Index

Note: Page numbers in *italics* refer to Figures; those in **bold** to Tables

Allen Microsurgical Elevator, 153, 154
AlloDerm, soft tissue grafting, 151
alveolar ridge defect, 159–161, 160–161
amelogenins
delivery, 128
minimally invasive surgical technique (MIST), 131, 133, 136
modified MIST, 131, 132, 136
as regenerative material, 128, 130
American Academy of Periodontology (AAP), periodontal disease
case type II-III (early-to-moderate), 39
case type III-IV (moderate-to-severe), 48
case type IV (advanced/severe), 43
anesthetic-local vs. subgingival topical anesthetic, 60
Angles classification, class III bilateral, 39
bone grafting techniques, 78, 103, 160, 168
bruxism, 39
CAF see coronally advanced flap (CAF) calculus
in chronic inflammatory periodontal disease, 20
deposition, cementoenamel junction, 22
detection, 166–7
forms, 20
micro islands, 93, 93
and probing depth, correlation, 22
removal, 55–6
on root surfaces see minimally invasive surgery (MIS)
subgingival debridement procedures, 22
Castroviejo Needle Holder, 156–7
cement
implant, 61, 108–9
peri-implantitis, 67
peri-implant soft tissue, 67, 67
problem, 69–70
removal, 70

