing, 74

alar-facial junction, 60
alar lobule, 59
aliasing, 9
allergic rhinitis, chronic sinusitis and, 48
allergic sinusitis, definition/clinical characteristics/radiographic description, 49
American Academy of Oral and Maxillofacial Radiology
CBCT recommendations of, 26
imaging recommendations of initial examination, 167–168
postoperative imaging, 169
preoperative site-specific imaging, 168–169
interpretation of cone beam computed scan, 27–28
prescribing cone beam computed tomography scan, 26
use of cone beam computed tomography scan, 26–27
website, 189

American Dental Association, CBCT recommendations of, 26

amucopyocele, 55
anaerobes, chronic sinusitis and, 48
aneurysmal bone cysts, in temporomandibular joints, 165

ankylosis, TMJ
definition/clinical characteristics, 164–165
differential interpretation, 165
radiographic description, 165
treatment of, 165

Edited by Shawneen M. Gonzalez.
© 2014 John Wiley & Sons, Inc. Published 2014 by John Wiley & Sons, Inc.
ANs. See Agger nasi cells

anterior arch of C1
axial view at level of inferior aspect of maxillary sinuses showing, 124
coronal view at aspect of auditory canal showing, 126

anterior articular eminence, sagittal slice showing, 144

anterior clinoid process
axial slice at level of midorbits showing, 86
axial views with corresponding figures, 88
coronal slice at aspect of coronoid process showing, 89

coronal views with corresponding figures, 91
sagittal slice at lateral aspect of posterior teeth showing, 92
sagittal views with corresponding figures, 93

anterior cranial fossa, 44
axial slice at level of midorbits showing, 104
axial slice at level of superior aspect of orbits showing, 104
coronal slice at midmaxillary sinus and midorbits showing, 107
coronal slice at posterior aspect of orbits showing, 107
sagittal slice at lateral aspect of nasal cavity showing, 110
sagittal slice on midline showing, 111

anterior ethmoidal complex, 42

anterior maxilla, facial concavity in, reconstructed pantomograph and cross-sectional slices showing, 22
anterior ostiomeatal unit, obstruction of, anatomical variations and, 41

antral polyps, 51
antral pseudocysts, 50
antral retention pseudocysts, 51
antroliths
coronatal slices showing, 54
definition/clinical characteristics, 53
differential interpretation, 53
in left maxillary sinus, axial slice showing, 54
radiographic description, 53
sagittal slice showing, 54
treatment/recommendations for, 55

antrum, 45
apicoectomy, periapical radiograph showing, after findings on CBCT scan, 16

articular eminence, 146
artifacts, 9
motion, 11
ring, 11

streak, 10
aspirin intolerance, polyps and, 79
atelectatic uncinate process, 70
atherosclerotic plaques of carotid artery, 137
of internal carotid artery, 114
of vertebral (basilar) artery, 116
axial view, multiplanar reformation, 6

bacterial sinusitis, treatment for, 49-50
bacteroides, chronic sinusitis and, 48
“balloon on a string” appearance, in type 4 frontal cells, 73
basal cell nevus syndrome, 98
basal lamella, 44
basisphenoid-basiocciput synchondrosis. See Spheno-occipital synchondrosis
benign cyst of the antrum, 50
benign mucosal cyst of the sinus, 50
benign mucous cyst, 50
benign tumors of TMJ
definition/clinical characteristics, 165
differential interpretation, 165
radiographic description, 165
treatment for, 165

bifid condyle
axial slice showing notching of right condyle consistent with, 151
definition/clinical characteristics/radiographic description, 151
differential interpretation, 151
sagittal slice showing notching on superior aspect of condyle, 151
treatment for, 152

