Index

Page numbers in *italics* represent figures, those in **bold** represent tables.

- abrasion 86–7, **86**
- abutment alignment 67–8
- aesthetics 14, 153
- age
  - occlusal changes with 65, 65
  - and treatment planning 55
- agenesis 3
  - prevalence by gender 5
- allografts 96, 188
- alveolar atrophy 132
- alveolar development, reduced 20–1, 20, 94
- ameloblasts 8
- amelogenesis imperfecta 8, 23
- ANB 22, 188
- anchorage 188
- anchorage control 130, 131
- Angle’s classification 61, 188
  - class I malocclusion 61, 188
  - class II malocclusion 61, 188
  - class III malocclusion 61, 188
- angulation 89–90, 89, 90, 133, 188
- ankylosis 51, 51, 189
- anodontia 3, 4, 189
  - partial 4
  - permanent dentition 16
- anterior guidance 60, 66, 72, 74, 75, 141, 168, 188
- anteroposterior incisor relationship 157
- appearance 23, 23
- appliance breakage 135
- arch coordination 133–4
- arch relationship 157
- archwires 129, 132, 132, 133, 135, 136, 188
- Association Français des Dysplasies Ectodermiques 33
- attrition 86, 87
- Australian Ectodermal Dysplasia Support Group 32
- autogenous grafts 96
- autografts 96, 189
- autotransplantation 145–6, **146**
- *Axin2* gene 8
balanced occlusion 63–5, 64, 65, 189
  bilateral 63–4
bilateral absence of teeth 6
Bio-Oss 98
bioactive glasses 96
block grafts 98
Block–Sulzberger syndrome 10
Bmp gene 8
Bolk’s Theory of Terminal Reduction 7
Bolton (tooth size) discrepancy 49, 49, 189
bond failure 131
bone 93–5, 163
  buccal contour 157
  children 108
  reduced alveolar development 20–1, 20, 94
  retained primary teeth 94
  ridge narrowing 94–5, 94, 95
bone grafting 95–9
  allografts 96, 188
  autogenous grafts 96
  autografts 189
  block grafts 98
  distraction osteogenesis 99, 99, 190
  efficacy of 98
  graft materials 95–7
  guided bone regeneration 97, 98–9
  particular grafts 98
  techniques 97
  xenografts 96, 192
bone morphogenetic proteins 97
Book syndrome 10
border movement 63, 72, 189
bridges
  conventional 74, 144–5, 180
  maintenance 181–2, 182
  resin-bonded 73–4, 142–4, 142–4, 170
buccal segment 166, 189
buccolingual space 161, 162
Butler’s Field Theory 7
gingival margins 154, 155
  movement of 46
  repositioning of 66–7, 67
  shape 156
  simulation of lateral incisors 137, 138
  size 154, 155
care pathway 36–9, 38, 39
care provision 28–41
cast restorations 181
cementoblasts 8
centric occlusion (intercuspal position) 63, 189, 191
cetric relation (retruded contact position) 63, 189, 192
cheeks 83–5, 84, 85
children
  establishing relationship 106–7, 107
  implants 118–20
  initial examination 107
    hard tissues 108
    soft tissues 107–8
  investigations 108–11
  oral health 112–13
  surgery 117–18, 117
  treatment 111–18
  treatment planning 111–12
  see also primary dentition; late mixed/early
  permanent dentition
Children Act 1989 112
class I incisor relationship 157, 189
class II incisor relationship 157, 189
  division 1 157, 189
  division 2 157, 189
class III incisor relationship 157, 189
cleft lip/palate-ectodermal dysplasia syndrome 10
clinical geneticists 35
clinical psychologists 35
composite resin 73, 189
  maintenance of restorations 181
  re-contouring 136
computerised clinical databases 37
conical teeth 17–18, 17, 23, 89
counseling 30–1
cranial base–mandibular plane angle 22
craniofacial morphology 22
cross bite 67–8
crown angulation (tooth tip) 62
crown inclination (tooth torque) 62
crowns 73, 73, 169–70, 170
  in children 114–15
curve of Spee 62, 129, 166, 189
Dahl appliance 57, 69, 69, 70
data collection 32
decompensation 56, 189
dens invaginatus 154, 154
dental caries 50, 92
  treatment 165
dental implants 74–5, 75, 93, 145, 170–6, 172–6, 189–90
  abutment 67–8, 189
  in children 118–20
  maintenance 183, 183
  systems 189
dental nurses 33–4
dental practitioners 33
dentinogenesis imperfecta 8, 23