cervical enamel projections (CEPs)
  Grade I, 32, 32–3
  Grade II, 32–3, 33
  Grade III, 32, 33
chronic unacceptable probing depths, 61
coronally advanced flap (CAF), 145–6
demineratized cortical human bone allograft (DFDBA), 94–5, 95, 105, 115
dental endoscopic technique
cervical enamel projections (CEPs)
  Grade I, 32, 32–3
  Grade II, 32–3, 33
  Grade III, 32, 33
components
  Bilumen construction, 18
camera/LED/controller, 15, 16
dental endoscope, 16–18, 17
dual Luer–Lock connectors, 18, 18
DV2 perioscopy system, 15, 16
endoscopic explorer tissue retraction shield, 19, 19
handpiece, 15, 16
perioscopy system, 15, 17
self-contained water delivery device, 19, 20
single-use disposable endoscopic sheath, 18, 18
dental endoscopy explorers, 31
diamond-coated ultrasonic instruments, 31, 31
ectopic enamel removal, 32
enamel pearls, 34
enamel projections, 32
instruction
  explorer and ultrasonic instrument, 35, 36
  medium-to-medium plus power, 35
  patient positioning, 35
  recommended training, 35
  in subgingival visualization, 35
  tray setup, 35
microvisual full-mouth debridement, 29, 30
two-handed technique, 29, 30
ultrasonic powered instruments, 30–31
“view, instrument and view” technique, 27
dental endoscopy explorers, 31
DFDBA see demineratized cortical human bone allograft (DFDBA)
diamond-coated ultrasonic instruments
  magnetostrictive diamond-coated ultrasonic inserts, 31, 31
  scalers, 107
Diamond Safety Tip, 91–3, 92
dual Luer–Lock connectors, 18, 18
DV2 perioscopy system
  color LCD video monitor, 15, 16
  master control unit (MCU) camera, 15
ectopic enamel removal, 32, 34
EDTA see ethylenediaminetetraacetic acid (EDTA)
enamel matrix derivative (EMD), 82, 83, 94–5, 95, 105, 115
enameloplasty, 34, 34
enamel pearl, 34, 106, 107
End-Cutting Intrasulcular Knife, 153, 154
endoscope see also nonsurgical endoscopic treatment
advantages, 55–6
anesthetic-local vs. subgingival topical anesthetic, 60
calcium removal, 55
diagnostic, 60
implants, 61, 62
learning curve
  field of vision recognition, 56
  Gutta percha (GP), 59
  healthy sulcus with enamel, 57
  inflamed adjacent soft tissue, 57
  mandibular molar furcation, 59
  nondominant hand training, 56
  open margin (OM), 59
  porcelain crown and root surface, 59
  soft tissue and root surface, 57, 58
  subgingival calculus, 58
  subgingival deposits removal, 56
  vertical fracture, 58
void filling, 60
limitations, 61–2
in pocket probing depth, 60–61
in sulcus at CEJ level, 56
and videoscope
  blue-gray biofilm, 67, 67
  bone loss, 68
cement, 67, 67, 69–70
clinical and radiographic information gathering, 66
“granulation” tissue removal, 66
inflammatory lesion, 66
mandibular second molar abutment, 71–2, 72
maxillary left central incisor, 73, 73–4
peri-implant diseases, 66–9
periodic right-angle radiographs, 66
probing depths, 70–1
re-osseointegration, 67–8
single-unit cemented fixed partial denture, 70, 71
subgingival calculus, 67
swelling complaint, 70
endoscopic explorer, 13
ethylenediaminetetraacetic acid (EDTA) calculus removal, 93, 94, 111, 115
root preparation, 101, 104, 105, 153
FGGs see free gingival grafts (FGGs)
free gingival grafts (FGGs), 143–5
gingivectomy, 145, 169
implant(s)
abutment interface, 70
endoscope, 61, 62
peri-implantitis infection, 37
internal mattress suture, modified MIST, 128, 130, 133, 133, 135
intrabony defects
classification, 123
first lower molar, 137
minimally invasive surgical technique (MIST), 118, 131
modified MIST, 118
morphology and extension, 123
pockets treatment, 122
radiographic image, 124, 128, 130, 133, 134
laser curettage, 38
laser pocket disinfection, 38
laser surgery, full-mouth
azithromycin, 48
implant placement, 48
laser tip view, 48, 50
periodontal charting, 51
periodontal maintenance, 48
periodontal probing depths, 48, 50
post restorative bridge upper anterior 9-11, 48, 50
pre-Tx perio charting, 48, 49
pre-Tx X-rays upper anterior bridge 9-11, 48, 49
radiograph, 48, 51
ultrasonic endoscopic debridement, 48
upper anterior bridge, pre-Tx photo, 48, 48
loupes see surgical telescopes (loupes)
luting agent, minimal, 70
magnetostrictive diamond-coated ultrasonic inserts, 31, 31
microvisual full-mouth debridement, 29, 30
Miller Class I recession sites, 151
“mini-flap”, 78
minimally invasive periodontal therapy goals, 168–9
microbiota combination, 165
nonsurgical therapy, 166–7
personal oral hygiene, 165
risk factors minimization, 166
surgical techniques
bone grafting techniques, 78
interproximal bone, 77
“mini-flap”, 78
osseous surgery, 77
periodontal tissue, regeneration, 77, 78
pocket elimination/amelioration, 78
root surfaces, debridement, 77
vertical releasing incisions, 78
Widman procedure, 77–8
surgical therapy, 167–8
minimally invasive soft tissue grafting advantages, 157
evolution
coronally advanced flap (CAF), 145–6
free gingival grafts (FGGs), 145
gingivectomy, 145
open vascular recipient bed, 145
palatal donor tissue, 145
root coverage, CTG procedure, 145–6
minimally invasive soft tissue grafting (Cont’d)

indications
- attached gingiva, 143–4
- complete root coverage, 144
- dense collagenous connective tissue, 144
- exposed roots coverage, 144
- free gingival grafts (FGGs), 144
- gain of keratinized tissue, 144
- mucogingival junction (MGJ), 143–4
- subepithelial connective tissue graft (CTG) procedure, 144

tunnel technique
- allograft donor tissue, 151–3
- allograft placement, 156
- intrasulcular site preparation, 153
- postoperative care, 157
- recipient site preparation, 146–50
- root preparation, 153
- suturing, 156–7

minimally invasive surgery (MIS), 82

incision and flap design
- disposable microsurgical knives, 88, 90
- initial sulcular incisions, 87, 88
- interproximal defect visualization, 86, 86, 87, 87
- lingual access approaches, 86
- modified Orban knife, 87–8, 89, 90
- osseous defect, 86
- push-pull cutting capabilities, 87, 89
- routine pocket measurements, 86
- sulcular incisions, jointing, 87, 88
- “lines” on root surfaces, 112–113
- maxillary molar bifurcation defect, treatment, 114–115
- nonsurgical treatment, 83
- palatal incision, periodontal defect, 102
- periodontal defect, 99, 100
- periodontal regeneration, 78
- pocket probing depth
  - and CAL, 82
  - chart, 83, 84
- pocket probing depth, presurgical
  - buccal view, 98, 98
- postoperative instructions, 97
- post surgery, surgical area buccal view, 101, 102
- presurgical lingual view, 99
- presurgical pocket probing depths, 82
- quadrant charting, 84, 85
- recession, 82