bilaminar zone, 146
bilateral cleft palate, axial view of, 12
Boering’s arthrosis. See Juvenile arthrosis (Boering’s arthrosis)
bone erosions
between bodies of C3 and C4, sagittal and coronal views of, 136
on vertebral surfaces, 135
bone graft assessment, CBCT imaging and, 12
bone loss
anterior mandible, axial, sagittal, and coronal views of, 19
axial, sagittal, and coronal views showing extent of, 20
with impacted mandibular right third molar, consistent with dentigerous cyst, 20
bone setting, 3D rendered view with, 9
bony ankylosis, 165
bony pathosis, CBCT imaging and, 16
bony spur formation, left-sided, axial slice showing, 67
bony variations, orbits, displacement of lamina papyracea, 118
brain, soft tissue of
  incidental calcifications, 108, 110–114
  choroid plexus calcification, 108, 110–111
dural calcifications, 112–113
  pineal gland calcification, 113
pathosis
  cavernous carotid artery calcification, 114–116
  vertebral (basilar) artery calcification, 116–118
bullae ethmoidalis, 42
bulla lamella, 72
calcifications, brain
  cavernous carotid artery calcification, 114–116
  choroid plexus calcification, 108–111
dural calcification, 112–113
  pineal gland calcification, 113
vertebral (basilar) artery calcification, 116–118
calcium pyrophosphate dihydrate deposition disease, 161
Caldwell-Luc procedure, definition/radiographic description, 57
canine, impacted, dentigerous cyst associated with, 17
carotid artery calcifications
  bilateral
    axial slice showing as ovoid radiopaque entities posterolateral of sphenoid sinuses, 115
    axial view showing, 140
    coronal slice at posterior aspect of ramus showing, 116
    coronal slice at posterior aspect of ramus showing as curved radiopaque entities lateral to SS and medial to posterior clinoid process, 116
    coronal view showing, 139
    as curved radiopaque entities, 115
    definition/clinical characteristics, 137
differential interpretation, 139
radiographic description, 138
carotid canal
  axial slice at level of inferior orbit/superior maxillary sinus showing, 87
  axial views with corresponding figures, 88
cavernous carotid artery calcifications,
  114–116
  definition/clinical characteristics, 114
differential interpretation, 115
radiographic description, 114–115
treatment/recommendations, 116
cavernous sinuses, 44
CBCT. See Cone beam computed tomography
CBCT data
  viewing, 6, 6
  3D rendering, 6, 9
  multiplanar reformation, 6
CBCT imaging
  developing dentition, 12, 15
cleft palate and bone graft assessment, 12
localization of impacted teeth, 12, 15
restoring the dentition, 15–16, 22
periapical pathosis, 15
root fractures, 16
surgical applications, 16, 22
bony pathosis, 16
implants, 16
CBCT scans, sample reports of areas captured on, 177–187
cephalometric skull, sample reconstructed lateral, 7
cervical myelopathy, 135
cervical spine
  degenerative joint disease in, 134–135
  soft tissues of
    axial figures, 123, 124, 125
coronal figures, 126, 127
  sagittal figures, 128
cervical vertebrae
  coronal slice at body of, showing mastoid air cells, 34
developmental anomalies, 129–134
clefts, 129–130
  congenital block vertebrae (C2-C3), nonsegmentation, 133, 134
  os terminale (C2), 130–131
cervical vertebrae (cont’d)
subdental synchondrosis (C2), 132–133
motion artifact of, sagittal and axial views, 11
pathosis, 134–140
bone erosions, 135
carotid artery calcification, 137–139, 140
degenerative joint disease, 134–135
facet hypertrophy, 136–137
intervertebral joint space narrowing, 135
osteophytes, 135
subchondral cysts, 135
C4
coronary view at aspect of posterior cranial base showing portions of, 127
sagittal view at lateral aspect of maxillary posterior teeth showing portions of, 128
chondroblastoma, in temporomandibular joints, 165
chondrocalcinosis in TMJ
definition/clinical characteristics, 161
differential interpretation, 162
radiographic description, 162
treatment, 162
choroid plexus calcifications, brain
axial slice at level of superior midorbital region showing, 114
bilateral
axial slice at level of midorbits showing, 111
coronary slice at aspect of posterior cervical vertebrae showing, 112
coronary slice at posterior to cervical vertebrae showing, 112
definition/clinical characteristics, 108
differential interpretation, 111
radiographic description, 110
chronic sinusitis
definition/clinical characteristics/ radiographic description, 48
differential interpretation/treatment/ recommendations, 48
treatment for, 50
cleft lip, cervical vertebral clefts and patients with, 129
cleft palate
bilateral, axial view of, 12
CBCT imaging and assessment of, 12
cervical vertebral clefts and patients with, 129
coronary view showing discontinuity of nasal cavity associated with, 12
clefts (C1)
anterior arch, axial view showing in 4 year 11 month old, 129
anterterior arch, coronal view showing in 5 year 11 month old, 129
definition/clinical characteristics, 129
differential interpretation, 129
radiographic description, 129
single anterior, axial view showing in 20 year old, 130
single anterior, coronal view showing in 20 year old, 130
single posterior, axial view showing, 130
single posterior, coronal view showing, 130
treatment/recommendations, 130
clivus/basisphenoid
sagittal slice on midline showing, 93
sagittal views with corresponding figures, 93t
clivus/occipital bone
axial slice at level of midmaxilla showing mastoid process with, 87
axial views with corresponding figures, 88t
sagittal slice on midline showing, 93
sagittal views with corresponding figures, 93t
columella, 59, 60
common cold, acute maxillary sinusitis and, 47, 48
computed tomography, conventional, 3–4
concha, levels in, 39
concha bulla, deviated, chronic sinusitis and, 48
concha bullosa, 42
classifications of, 68–69
coronary slice showing, 68
of right middle concha, axial slices showing, 69
of right middle concha, coronal slice showing, 68
sagittal slice showing, 69
condylar aplasia, 148
condylar fractures, 164
condylar hyperplasia
definition/clinical characteristics/ radiographic description of, 149
differential interpretation of, 149
right, coronal slice showing, 150
right, reconstructed pantomograph showing, 150
3D reconstruction showing mandibular asymmetry, 150
treatment for, 149
condylar hypoplasia
definition/clinical characteristics/
radiographic description of, 148
differential interpretation of, 148
reconstructed pantomograph showing, 148
treatment recommendations for, 148
condylar morphology, normal, sagittal and
coronal slices showing, 154
condyles, 146
axial slice at level of, 64
axial slice showing, 145
coronal slice at, showing posterior aspect
of sphenoid sinuses, 34
coronal slice showing, 144
coronal slices showing various shapes of, 145
cross-sectional slices with axial view and
reconstructed pantomograph, 8
flattening of, coronal slice showing, 155
right and left, cross-sectional slices of, 149
sagittal slice showing, 144
C1
anterior arch of, axial view at level of
inferior aspect of maxillary sinuses
showing, 124
anterior arch of, coronal view at aspect of
auditory canal showing, 126
clefts, 129, 129–130, 130
coronal view at aspect of mastoid air cells
showing, 126
coronal view at aspect of posterior cranial
base showing, 127
coronal view showing, 127
sagittal view at lateral aspect of maxillary
posterior teeth showing, 128
sagittal view on midline showing, 128
craniomandibular articulation, 146
cranial nerve V, 44, 81
cranial skull base, 85–101
anatomical variants, 94–95
interclinoid ligament calcification, 98
petroclinoid ligament calcification,
100–101
vascular markings, 97
anatomy, 85, 86, 87
axial, 85, 86, 87, 88t
coronal, 88, 88, 89, 90, 91t
sagittal, 91, 91, 92, 93, 93t
incidental findings, developmental
appearances, 93–94
cranial thickness
definition/clinical characteristics, 94
differential interpretation, 95
radiographic description, 94–95
cranial nerve V, 44, 81
cranial skull base, 85–101
anatomical variants, 94–95
interclinoid ligament calcification, 98
petroclinoid ligament calcification,
100–101
vascular markings, 97
anatomy, 85, 86, 87
axial, 85, 86, 87, 88t
coronal, 88, 88, 89, 90, 91t
sagittal, 91, 91, 92, 93, 93t
incidental findings, developmental
appearances, 93–94
cranial thickness
definition/clinical characteristics, 94
differential interpretation, 95
radiographic description, 94–95
cribriform plate, 44
coronal slice at lateral aspect of orbits
showing, 89
coronal views with corresponding
figures, 91t
sagittal slice on midline showing, 93
coronal views with corresponding
figures, 91t
cribriform plate, 44
crista galli
- axial slice at level of superior aspect of orbits showing, 86
- axial views with corresponding figures, 88
- coronal slice at lateral aspect of orbits showing, 89
- coronal views with corresponding figures, 91
CT. See Computed tomography

C3
- axial view at level of hyoid bone showing entire arch of, 125
- coronal view at aspect of mastoid air cells showing, 126
- coronal view at aspect of posterior cranial base showing, 127
- coronal view showing, 127
- sagittal view at lateral aspect of maxillary posterior teeth showing, 128
- sagittal view on midline showing, 128

C2
- axial view at level of mandibular teeth at cemento-enamel junction showing entire arch of, 125
- coronal view at aspect of auditory canal showing AP-C1 and portions of body of, 126
- coronal view at aspect of mastoid air cells showing, 126
- coronal view at aspect of posterior cranial base showing, 127
- coronal view showing, 127
- odontoid process of, axial view at level of inferior aspect of maxillary sinuses showing, 124
- odontoid process of, axial view at level of mandibular foramina showing, 124
- os terminale, 130–131, 131
- sagittal view at lateral aspect of maxillary posterior teeth showing, 128
- sagittal view on midline showing, 128
- subdental synchondrosis, 131, 132, 132–133