dentition 15–16
dentures 140, 141, 176–79, 176–9
  complete, in children 116
  maintenance 182–3
  occlusion on 73, 74
  partial, in children 115
dermatologists 35–6
developmental stage, and treatment choice 125
diagnosis 30
diagnostic (Kesling) set-up 54, 135, 136, 164, 190
diastema 190
  median 137–8, 138
dilaceration 161, 190
disclusion 64
displacement (mandibular) 190
distraction osteogenesis 99, 99, 190
Down syndrome (trisomy 21) 10
drifting 53
dysfunction 190

ectodermal dysplasia 32, 106
ectodysplasin-A 9
ectopic eruption 18, 18
ectrodactyly, ectodermal dysplasia and cleft lip/palate syndrome 10
edentulousness, long-term 132
environmental factors 7
eruption 87, 87, 88
  abnormal 53
Essix retainers 134, 135
facemask 190
facial growth 52
facial profile 56
family, counselling 30–1
Fgf gene 8
fissure sealants 113
fixed retainers 135, 135, 190
fixtures see dental implants; implant body
fluoride 113
fraena 108
surgery 118
Frankfort–mandibular plane angle 22
Fraser guidelines see Gillick competence
freeway space 20, 53
  increased 21, 23, 84
  primary dentition 110
functional appliance 68–9, 124, 129–30, 190
functional mandibular movements 190
functional occlusion 190
gender 5, 16
genetic factors 7
Gillick competence 112, 190
glass-ionomer cements 96
graft materials 95–7
  bone morphogenetic proteins 97
  calcium carbonate-based 97
  calcium phosphate-based 96–7
  silicate-based 96
group function occlusion 64, 64, 190
growth rotation 22, 53, 54, 129, 190
guidance theory 53
guided bone regeneration 97, 98–9
Hawley retainers 134
headgear 141–2, 143, 170, 190
health-related issues 151
Hertwig’s root sheath 8
Hg gene 8
holoprosencephaly 10
homeobox genes 8
hydroxyapatite 97
hypodontia 3, 4, 190
  aetiology 7–11
  environmental and genetic factors 7
  inheritance patterns 7–8
  permanent dentition 5–6, 5, 6
  prevalence 4–6
primary dentition 4–5
severe 4
severity of 47, 47
sites and frequency of missing teeth 6, 6
syndromic associations 9, 10
hypodontia team
  collaboration with patient support groups 32–3
  composition of 33–6
  diagnosis and interdisciplinary treatment planning 30
  outreach care provision 31
  patient and family counselling 30–1
  referral to 28–9, 29
  roles of 29–33
  teaching, research and data collection 32
  treatment within unit 31–2
  see also individual team members
hypohidrotic ectodermal dysplasia 9, 10, 30
ideal occlusion 61
  balanced 63–5, 64, 65
  normal 61–3, 62
impaction 29, 61, 104, 190
implant body 31, 96, 190, 195, 203
implant site development 128, 128
implant-connecting component 191
implants see dental implants
incisors, maxillary lateral, missing 66–7, 67
inclination 71, 72, 145, 149, 173, 191
incontinentia pigmenti 10
Index of Orthodontic Treatment Need 4
informed consent see consent to treatment
infra-occlusion 50–3, 51, 52, 191
  consequences of 51
  orthodontic treatment 139–40
  primary dentition 110–11, 110, 111
inheritance patterns 7–8
  genetics of odontogenesis 8
  tooth development 8
inter-arch relationships 61–2
inter-arch space 57
intercuspal position see centric occlusion
interdisciplinary treatment planning 30
interference 72, 75, 82, 101, 128, 146, 191
intermaxillary traction
  class II 189
  class III 189
interproximal enamel reduction 133, 191
intraoral forces 85–6
intraoral space 86–93
  horizontal dimension 86
  vertical dimension 86–7, 86
isolated hypodontia/oligodontia 3
Kesling set-up 54, 135, 136, 164, 190
labial segment 168, 169, 178, 191
laboratory technicians 35
late mixed/early permanent dentition 124–49
  developmental stage 124–6, 125
  orthodontic treatment 126–46
late tooth development 134
Le Fort I osteotomy 191
levelling 68, 166, 191
lips 83–5, 84, 85
lower anterior facial height 63, 191
maintenance post-treatment 180–4
  bridgework 181–2, 182
  dental implants 182–3, 183