regenerative materials
- demineratized cortical human bone allograft (DFDBA), 94–5, 95
- enamel matrix derivative (EMD), 94–5, 95
- flaps, soft tissue healing, 94–5
- guided tissue regeneration, 95
- periodontal regeneration, 94–5
- Vicryl mesh, 95

root abnormalities and diagnosis
- biomodification, 107
- decay, 107
- diamond-coated ultrasonic scalers, 107
- enamel pearl, 106, 107
- maxillary molar bifurcation defect, 105
- pulp chamber, 108
- root resorption, 106

small incision surgery, 85

case selection, 83–6

cement, on implants, 108, 109

closed subgingival scaling, 82
debridement
- biomodification, EDTA, 93, 94, 101, 104, 105
- calculus, micro islands, 93, 93
- defect, 90–91
- Diamond Safety Tip, 91–3, 92
- granulation tissue, removal, 90–91, 92
- magnification, 91, 92
- microcalculus removal, 93, 93
- ultrasonic scaler, 91–2
- Younger-Goode 7/8 curette blade, 91, 91

enamel matrix derivative (EMD), 82

granulation tissue removal, 100, 103, 104
surgical principles
  blood supply preservation, 82–3
  minimum traumatic damage, 83
  split thickness dissection, 83
  suturing, 83
  un-incised tissue, cyanotic appearance, 83
sutting
  papilla tissues coronal, 96–7, 97
  4-0 plain collagen, 96
  vertical mattress suture, 96, 96, 97
video scope, 82
visualization and magnification improvement, 86
minimally invasive surgical technique (MIST) see also periodontal regeneration
  blood clot formation, 117–118
  buccal and the lingual
  intrasulcular incisions
  amelogenins, regenerative materials, 131
  defect and residual bone crest, 126–8, 127–8
  EDTA application, 131
  flap mobility, 128–131, 129–30
  scaling and root planing, 131
  buccal horizontal cut, 125
clinical indications and diagnostic procedures
  flap design, 124, 125
  interproximal intrabony defect, 123
  intrabony defects, 123, 124
  local anesthetic, 123
  nonsurgical cause-related therapy, 121–2
  papilla preservation flap, 125
  periodontal evaluation, 121, 122
  periodontal probe, 123
  topographic extension around teeth, 123
Cohort studies and randomized controlled clinical trials, 118–121, 119, 120
defect-associated interdental papilla, 125
edema, 138
flap, primary closure, 138
interdental space width, 125
invasivity and patient side effects, 131
lingual/palatal incision, 126
mesio-distal extension, 126
microblade role, 126
modified MIST
  aggressive localized periodontitis, 131, 132–3
  attention, 133
  buccal “surgical window,” 133
  internal mattress suture, 133, 134–5
  operative microscope/magnifying lenses, 133
modified papilla preservation technique (MPPT), 125, 126
multiple intrabony defects treatment, 131
papilla preservation technique, 78–9
postoperative period and local side effects, 138
postsurgical protocols, 137
regeneration, 117–118
root hypersensitivity, 138
simplified papilla preservation flap (SPPF), 125, 126
single modified internal mattress suture, 131
supportive periodontal care programs, 117
technical implications, 136
minimally invasive therapy, 1–2
MIST see minimally invasive surgical technique (MIST)
modified MIST see minimally invasive surgical technique (MIST)
modified papilla preservation technique (MPPT)
minimally invasive surgical technique (MIST), 125, 126
regeneration, 118
mucogingival junction (MGJ), 143–4, 153
nonsurgical endoscopic treatment
  AAP case type IV (advanced/severe) periodontal disease, 43, 44
  adjunctive antimicrobial agents, 38
  bone loss to apex, pre-Tx radiograph, 43, 44
doxy cycline hyclate, 43
gingivitis and periodontitis, 36
inflammatory signs, clinical diagnosis, 37
nonsurgical endoscopic treatment (Cont’d)
local anesthesia, 43
mechanical debridement, 37–8
minocycline HCl placement, 44, 44
objectives, 36
peri-implantitis, 36–7
peri-implant mucositis, 36
periodontal disease treatment protocol, 38
periodontal pathogens, 38
pocketing, pre-treatment periodontal charting, 43
radiographic bone repair, post treatment X-ray, 45
systemic antibiotic therapy, 38
topical anti-infective chemotherapeutics, 38
ultrasonic endoscopic debridement
periodontal charting, 39, 42
periodontal probing depths, 39
post-Tx mandibular linguals, 39, 42
post-Tx photo, 39, 41
pretreatment panographic radiograph, 39
pre-Tx periodontal charting, 39, 40
pre-Tx photo facials, 39, 41