C2-C3 junction, congenital block vertebrae at, 133, 134

cystic fibrosis
- chronic sinusitis and, 48
- polyp and, 79

Daubert v. Merrell Dow, 25, 26

degenerative joint disease, 134–135, 150
- definition/clinical characteristics, 134–135
- radiographic classification of, 138
- radiographic description, 135
- in TMJ
  - definition/clinical characteristics, 153
  - differential interpretation, 154
  - moderate, sagittal and coronal slices showing, 154
  - moderate of left condyle, sagittal and coronal slices showing, 154
  - radiographic description, 153–154
  - severe, sagittal and coronal slices showing, 154
  - treatment/recommendations for, 155
dental infections, chronic sinusitis and, 48
- dental X-ray units, AAOMR recommended use of, 27
dentigerous cysts
- associated with impacted canine, 17
- bitewing radiographs and pantomograph showing bone loss with impacted right third molar consistent with, 20
- reconstructed pantomograph and cross-sectional slices showing width of, 21
dentition, restoring, CBCT imaging and, 15–16, 22
- “dentocentral ghost,” 133
diabetes mellitus
- carotid artery calcification and, 137
- cavernous carotid artery calcification and, 114
- vertebral (basilar) artery calcification and, 116
diplopia, mucocele and, 55
direct volume rendering, 6
disc displacement causes of, 153
- of temporomandibular joint, 152
dislocation of TMJ
- definition/clinical characteristics, 163
- differential interpretation, 163
- radiographic description, 163
- treatment for, 163
DJD. See Degenerative joint disease
Draf type I surgery, 75
- coronal slice showing, 76
- sagittal slice showing, 76
Draf type II procedure, 76
Draf type III procedure, 76
dural calcifications, brain
- axial slice at level of superior midorbital region showing, 112
- definition/clinical characteristics, 112
- differential interpretation, 113
radiographic description, 112
single, coronal slice at level of ramus showing, 113
single, sagittal slice at level of ramus showing, 113

EAC. See Ethmoid air cells
EADMFR. See European Academy of DentoMaxilloFacial Radiology
EB. See Ethmoid bulla
effusion, trauma to TMJ
definition/clinical characteristics, 163
differential interpretation, 163
radiographic description, 163
treatment, 163
Ely cyst, 153
empyema, definition/clinical characteristics/ radiographic description, 53
endoscopic frontal recess approach (Draf Type 1 procedure), 75
epitympanum, 45
erosive differential, radiographic, 154
ethmoid air bulla, variations in size and shape of, 41
ethmoid air cells, 39, 42
anatomical landmarks for, 39
t anterior, drainage from, 39–40
antero, drainage pathway for, 60
axial slice at level of midorbits showing, 35
cornonal slice of, 32
coronar slice at maxillary second molars showing, 33
right, coronal slice showing mucocele of, 56
right, coronal slice showing mucocele of,
 sagittal slice just lateral to midline showing, 38
 sagittal slice showing mucocele of, 56
ethmoidal infundibulum, frontal sinus drainage into, 43
ethmoidal sinuses, mucoceles in, 55
ethmoid bone, 31, 60
anatomical landmarks identifiable on axial views with corresponding figures, 88
anatomical landmarks identifiable on coronal views with corresponding figures, 91
anatomical landmarks identifiable on sagittal views with corresponding figures, 93
perpendicular plate of, 60
ethmoid bulla, 43, 44
cornonal slice of, 32
ethmoid cells, location and formation of, 42
ethmoid sinus, acute sinusitis in, 47
ethmoid sinusitis, 49
European Academy of DentoMaxilloFacial Radiology
basic principles about CBCT in dentistry interpretation of cone beam computed tomography scan, 29
prescribing cone beam computed tomography scan, 28
use of cone beam computed tomography scan, 28–29
website, 189
Eustachian tubes, 45, 80
extended frontal sinusotomy (Draf type II procedure), 76
external auditory meatus, sagittal views with corresponding figures, 93
extracapsular fractures, classification of, 164
eye, axial slice at level of midorbits showing globe of, 104
facet hypertrophy
definition/classification of, 136
differential interpretation of, 136
left, axial view showing, 138
treatment/recommendations for, 137
facial concavity, reconstructed
pantomograph and cross-sectional slices showing, in anterior maxilla, 22
false ankylosis, 164
false cyst, 50
faucial pillars, 83–84
females
degenerative joint disease in TMJ and, 153
osteoarthritis in TMJ and, 155
rheumatoid arthritis in, 157
FESS. See Functional endoscopic sinus surgery
fibromyxoma, in temporomandibular joints, 165
fibrous ankylosis, 165
fibrous capsule, temporomandibular joint and, 146
field of view
for bony pathosis, 16
cleft palate and bone graft assessment, 12
conventional CT vs. cone beam CT, 4
for detecting periapical pathosis, 15
large, from anteroposterior view, 5
large, from lateral view, 5
field of view (cont’d)
for localization of impacted teeth, 15
medium, from anteroposterior view, 5
medium, from lateral view, 5
for root fractures, 16
small, from anteroposterior view, 5
small, from lateral view, 5
first premolar, impacted, pantomograph and
periapical radiographs showing
canine and, with dentigerous cyst, 17
foramen lacerum
axial slice at level of inferior orbit/superior
maxillary sinus showing, 87
axial views with corresponding
figures, 88t
coronal slice at posterior aspect of ramus
showing, 90
coronal views with corresponding
figures, 91t
foramen magnum
axial slice at level of midmaxilla showing
mastoid process with, 87
axial views with corresponding
figures, 88t
coronal slice at aspect of coronoid process
showing, 89
coronal views with corresponding
figures, 91t
fossa of Rosenmuller, 81
FOV. See Field of view
fovea ethmoidalis, 42, 70
fractures
in teeth, evaluating for, concerns related
to, 16
temporomandibular joint
definition/clinical characteristics, 164
differential interpretation, 164
neonatal, 164
radiographic description, 164
frontal bone, 31
anatomical landmarks identifiable on
axial views with corresponding
figures, 88t
anatomical landmarks identifiable on
coronal views with corresponding
figures, 91t
anatomical landmarks identifiable on
sagittal views with corresponding
figures, 93t
frontal bullar cells, 72, 74
frontal cells
Kuhn classification and types of, 72–74
location and development of, 43–44
type 1, 72
directly medial to right orbit and
superior to agger nasi cell, coronal
slice showing, 73
directly superior to agger nasi cell and
lateral to frontal recess, coronal slice
showing, 73
type 2, 73
superior to an agger nasi cell, coronal
and sagittal slices showing, 74
type 3, 74
type 4, 73–74
variations in size and shape of, 41
frontal recess, 41
anatomy of, 71–75
agger nasi cell, 72
frontal bullar cell, 74
frontal cells, 72–74
interfrontal sinus septal cell, 75
overview, 71–72
suprabullar cells, 74–75
supraorbital ethmoid cells, 74
coronal slice of ostiomeatal unit
showing, 62
coronal views of, with corresponding
figures, 66t
FESS failure in, 76
obstruction of, other causes of, 79
sagittal slice slightly lateral to midline
showing, 65
scarring and inflammatory mucosal
thickening in, 78–79
stenosis after FESS and, 78
frontal recess cells
clinical relevance of, 72
residual, postoperative, 76
frontal recess drainage, effect of superior
attachment of uncinate process
on, 77
frontal recess obstruction, clearing, 72
frontal sinus disease, type 4 frontal cells
and, 74
frontal sinuses
anatomical landmarks for, 39t
axial slice at level superior to orbits
showing, 86
axial views with corresponding
figures, 88t
coronal slice at anterior aspect of nasal
cavity showing, 88t
coronal slice at anterior opening of nasal
cavity and, 32
coronal views with corresponding figures, 91
drainage from, 39, 40, 43
location and development of, 42–43
mucoceles in, 55
sagittal slice on midline showing, 38, 93
sagittal views with corresponding figures, 93
surgical variations for, 75–77
Fry v. United States, 25, 26
FS. See Frontal sinuses
functional endoscopic sinus surgery, 78
failure in frontal recess, 76
revision, recurrent polyposis and, 79
scarring and inflammatory mucosal thickening after, 78–79
fungus sinusitis
allergic, polyps and, 79
definition/clinical characteristics/radiographic description, 49
fusobacteria, chronic sinusitis and, 48