  dentures 182
  orthodontic 180–1, 182
  periodontal 180
  remaining teeth 180
malocclusion 191
  Angle’s Class I 61, 188
  Angle’s Class II 61, 188
  Angle’s Class III 61, 188
mastication difficulties 24–5
masticatory cycle 191
masticatory problems 88
median diastema 137–8, 138
mesiodistal dimension 160–1, 160
metal occlusal surfaces 73, 73
microdont teeth 16–17, 17, 47–8, 48
  children 114
  occlusal variations 67, 67
  orthodontic problems 133–4
  orthodontic treatment 138–9, 139
  prognosis 154, 154
  tooth positioning 127, 128
missing teeth 15–16, 157–8, 158, 159
  dentition 15–16
  gender 16
  number 15, 15, 16
patterns within jaws 16
racial group 16
replacement 170–80, 172–9
tooth form 16
molars
  relationship of 56
tilted 127
Msx1 gene 8
mucosa 85
  children 107
multidisciplinary approach 37, 54–5
multiple dental agenesis 3
mutually protected occlusion 62, 64, 191

nasolabial angle 191
National Foundation for Ectodermal Dysplasia 33
necking 45
Nemo gene 9
non-working side 63, 65, 191
normal occlusion 61–3, 62
  crown angulation (tooth tip) 62
crown inclination (tooth torque) 62
curve of Spee 62
  inter-arch relationships 61–2
  rotations 62
tight contacts 62

occlusal interference 89, 116, 134, 191
occlusal onlays 169
occlusal pathology 76
occlusal philosophies 61–6
occlusal vertical dimension 18, 65, 86
  reduction of 69–70, 71
oclusion 60–81
  age changes 65, 65
  balanced 63–5, 64, 65, 189
canine-guided 64, 67, 189
centric 63, 189
  functional 190
group function 64, 64, 190
  hypodontia 66–72, 66
  microdontia 67, 67
  mutually protected 191
  normal 61–3, 62
  restoration of 72–6
odontoblasts 8
odontogenesis 8
oligodontia 3, 4
onlay dentures 191
  in children 114–15
oral care, commitment to 151–2, 152, 152
oral cavity 82–5
  cheeks, lips and tongue 83–5, 84, 85
  mucosa 85
oral function 153
oral health 56, 112–13
oral and maxillofacial surgeons 35
oral–facial–digital syndrome 10
orthodontic appliances 128–9
  see also individual appliances
orthodontic assessment 109–10
orthodontic maintenance 180–1, 182
  composite restorations 181–2
  veneers and cast restorations 181
orthodontic site development 53, 191
orthodontic space redistribution 55, 56
orthodontic treatment 126–46
  benefits of 126–8, 126, 127
  children 116–17
  long-term maintenance 157
  permanent dentition 166–7, 167
  problems of 129–35, 130–2, 131, 134
  restorative management of patients 135–40, 136, 136
  tooth movement 157
  tooth replacement 140–6
orthodontists 34
orthognathic surgery 21, 22, 35, 55, 56, 125, 166, 191
osteotomy 191
outreach care provision 31
overbite 53–4, 54, 191
  correction of 127
  deep 129–30, 130
  reduction 68–9, 69, 70
  traumatic 192
overdentures 140–2, 141, 142, 191
  in children 115, 116
overerupted teeth 127
overjet 191
overlay denture see onlay denture

paediatric dentists 34
pain 25
patient support groups 32–3
patients
  age of 55
  children see children; primary dentition
  commitment to oral care 151–2, 152
  counselling 30–1
  expectations of treatment 151
  treatment concerns 55, 56
patients’ complaints 22–5, 22
  appearance 23, 23
  excessive freeway space 23
mastication difficulties 24–5
pain 25
spacing 23, 23
speech problems 24
Pax9 gene 8
pericision 132
periodontal examination 152
periodontal maintenance 180
periodontal tissues 107–8
permanent dentition 150–87
abnormal eruption 53
age of eruption 90
anodontia 16
delayed eruption 21–2
extraction of 117–18, 117, 118
health-related issues 151
hypodontia 5–6, 5, 6
maintenance 180–4
orthodontic treatment 166–7, 167
patient expectations 151
restorative care 168–80
sizes 91
social issues 151
surgical treatment 167–8
treatment objectives 150–1, 164
treatment planning 150–66
Pitx2 9
plastic restorations 73
pontics 132, 132
porcelain 73
presurgical orthodontics 192
primary dentition 105–23