ultrasonic scaling, under local anesthetic, 45–8
nonsurgical sulcular debridement, 38
palatal donor
allograft, 151
site, 151, 157, 159
surgery, 151
tissue, 144–6, 147
palatal grafts see minimally invasive soft tissue grafting
peri-implant diseases, 36 see also endoscope
peri-implantitis, 36–7, 69
peri-implant mucositis, 36, 67, 68–9
periodontal disease treatment protocol, 38
periodontal osseous surgery, 77–8
periodontal regeneration
blood clot formation, 117–118
concepts, 118
definition, 117
demineralized cortical human bone allograft (DFDBA), 94–5, 95
evermal matrix derivative (EMD), 94–5, 95
flap designs, 118
flaps, soft tissue healing, 94–5
guided tissue regeneration, 95
modified papilla preservation technique (MPPT), 118
periodontal regeneration, 94–5
regenerative material selection, 136, 137
simplified papilla preservation flap (SPPF), 118
Vicryl mesh, 95
perioscopy system
CCD/LED camera, 15
medical grade monitor, 15, 17
piezo scalers, 61
pocket elimination/amelioration, 78
pocket probing depth chart, 84, 85
dental implant and, 61
dentoscope, 60–61
mean, 82
periodontal disease examination, 23
periodontal evaluation, 121
presurgical, 82
residual deep, 122
subgingival calculus, 60–61
pocket sterilization, 38
root surfaces
 calculus on
EDTA, biomodification, 111
irregularities, 112
mechanical removal, 104
mid-lingual surface, 109
periodontal defect, deep calculus area, 110
smooth burnished calculus, 110
ultrasonic instruments and hand scalers, 111
debridement, 77
endoscopic evaluation, 22
soft tissue and, 57, 58
routine pocket measurements, 86
sheath, single-use disposable
endoscopic, 18, 18
simplified papilla preservation flap (SPPF)
minimally invasive surgical technique (MIST), 125, 126
regeneration, 118
socket enhancement, 73, 73–4
soft tissue grafting see minimally invasive soft tissue grafting
subepithelial connective tissue graft (CTG) procedure, 144
surgical microscope
facial flap access, 9
facial tissues handling, 9
high magnification, 8
inner ear surgery, 8
installation, 8
magnification and light, 9
minimal disruption, 9
MIST and M-MIST procedures, 8
periodontal plastic surgeries, 9
in posterior and lingual areas, 9
refocus, patient movement, 9
soft tissue grafts placement, 8
suturing of tissues, 9
surgical telescopes (loupes)
advantages, 7
disadvantages, 7–8
focal length, 7
halogen/LED light, 7
integral light, 7
magnification, 6
range, 6–7
surgical videoscope see also endoscope
blood and surgical debris, 10
carbon fiber retractor, 10
external camera, 9
gas shielding device, 11, 11
image transfer to monitor, 9
kidney, nonsurgical exploration, 10
modifications, 10
periodontal defect, buccal/lingual aspect, 10
root abnormalities and diagnosis
biomodification, 107
decay, 107
diamond-coated ultrasonic scalers, 107
enamel pearl, 106, 107
maxillary molar bifurcation defect, 105
pulp chamber, 108
root resorption, 106
small incision surgeries, 11
stainless steel tube, 9
videoscope-assisted minimally invasive surgery (V-MIS), 10, 10, 11
traditional scalers and ultrasonics, 61
tunnel technique, soft tissue grafting
allograft donor tissue
acellular dermal matrix (ADM), 151
advantage, 151
AlloDerm, 151
keratinized tissue gain, 151–3, 152
limitation factors, 151
Miller Class I recession sites, 151
palatal donor site, 151
allograft placement, 155, 156
allografts, 146
free gingival graft (FGG), 143
intrasulcular site preparation, 153, 154
palatal donor tissue, 146, 147
postoperative care, 157
recipient site preparation
“biologic width”, 146
disadvantages, 150
interdental embrasure space, 148
intrasulcular incisions, 146
maxillary arch, root exposure, 148, 148
papillary incisions, indications, 149, 149–50
vertical incisions elimination, 150
ridge augmentation
alveolar ridge defect, 159–161, 160–161
papillary areas and edentulous ridge areas, 159
pediculated palatal connective tissue graft harvest, 158, 159
rotated palatal pedicle graft technique, 158
VIP-CT grafting technique, 158
root coverage grafting, 146
root preparation, 153, 154–5
suturing, 156–7
ultrasonic endoscopic periodontal debridement
antibiotics, 23
computerized charting program, 23, 27
dental endoscopy, 14
fiber-optic illumination, 14
full-mouth laser surgery, 48–52
ultrasonic endoscopic periodontal debridement (Cont’d)