gender
degenerative joint disease in TMJ and, 153
osteoarthritis in TMJ and, 155
rheumatoid arthritis and, 157
General Health Report, 178–179
interpretation, 179
radiology report, 178
reconstructed pantomograph slice, 178
giant cell lesions, in temporomandibular joints, 165
glenoid fossa, 146
globe of eye
axial slice at level of midorbits showing, 104
sagittal slice at lateral aspect of angle of mandible showing, 110
goblet cells, 32
grey values, implant imaging and, 170
Haller cells, 41
bilateral, coronal slice showing, 41
hard palate, 80
helical/spiral (fifth generation) CT units, 3
hemifacial microsomia
definition/clinical characteristics of, 147–148
radiographic description of, 148
hiatus semilunaris, 44
horizontal root fractures
CBCT imaging and, 16
cross-sectional slices showing, 18
Hounsfield, Godfrey, 3
Hounsfield units (HU)
implant imaging and, 170–171
for various tissues frequently captured on CBCT scan, 171
hyoid bone, 83
hypercholesterolemia
carotid artery calcification and, 137
cavernous carotid artery calcification and, 114
vertebral (basilar) artery calcification and, 116
hyperostosis, 78
hyperostosis frontalis interna, 95
hypertension
carotid artery calcification and, 137
cavernous carotid artery calcification and, 114
vertebral (basilar) artery calcification and, 116
hypopharynx, 80, 83
hypoplastic sinuses, 39
IC. See Inferior concha
IM. See Inferior meatus
impacted canine, dentigerous cyst associated with, 17
impacted teeth, localization of, CBCT imaging and, 12, 15
Implant Report, 184–187
coronal slice showing inspissated mucous, 187
cross-sectional slices left maxilla, 186
interpretation, 187
radiology report, 184, 184, 185
implants, 167–174
CBCT imaging and, 16
close-up of cross-sectional slices with measurements, 170
cross-sectional slices through anterior maxilla with spacing and measurements, 170
grey values and Hounsfield units, 170–171
imaging for, 167–169
initial exam, 167–168
postoperative, 169
preoperative site-specific, 168–169
linear measurement site-specific, 169
mandibular canal and, 171–172
virtual implant placement software, 172
incinate bulla, 70
indirect volume rendering, 6
inferior concha, 39, 60
axial slice at level of inferior aspect of maxillary sinuses showing, 63
axial views of, with corresponding figures, 66t
coron al slice of maxillary premolar showing, 61
coron al slice of ostiomeatal unit showing, 61, 62
coron al slice of posterior aspect of maxillary sinuses showing, 63
coron al slice of zygomatic process of maxilla showing, 62
coron al views of, with corresponding figures, 66t
sagittal slice slightly lateral to midline showing, 65
inferior meatus
axial slice at level of inferior aspect of maxillary sinuses showing, 63
axial views of, with corresponding figures, 66t
coron al slice of maxillary premolar showing, 61
coron al slice of ostiomeatal unit showing, 61, 62
coron al slice of posterior aspect of maxillary sinuses showing, 63
coron al slice of zygomatic process of maxilla showing, 62
coron al views of, with corresponding figures, 66t
nasolacrimal duct drained via, 40, 40
sagittal slice slightly lateral to midline showing, 65
inferior turbinate, 60
inflammatory diseases, 77–79
osteoneogenesis, 78
other causes of frontal recess obstruction, 79
of paranasal sinuses, 45–49
acut e sinusitis, 47–48
allergic sinusitis, 49
causes of, 45
chronic sinusitis, 48
fungal sinusitis, 49
mucositis, 46–47
sinusitis, 47
proper interpretation of CT scans and, 79
recurrent polyposis, 79
scarring and inflammatory mucosal thickening, 78–79
sinusitis, 78
infraorbital ethmoid cells, 41
infundibulum, 41, 42, 43, 44, 60
inspired air, journey of, through nasal cavity, 60
interclinoid ligament calcification
axial slice at level of midorbits showing bilateral radiopaque bands of sella turcica consistent with, 99
axial slice at level of midorbits showing right radiopaque band of sella turcica consistent with, 99
definition/clinical characteristics, 98
radiographic description, 98
sagittal slice just lateral to midline showing radiopaque line covering superior aspect of sella turcica consistent with, 98
interfrontal sinus septal cells, 72, 75
internal derangements defined, 152
of temporomandibular joint, 152–153
interstitial cyst, 50
intervertebral joint space
asymmetrical, sagittal view on midline showing, 136
narrowing, 135
normal, sagittal view on midline showing between bodies of C2-C3-C4, 135
intracapsular disc, of temporomandibular joint, 147
InVivo software
close-up of grey levels and Hounsfield units for selected bone with use of, 171
coron al view showing sample bone area of bone selected for Hounsfield unit calculation with use of, 171
implant screen using, with corresponding axial and single cross-sectional slice and Hounsfield units, 174
ipsilateral sinus disease, concha bullosa and, 69
isotropic voxels, 4
jaws
cross-sectional slices with axial view and reconstructed pantomograph, 8
temporomandibular joint and movement of, 147
jugular foramen
 coron al slice at posteriormost aspect showing, 90
coron al views with corresponding figures, 91t
juvenile arthritis in TMJ
coronal and axial slices showing erosions in superior aspect of right/left condyles in patient with, 159
definition/clinical characteristics, 159
radiographic description, 159
juvenile arthrosis (Boering’s arthrosis)
definition/clinical characteristics/
radiographic description, 149–150
differential interpretation of, 150
treatment/recommendations for, 150
juvenile chronic arthritis, 159
juvenile rheumatoid arthritis, 159

keratinizing squamous cell carcinoma (Type I), 81
Klippel-Feil syndrome (KFS), type 2, 133
Koerner’s septum, 45
Kuhn classification, of frontal cells, 72–74