age of eruption 90
extraction of 117
freeway space 110
hypodontia 4–5
infra-occlusion 110–11, 110, 111
initial examination 108
orthodontic assessment 109–10
periodontal tissues 107–8
radiography 108–9
root resorption 90–3, 90, 91, 93
sizes 91
vitality testing 109
prosthetic envelope 19, 45, 83, 88, 90, 173, 176, 176, 192
prosthodontics 34, 192
protrusion 192
pubertal (adolescent) growth spurt 192
racial group 16
radiography, primary dentition 108–9
re-contouring 136–7, 136
referral 28–9, 29
relapse 75–6, 192
removable appliance 192
research 32
resin-based composite restorations 168
resin-bonded bridges 73–4, 142–4, 142–4, 170
rest vertical dimension 86
restorative dentistry 192
permanent dentition 168–80
primary dentition 113–16
see also individual treatment options
retained primary dentition 18–20, 19, 20
retainers 75–6
retention 134–5, 134, 192
retrognathia 192
retruded contact see centric relation
retrusion 22, 192
ridge narrowing 94–5, 94, 95
Rieger syndrome 9, 10
root paralleling 126–7, 133
root resorption 19, 50–3, 50, 90–3, 90, 91, 93
local factors 92–3
systemic factors 92
root separation 126–7
rotated teeth 62, 67–8, 68, 131–2
scissor-bite (lingual crossbite) 192
shimstock foil 75, 75
shortened dental arch 70, 72
silicate-based alloplasts 96
skeletal pattern 56, 192
SNA 22, 192
SNB 22, 192
social issues 151
soft tissues 163–4
examination in children 107–8
surgery 118
space closure 55, 56, 57, 127
space distribution 126, 127
space requirements 156–7, 156, 158–63
spacing 23, 23, 45–59, 56
acceptance of space distribution 57
between dental arches 53–4, 54
inter-arch space 57
mesiodistal 45
transverse 45
treatment planning 54–7
uneven distribution 45–7, 46
vertical 45
within dental arches 45–7, 46
speech 88–9
speech and language therapists 36
speech problems 24
splinting 75–6
Superfloss 180
supernumerary tooth 8, 48, 192
supporting tissues 82–101
bone 93–5
bone grafting 95–9
intraoral forces 85–6
intraoral space 86–7
oral cavity 82–5
teeth 87–93
surgery
children 117–18, 117, 118
orthognathic 21, 22, 35, 55, 56, 125, 166, 191
permanent dentition 167–8
soft tissue 118
see also orthodontic treatment
surgical envelope 34, 45, 58, 82, 88, 90, 95, 95, 128, 192
symmetry 156
syndromic associations 9, 10
syndromic hypodontia/oligodontia 3
taurodontism 89, 89
teaching 32
teeth 87–93
angulation 89–90, 89, 90
appearance 88
eruption 87, 87, 88
form and size 89, 89
masticatory problems 88
missing see missing teeth
root resorption 19, 50–3, 50, 90–3, 90, 91, 93
speech 88–9
temporary anchorage devices 130, 131, 192
deep overbite 130
temporomandibular joints 63
terminology 4
thalidomide 7
tight contacts 62
tilting 67–8
tissue response to treatment 152–3, 153
tongue 83–5, 84, 85
tooth development 8
tooth form 16, 153–7, 154, 155
tooth movement 157
tooth and nail syndrome 10
tooth replacement 140–6
autotransplantation 145–6, 146
conventional bridges 74, 144–5
dental implants see dental implants
dentures see dentures
overdentures see overdentures
resin-bonded bridges 73–4, 142–4, 142–4
tooth size 153–7, 154, 155
tooth surface loss 20, 20, 86, 86
traumatic fibres 132, 192
traumatic overbite 192
treatment 15
children 111–18
consent to 112, 190, 191
multidisciplinary approach 37
orthodontic 116–17
relapse 75–6
restorative dentistry 113–16, 168–80, 192
within unit 31–2
treatment planning 31
active disease 165
children 111–12
developmental stage 125
multidisciplinary 37, 54–5
permanent dentition 150–66
prevention of further disease 165
re-evaluation 165
spacing 54–7, 56
tricalcium phosphate 97
UK Ectodermal Dysplasia Society 32
van der Woude syndrome (lip-pit syndrome) 10
veneers 73, 168–9, 169
maintenance 181
vertical space 161–3, 163
vitality testing 109
wagon-wheel effect 133
waisting 20–1, 45
Witkop syndrome 10
Wnt gene 8
working side 192
X-linked hypodontia 9
xenografts 96, 192