indications
  components, 15–19
  DV2 perioscopy system, 15
  patients, 15

magnifications, 14

microvisual approach, 13

minimally invasive procedures, 13

nonsurgical endoscopic treatment selection, 36–9

periodontal endoscope, 13

perioscopy system, 14

pocket probing depths, 23–6

real-time video, 13

subgingival environment
  advantage, 20
  blind scaling and root planing, 23
  bright fiber-optic illumination, 20
  calculus deposits removal, 20
  cementoenamel junction, calculus deposition, 22
  chronic inflammatory periodontal disease, 20, 23
  closed scaling and root planing, 22
  endoscope probe, 19
  factors affecting instrumentation, 21
  gingival wall, 19–20
  goal, 22

hand instrumentation and
  ultrasonics combination, 22

oral cavity, ecological niches, 22

periodontal pathogens, 22

residual calculus and probing depth, correlation, 22

root surfaces, endoscopic evaluation, 22

scaling and root planing, 19, 21, 22

technique, endoscopic see dental endoscopic technique

treatment and follow-up
  fifteen months post
  micro-ultrasonic, 27, 28
  post treatment X-ray, 27, 29
  post-Tx X-ray, 27, 30
  pretreatment X-ray, 27, 28, 29

ultrasonic scaling, under local anesthetic
  amoxicillin and metronidazole, 45
  periodontal charting, 45, 47
  pocket depths reduction, 48
  povidone-iodine application, 45
  pretreatment periodontal charting, 45, 46
  radiograph, 45, 46, 47

Vascularized Interpositional Periosteal-Connective Tissue Graft (VIP-CT), 158

Vicryl mesh, 95

videoscope-assisted minimally invasive surgery (V-MIS), 10, 10, 11, 81–2

see also minimally invasive surgery (MIS)

visualization, minimally invasive periodontal therapy

closed root planing procedures

blood and debris removal, 6

camera, 6

clearly of image, 5–6

glass fiber endoscope, 4, 4–5

nonsurgical, 6

periodontal endoscope, 4–5

routine periodontal treatments, 5

single-use sterile disposable sheath, 5, 5

smaller fibers uses, 6

periodontal surgery, 4

root planing, 3

subgingival scaling, 3

surgical microscope, 8–9

surgical telescopes (loupes), 6–8

surgical videoscope, 9–11

Widman procedure, 77–8

Younger-Good 7/8 curette

allograft placement, 155, 156

graft insertion, 155, 156

granulation tissue removal, 91, 91, 100

interdental alveolar crest elevation, 153, 154