lamellae, ethmoid sinuses, 42
lamellar concha, 68, 69
at attachment of right and left middle conchae, paradoxical curvature of right and left middle conchae with, 68
bilateral, coronal slice showing, 70
coronal slice showing, 68
lamina papyracea, 42, 43, 44, 70, 72
displacement of
definition/clinical characteristics, 118
differential interpretation, 118
left-sided, toward ethmoid air cells, 119
radiographic description, 118
right-sided, axial slice at level of midorbits showing, 119
right-sided lateral, toward orbit, 119
right-sided medial, coronal slice at posterior orbits showing, 119
treatment/recommendations, 118

lamina terminalis, 70
Langerhans cell histiocytosis, in temporomandibular joints, 165
laryngopharynx, 83
“lateral fanning” attachments, 44
lateral nasal wall, 39
legal issues with cone beam computed tomography, 25–29
European Academy of DentoMaxilloFacial Radiology-basic principles, 28–29
interpretation of cone beam computed tomography scan, 29
prescribing cone beam computed tomography scan, 28
use of cone beam computed tomography scan, 28–29
recommendations—United States, 26–27
standard of care, 25–26
levatorvelli palatine muscle, 80
licensure, violations of standard of care and loss of, 25
linear measurement accuracy, imaging for implants and, 169
lingual concavity, reconstructed pantomograph and cross-sectional slices showing, in posterior mandible, 21
lymphangiectatic cyst, 50

malar bone, 38
males
degenerative joint disease in TMJ and, 153
osteoarthritis in TMJ and, 155
rheumatoid arthritis and, 157
malignant tumors, of TMJ, 166
malpractice, violations of standard of care and, 25

mandible
anterior, odontogenic myxoma in, periapical and pantomograph radiographs showing, 18
temporomandibular joint and, 143

mandibular canal
anterior extension of, reconstructed pantomograph from CBCT scan showing, 171, 171–172
cross-sectional views of, 173
implant placement and, 171–172
reconstructed pantomograph and cross-sectional slices showing, 21
reconstructed pantomograph showing, 13
right and left, reconstructed pantomograph from CBCT showing, 172
rotated sagittal view showing as radiolucent band with thin radiopaque borders, 173
mandibular condyle, 143
mandibular fossa, 146
coronal slice showing, 144
sagittal slice showing, 144
mandibular incisive canal, 171
mandibular third molars, impacted, reconstructed pantomograph showing, 13
mandibulofacial dysostosis, 39
Marcilan website, 189
mastoid air cells
anatomical landmarks for, 39t
axial slice at level of hard palate showing small portion of, 36
axial slice at level of inferior aspect of orbits and cranial skull base showing, 35
axial slice at level of midmaxilla showing mastoid process with, 87
coron al slice at aspect of mastoid process showing mastoid process with, 90
coron al slice at body of cervical vertebrae showing, 34
development of, 45
sagittal slice at condyle showing, 37
sagittal slice at lateral aspect of mastoid process showing mastoid process with, 91
mastoid process, 45
axial views with corresponding figures, 88t
coron al views with corresponding figures, 91t
sagittal views with corresponding figures, 93t
maxillary bone, 31
maxillary canines
with external resorption on lingual aspect of lateral incisor, cross-sectional slices of, 15
impacted, CBCT imaging of, 12, 14
impacted, reconstructed pantomograph and cross-sectional slices showing location of, 14
maxillary first molar, sagittal view showing distal dilaceration of mesiobuccal root of, with short endodontic filling and rarefying osteitis, 16
maxillary left third molar, impacted, reconstructed pantomograph and cross-sectional slices showing location of, 14
maxillary sinuses, 34–35, 38–39
anatomical landmarks for, 39t
antroliths within, 53
axial slice at level of condyles showing, 36
axial slice at level of hard palate showing, 36
axial slice at level of inferior aspect of, 63
axial slice at level of inferior aspect of orbits and cranial skull base showing, 35
axial slice at midlevel of, 64
coron al slice of, 32
coron al slice at maxillary second molars showing, 33
coron al slice of posterior aspect of, 63
drainage from, 39, 40
drainage pathway for, 60
growth and development of, 38–39
Haller cell with mucosal thickening at superior aspect of, 41
inflammation of, Caldwell-Luc procedure for, 57
left, coron al slice showing thickened bone border of, 48
medial wall of, 43
mucous retention pseudocysts in, 50
retention cyst of, 50
right, coron al slice showing radiopacification of compared to air-filled left maxillary sinus, 47
sagittal slice at maxillary teeth buccal roots showing, 37
maximum intensity projection, 6
cleft palate and bone graft assessment, 9
MC. See Middle concha
MCF. See Middle cranial fossa
medial wall of maxillary sinus, 43
medical X-ray units, AAOMR recommended use of, 27
membranous septum, 60
mesothelial cyst, 50
metallic restorations, 9
axial view showing streak artifact due to, 10
coron al view showing streak artifact due to, as multiple horizontal lines, 10
metallic streak artifact, axial view with, and aliasing scan as linear radiolucent lines throughout image, 10
MF. See Mandibular fossa
middle conchae, 39, 44, 60
axial slice at level of condyles showing, 64
axial slice of inferior orbits showing, 65
axial views of, with corresponding figures, 66t
coron al slice of maxillary premolar showing, 61
coron al slice of ostiomeatal unit showing, 61, 62
coron al slice of posterior aspect of maxillary sinuses showing, 63
coron al slice of zygomatic process of maxilla showing, 62
coronal views of, with corresponding figures, 66t
left, coronal slice showing paradoxical curvature of, 68
sagittal slice slightly lateral to midline showing, 65
middle cranial fossa
axial slice at level of inferior orbit and superior maxillary sinus showing, 105
axial slice at level of midorbits showing, 104
coronar slice at posterior aspect of ramus showing, 108
sagittal slice at lateral aspect of angle of mandible showing, 110
sagittal slice at lateral aspect of mastoid process showing, 109
middle ear infections, in infancy, 45
middle lamellae, 42
middle meatus, 44
coronar slice of maxillary premolar showing, 61
coronar slice of ostiomeatal unit showing, 61, 62
coronar slice of posterior aspect of maxillary sinuses showing, 63
coronar slice of zygomatic process of maxilla showing, 62
coronar views of, with corresponding figures, 66t
left-sided bony spur formation at level of, coronar slice showing, 67
sagittal slice slightly lateral to midline showing, 65
middle turbinate
anatomical variations of, 65, 67–69
concha bullosa, 65, 68–69
lamellar concha, 65, 69
L-shaped lateral branding, 65
medial/lateral displacement, 65
paradoxic curvature, 65, 67
sagittal transverse clefts, 65
concha bullosa and, 68
variations in size and shape of, 41
middle turbinate remnant, lateralized, postoperative, 77
MIP. See Maximum intensity projection
MM. See Middle meatus
modified Lothrop procedure (Draf type III procedure), 76
motion artifacts, 11
of cervical vertebrae, sagittal and axial views showing, 11
MPR. See Multiplanar reformation
MS. See Maxillary sinuses
mucocele, 55–56
definition/clinical characteristics, 55
differential interpretation, 55
radiographic description, 55
treatment of, 56
mucoperiosteum, of sinuses, 32
mucosa, of paranasal sinuses, 32
mucosal antral cyst, 50
mucosal thickening, inflammatory, scarring and, 78–79
mucositis
coronar slice showing minimal thickening of mucosal lining in right maxillary sinus consistent with, 46
definition/clinical characteristics of, 46
differential interpretation for, 46
radiographic description of, 46
treatment/recommendations, 47
mucous retention cysts, 50
sinus polyposis vs., sagittal slice showing, 52
mucous retention pseudocysts, 50
multiplanar reformation, 6
axial, coronal, and sagittal planes, 6
sagittal view, 6
myeloradiculopathy, 135
nasal cavities, 59, 60
nasal dorsum, 59, 60
nasal fossa, 34, 38, 59
nasal septum, 60
anatomical variations of, 61, 63
axial slice at level of condyles showing, 64
axial slice at level of inferior aspect of maxillary sinuses showing, 63
axial slice at midlevel of maxillary sinuses showing, 64
axial slice of inferior orbits showing, 65
axial views of, with corresponding figures, 66t
coronar slice of maxillary premolar showing, 61
coronar slice of ostiomeatal unit showing, 61, 62
coronar slice of posterior aspect of maxillary sinuses showing, 63
coronar slice of zygomatic process of maxilla showing, 62
middle turbinate remnant, lateralized, postoperative, 77
MIP. See Maximum intensity projection
MM. See Middle meatus
modified Lothrop procedure (Draf type III procedure), 76
motion artifacts, 11
nasal septum (cont’d)  
coronal views of, with corresponding figures, 66t  
deviations in, 41, 61, 63  
chronic sinusitis and, 48  
to the right with enlargement of septal cartilage, coronal slice showing, 67  
nasal sidewalls, 59  
nasal tip, 59  
nasal valve, 60  
nasal valve angle, 60  
nasion, 59  
sagittal slice slightly lateral to midline showing, 65  
nasofrontal duct, 41  
nasofrontal recess, 41  
nasolacrimal duct, 60  
axial slice at level of condyles showing, 64  
axial slice at midlevel of maxillary sinuses showing, 64  
axial slice of inferior orbits showing, 65  
axial views of, with corresponding figures, 66t  
coronal slice of maxillary premolar showing, 61  
coronal slice showing drainage from, into inferior meatus, 40, 40  
coronal views of, with corresponding figures, 66t  
nasopharyngeal cancers, 80, 81  
nasopharynx, 80–82  
anatomy of, 81  
description of, 80  
incidental findings, adenoidal hyperplasia, 81–82  
ND. See Nasolacrimal duct  
Nebraska, interpretation of CBCT scan in, fictional case, 27–28  
neck. See Soft tissue of cervical spine and neck  
neck pain, 135  
negligence, violations of standard of care and, 25  
neonatal fractures, TMJ, 164  
neoplasms, retention pseudocysts and, differential interpretation, 51–52  
NewTom, 4  
nonisotropic voxels, 4  
nonkeratinizing epidermoid carcinoma (Type II), 81  
“nonreducing” disc, TMJ and, 153  
nose  
subunits of, 59  
tip of, 59, 60  
NS. See Nasal septum  
occipital bone  
anatomical landmarks identifiable on axial views with corresponding figures, 88t  
anatomical landmarks identifiable on coronal views with corresponding figures, 91t  
anatomical landmarks identifiable on sagittal views with corresponding figures, 93t  
occipital condyle  
sagittal slice at lateral aspect of posterior teeth showing, 92  
sagittal views with corresponding figures, 93t  
odontogenic myxoma  
in anterior mandible, periapical and pantomograph radiographs showing, 18  
reconstructed pantomograph and cross-sectional slices showing width of, 19  
odontoid process of C2  
axial view at level of inferior aspect of maxillary sinuses showing, 124  
axial view at level of mandibular foramina showing, 124  
fracture of tip of, 131  
Onodi cells, 43  
OP-C2. See Odontoid process of C2  
optic nerves, 44  
oral cavity, 82  
orbits, 44  
bony variations, 118  
coronal slice at anterior aspect of maxillary sinuses showing, 106  
sagittal slice at lateral aspect of nasal cavity showing, 110  
scleral plaques, 119–121  
soft tissue of axial slices, 103, 104, 105, 106  
coronar slices, 104, 106, 107, 108  
sagittal slices, 104, 109, 110, 111  
oropharynx, 80, 82–83  
osteitis, 78  
osteoarthritis, 134  
of temporomandibular joint, 153–155
osteocartilaginous exostosis, 165
osteochondroma, in temporomandibular joints, 165
osteochondromatosis, 161
osteoma, in temporomandibular joints, 165
osteoneogenesis, 78
osteophytes, 135
formation of, 136
os terminale (C2)
coronal views showing at superior aspect of odontoid process of C2, 131
definition/clinical characteristics, 130
differential interpretation, 131
radiographic description, 130–131
sagittal views showing at superior aspect of odontoid process of C2, 131
treatment/recommendations, 131
ostiomeatal complex
definition of, 39
morphological evaluation in, 40–41
normal anatomy of, 39–45, 60
ethmoid sinuses, 42
frontal cells, 43–44
frontal sinus, 42–43
mastoid air cells, 45
Onodi cells, 43
ostiomeatal unit, 39
coronal slice of, 32, 40, 61
sinusitis and opacification of, 48
OU. See Osteomeatal unit

PA-C1. See Posterior arch of C1
palatine tonsils, 83
panoramic radiography, imaging for implants and, 167–168
pantomographs
reconstructed, sample cross-sectional slices with axial view and, 8
sample reconstructed, 3D view on bottom left, trough bottom middle, and preview bottom right, 7
paradoxical curvature of left middle concha, coronal slice showing, 68
of right and left middle conchae, with lamellar concha at attachment of right and left middle conchae, 68
paradoxical curvature, 67
paranasal development, normal, 31–33
paranasal sinuses
functions of, 33
inflammatory disease of, 45–49
acute sinusitis, 47–48
allergic sinusitis, 49
chronic sinusitis, 48
fungal sinusitis, 49
mucositis, 46–47
sinusitis, 47
intrinsic diseases of, 49–56
antrolith, 52–53, 55
empyema, 53
mucocele, 55–56
polyps, 52–53
retention pseudocyst, 50–52
postsurgical changes of, 56–57
Caldwell-Luc procedure, 57
uncinectomy, 56–57
significant structures of, 44
Passavant’s muscle, 80
Pathology Report, 180–181
cross-sectional slices, 182, 183
interpretation, 181
radiology report, 180
reconstructed pantomograph, 180
PCF. See Posterior cranial fossa
periapical pathosis, CBCT imaging and, 15
periapical radiographs, imaging for implants and, 168
perpendicular ethmoid bone, 63
perpendicular plate of ethmoid, 60
petroclinoid ligament calcification
axial slice at level of midorbit showing bilateral radiopaque bands posterior to posterior clinoid process consistent with, 100
definition/clinical characteristics, 100
radiographic description, 100–101
sagittal slice just lateral to midline showing thin radiopaque line posterior to sphenoid bone consistent with, 100
petrosquamous suture line, 45
petrous ridge
axial slice at level of inferior orbit/superior maxillary sinus showing, 87
axial views with corresponding figures, 88
axial slice at posteriormost aspect showing, 90
coronal views with corresponding figures, 91
sagittal slice at lateral aspect of angle of mandible showing, 92
sagittal slice at lateral aspect of posterior teeth showing, 92
sagittal views with corresponding figures, 93
coronoid process
axial slice at level of inferior orbit/superior maxillary sinus showing, 87
axial views with corresponding figures, 88
coronal slice at posterior aspect of ramus showing, 90
coronal views with corresponding figures, 91
sagittal slice on midline showing, 93
sagittal views with corresponding figures, 93
coronoid process
posterior cranial fossa
axial slice at level of inferior maxillary sinus showing, 106
axial slice at level of inferior orbit and superior maxillary sinus showing, 105
axial slice at level of midmaxillary sinus showing, 105
coronal slice at midcervical vertebrae showing, 108
coronal slice of posterior aspect of cervical vertebrae showing, 109
sagittal slice at lateral aspect of angle of mandible showing, 110
sagittal slice at lateral aspect of nasal cavity showing, 110
sagittal slice on midline showing, 111
posterior disc attachment, internal derangements of temporomandibular joint and, 146
posterior ethmoid labyrinth, 43
posterior mandible, lingual concavity in, reconstructed pantomograph and cross-sectional slices showing, 21
posterior wall, of hypopharynx, 83
proliferative differential, radiographic, 154
proptosis, mucocele and, 55
PR-SS. See Pterygoid recess of sphenoid sinus
pseudocysts, 50
pseudogout, 161
axial, coronal, and sagittal slices showing increased radiopacity of right condyle in patient with, 162
psoriatic arthritis in TMJ, definition/clinical characteristics/radiographic description, 160
pterygoid muscle, lateral, 146
pterygoid process
axial slice at level of midmaxilla showing mandibular process with, 87
axial views with corresponding figures, 88t
coronar slice at aspect of coronoid process showing, 89
coronar views with corresponding figures, 91t
sagittal slice at lateral aspect of posterior teeth showing, 92
sagittal views with corresponding figures, 93t
pterygoid recess of sphenoid sinus
axial slice at level of condyles showing, 36
sagittal slice at maxillary teeth buccal roots showing, 37
pyocele, 55
pyriform sinuses, 83
quadrangular cartilage, 60
radiation doses, conventional CT vs. cone beam CT, 4
Radiation Protection 136, European Guidelines on Radiation Protection in Dental Radiology, 28
radiculopathy, 135
ramus, coronar slice at, showing sphenoid sinuses, 33
recessus terminalis, 77
“reducing” disc, TMJ and, 153
remodeling of temporomandibular joint
definition/clinical characteristics/radiographic description, 153
differential interpretation of, 153
resources about cone beam computed tomography
articles, 189–190
books, 190
websites, 189
retention cyst of the maxillary sinus, 50
retention pseudocyst, 50–52
definition/clinical characteristics, 50
differential interpretation of, 51–52
opaque dome-shaped entity on floor of maxillary sinus consistent with, 51
polyp differentiated from, 53
radiographic description of, 50–52
treatment/recommendations for, 52
retrobullar recess cell, 44
retrodiscal pad, 147
retrodiscal tissue, 146
rheumatoid arthritis in temporomandibular joint
definition/clinical characteristics, 157
differential interpretation, 159
erosion with, 154
radiographic description, 158
reconstructed pantomograph of patient with, 158
severe bony destruction of right and left condyles, cross-sectional slices showing, 158
treatment/recommendations, 159
rhinoliths, 53
rhinosinusitis, infectious, polyps and, 79
ring artifacts, 11
coronar and sagittal views showing, 11
root fractures, 16
vertical, on maxillary right second premolar, 17
vertical and horizontal, CBCT imaging and, 16
Ruprecht, Axel, 49
scarring and inflammatory mucosal thickening, in frontal recess, 78–79
scleral plaques, 119–121
bilateral medial, axial slice at midorbits showing as linear radiopaque entities, 120
definition/clinical characteristics, 119
differential interpretation, 121
left-sided medial, coronar slice at anterior orbits showing as curved linear radiopaque entity, 120
radiographic description, 120
sagittal slice showing as linear radiopaque entity, 120
treatment/recommendations, 121
scoliosis, Klippel-Feil syndrome and, 133
sella turcica
axial slice at level of midorbits showing, 86
axial views with corresponding figures, 88t
sagittal slice on midline showing, 93
sagittal views with corresponding figures, 93t
septal cartilage, 61
septation, levels of, sinuses and, 41
septic arthritis in TMJ
definition/clinical characteristics, 160
differential interpretation of, 160
radiographic description, 160
serous glands, 32
serous nonsecretory retention pseudocyst, 50
sigmoid sinus, depression of coronar slice at aspect of mastoid process showing mastoid process with, 90
sigmoid sinus, depression of (cont’d)
coron al views with corresponding figures, 91t
“silent sinus,” 49
sinonasal polyposis, surgical failure rates with, 79
sinonasal polyps, sinusitis and, 79
sinus anatomy, observing, on medical CT or CBCT, 41
sinuses. See also Maxillary sinuses;
Paranasal sinuses
hypoplastic, 39
maxillary, 34–35, 38–39
paranasal, normal development of, 31–33
pyriform, 83
sinus imaging studies, correct interpretation of, 39
sinusitis, 39
acute, 47–48
allergic, 49
bacterial, 49–50
chronic, 48
definition of, 47
deviations of nasal septum and, 63
drainage challenges contributing to, 41
FESS and treatment of, 78
fungal, 49
paradox ic curvature and, 67
sinus lateralis. See Retrobulbar recess cell
sinus of Morgagni, 80
sinusoidal inflammatory disease, prevalence of, 39
soft palate, 80, 83
soft tissue of brain, 108–114
incidental findings, 108–114
pathosis, 114–118
soft tissue of cervical spine and neck anatomy, 123
axial figures, 123, 124, 125
coron al figures, 126, 127
sagittal figures, 128
soft tissue of orbits anatomy
axial slices, 103, 104, 105, 106
coron al slices, 104, 106, 107, 108
sagittal slices, 104, 109, 110, 111
sphenoethmoidal recess, 39, 41, 44
sphenoidal conchae, 43
sphenoid bone, 31
anatomical landmarks identifiable on
axial views with corresponding figures, 88t
anatomical landmarks identifiable on
coron al views with corresponding figures, 91t
anatomical landmarks identifiable on
sagittal views with corresponding figures, 93t
sphenoid bone pathology, “occult,” 43
sphenoid sinuses
anatomical landmarks for, 39t
axial slice at level of inferior aspect of orbits and cranial skull base showing, 35
axial slice at level of midorbits showing, 35
coron al slice at cond yles showing posterior aspect of, 34
coron al slice at ramus showing, 33
location and development of, 43
osteum for, 44
sagittal slice just lateral to midline showing, 38
sagittal slice on midline showing, 38
sphenomandibular ligament, 146
spheno-occipital synchondrosis
axial slice at level of petrous ridge showing, as discontinuity of clivus, 95
coron al slice at aspect of condyles showing, 95
definition/clinical characteristics, 93–94
differential interpretations, 94
radiographic description, 94
sagittal slice on midline showing, 94
spine. See Cervical spine
split axis, anterior and posterior clefts and, 129
sphenoid bone anatomy, axial slice at level of midorbits showing, 86
spondylosis, 134
standard of care for cone beam computed tomography, 25–26
defined, 25
staphylococcus, chronic sinusitis and, 48
Still’s disease, 159
streak artifacts, 9
aerial view with metallic streak artifact and aliasing of scan as linear radiolucent lines throughout image, 10
axial view showing, due to metallic restorations, 10
coron al view showing, due to metallic restorations as multiple horizontal lines, 10
styloid process
axial slice at level of midmaxilla showing mastoid process with, 87
axial views with corresponding figures, 88t
sagittal slice at lateral aspect of angle of mandible showing, 92
sagittal views with corresponding figures, 93t
stylomandibular ligament, 146
subchondral cysts, 135
formation of, 136
on left lateral process of C4, coronal, sagittal, and axial views showing, 137
subdental synchondrosis (C2)
complete, sagittal view showing, 132
definition/clinical characteristics, 132
differential interpretation, 133
partial, coronal views showing, 133
partial, sagittal view showing, 132
radiographic description, 132
treatment/recommendations, 133
superior conchae, 39, 60
superior lamellae, 42
supraalar facets, 59
suprabullar cells, 72, 74–75
supraorbital ethmoid cells, 72
extending partially superior to right orbit, coronal slice showing, 75
preoperative identification of, 74
supreme concha, 39
Supreme Court (U.S.), standard of care cases, 25–26
supreme lamellae, 42
surgical variations, 75–77
frontal sinuses, 75–77
effect of superior attachment of uncinate process on frontal recess drainage, 77
endoscopic frontal recess approach, 75
extended frontal sinusotomy, 76
FESS failure in frontal recess, 76
lateralized middle turbinate remnant, 77
modified Lothrop procedure, 76
residual frontal recess cells, 76
retained uncinate process, 77
“swing door” technique, uncinectomy performed via, 56
synovial chondromatosis in TMJ
definition/clinical characteristics, 161
differential interpretation, 161
radiographic description, 161
treatment of, 161
synovial chondrometaplasia, 161
synovial layer, 146
technology, standard of care legal cases and, 25–26
teeth setting, 3D rendered view with, 9
temporomandibular joints, 143–166
anatomical landmarks identifiable on axial views with corresponding figures, 88t
anatomical landmarks identifiable on coronal views with corresponding figures, 91t
anatomical landmarks identifiable on sagittal views with corresponding figures, 93t
pneumatitic cells of, 45
temporomandibular joint and, 143
temporomandibular joint disc, 143, 144
temporomandibular joints
chondrocalcinosis in, 161
degenerative joint disease of, 153–155
developmental abnormalities of, 147–152
bifid condyle, 151–152
condylar aplasia, 148
condylar hyperplasia, 149
condylar hypoplasia, 148
coronoid hyperplasia, 151
hemifacial microsomia, 147–148
juvenile arthrosis (Boering’s arthrosis), 149–150
imaging assessments of, 143
internal derangements of, 152–153
juvenile arthritis in, 159
managing disorders in, 143
normal anatomy and function of, 143–144, 146–147
osteoarthritis in, 155
psoriatic arthritis in, 160
remodeling and, 153
rheumatoid arthritis in, 157–159
septic arthritis in, 160
synovial chondromatosis of, 161
trauma to, 163–165
ankylosis, 164–165
dislocation, 163
effusion, 163
fracture, 164
neonatal fractures, 164
tumors in, 165–166
benign, 165
malignant, 166
view with cross-sectional slices, 8
thalassemia, 39
third molars, impacted, CBCT imaging of, 12, 13
3D rendering
of CBCT data, 6
view with bone setting, 9
view with teeth setting, 9
TMJ. See Temporomandibular joints
tongue, 83
tonsils, 83–84
torus tubarius, 81
Treacher Collins syndrome, 39
ttrue ankylosis, 164
tumors
in parapharyngeal space, 83, 84
of temporomandibular joint
benign, 165
malignant, 166
tympanic cavity, 45
uncinate bulla, or right uncinate process and
left agger nasi cells, coronal slices
showing, 71
uncinate process, 34, 42, 43, 44, 60
anatomy of
attachment, 70
deviation, 70–71
axial slice of inferior orbits showing, 65
axial views of, with corresponding figures, 66t
coronal slice of ostiomeatal unit showing,
61, 62
coronal views of, with corresponding figures, 66t
effect of superior attachment of, on
frontal recess drainage, 77
retained, postoperative, 77
right, uncinate bulla of, coronal slices
showing, 71
variations in size and shape of, 41
uncinectomy
definition, 56–57
radiographic description, 57
undersampling, 9
undifferentiated carcinoma (Type III), 81
UP. See Uncinate process
vascular markings, cranium
axial slice at level of midorbits showing
multiple radioluent indentations on internal aspect of left cranium caused by, 97
axial slice at level of superior aspect of orbits showing radiolucent indent on internal aspect of cranium caused by, 97
coronal slice at aspect of midramus
showing radiolucent indent on internal aspect of cranium caused by, 97
definition/clinical characteristics, 97
radiographic description, 97
vertebrae. See Cervical vertebrae
vertebral artery calcification, 116–118
bilateral, axial slice at level of inferior portion of maxillary sinus showing,
118
definition/clinical characteristics, 116
differential interpretation, 117
radiographic description, 117
sagittal slice lateral to midline showing as ovoid radiopaque entity posterior to clivus, 117
treatment/recommendations, 118
unilateral, axial slice at level of inferior portion of maxillary sinus showing,
118
unilateral, coronal slice at posterior aspect of cervical vertebrae showing, 117
vertical root fractures
CBCT imaging and, 16
cross-sectional slices showing, on
maxillary right second premolar, 17
vidian canal
coronal slice at aspect of coronoid process showing, 89
coronar views with corresponding figures, 91t
vidian nerve, 44
virtual implant placement software,
cross-sectional views with, 172, 174
vomer, 60, 63
voxels, conventional CT vs. cone beam CT, 4
voxel size
for bony pathosis, 16
for cleft palate and bony graft assessment, 12
for detecting periapical pathosis, 15
for implants, 16, 22, 169
for localization of impacted teeth, 15
Zinman, Edwin, on “no average patients,” 29
zygomatic process of temporal bone (ZP-TB), axial slice showing, 145