

Index

- AAOS. *See* American Academy of Orthopaedic Surgeons (AAOS)
- abdominal injuries, 147–148
- abrasive wear, 33
- abscess
epidural, 71–72
finger, 272
- absolute SpPins and SnNouts, 245
- acetabular component/cup (THA)
cemented, removal, 24
in DDH, 40–41
optimal positioning, 18
survival rates, 214
- acetabulum
bone loss, 22
defects, 22–23, 178–181, 183–185
fracture, 113–120, 135–139, 141
in DDH, 39–42
revision THA, 202, 215
- adhesive wear, 33
- adipose tissue tumours, 108–109
- adolescents
malignant tumours, 104–107
scoliosis, 76–77
- adverse reaction to metal debris (ARMD), 214
- AGC (Biomet) knee prosthesis, 216
- age. *See* elderly patients; paediatrics
- Agility total ankle replacement, 57
- Aitken's classification, 184–185
- alkaline phosphatase (AlkPhos), 37
- all or none studies, 244
- allografts, 16, 24, 225, 239
- American Academy of Orthopaedic Surgeons (AAOS)
classifications
acetabular defects, 22
bone loss, 22
femoral defects, 22
guidelines, periprosthetic infection, 46
- anatomical axis, knee joint, 225
- Anderson and D'Alonzo classification, 83, 145
- Anderson and Montesano classification, 83
- Anderson Orthopaedic Research Institute (AORI) classification, 51–52
- aneurysmal bone cysts, 71, 107
- ankle
arthritis, 56–58
fractures, 117, 205–206
fusion surgery, 57–58
in pes planus, 63
instability, 55–56
osteomyelitis, 218–219
pronation external rotation injury, 205–206
surgical approaches, 117, 205–206
trauma, 116–118
- ankylosing spondylitis, 85
- annulus fibrosus, 238
- anterior capsular release, shoulder, 89
- anterior cord syndrome, 83, 144
- anterior cruciate ligament (ACL), 44, 49–51
- anterior drawer test, 55
- anterior talofibular ligament (ATFL), 55–56
- anterior tibiofibular ligament, 205
- antibiotic-loaded spacer, 16, 46
- antidromic potentials, 264
- anti-TNF alpha medication, 158
- AO classification, 82
- arm
mid arm anatomy, 275, 280,
See also forearm
- arm pain, nerve roots, 206–207
- arthritis
ankle, 56–58
knee, 43, 53
pes planus, 62
thumb base, 153–154
wrist, 153, *See also* osteoarthritis (OA); rheumatoid arthritis (RA)
- arthrodesis
ankle, 63
foot
MTP joint, 59–60, 65–67
triple, 63–64
- arthrograms, 177, 260
- arthrogryposis, 60, 192
- arthroplasty
hip, 263–264
knee, 46–48
toe, 67, *See also* hemiarthroplasty; total hip arthroplasty (THA); total knee arthroplasty (TKA)
- arthroscopic portals, elbow, 96–97
- arthroscopic procedures
Bankart's repair, 218
capsular release, 89
cruciate reconstruction, 49–50
debridement, 57
knee assessment, 112
- arthroscopic view, glenohumeral, 273, 279
- arthrotomy, 30
- articular cartilage, 234, 270, 278
- articular surface replacement (ASR), 230
- AS IT GRIPS 3Cs, 27
- aseptic lymphocyte-dominated vasculitis-associated lesion (ALVAL), 18, 230
- assessment, principles, 10–12
- astrocytoma, 71
- atlanto-axial joint, 95–96
- atlanto-occipital joint subluxation, 83
- atlas (C1) fractures, 83
- atypical lipoma, 109
- autografts, 40, 85, 225, 239
- avascular necrosis (AVN), 27–36
dislocated hip risk, 178
foot, navicular bone, 125
hip, bilateral, 27
lunate, 153–155
SUFE and, 160
THA, 209
- axis (C2) fractures, 83
- Babinski's sign, 79–80
- back pain, 72, 104
- Bado classification, 130
- Bankart's repair, 218
- Barlow's test, 172
- basic science, buzz topics, 238–240
- benign tumours, 71, 100, 108–109
femur, 101–102

Index

- benign tumours (*cont.*)
 foot/feet, 102–103
 spine, 71, *See also* haemangiomas; lipomas
- beta tricalcium phosphate, 226–227
- bias, clinical trials, 243
- biological agents, 59–60
- biomechanical properties, 225–227
- biopsy, 100
 giant cell tumour, 210
 osteomyelitis or malignancy, 219
 soft tissue swellings, 258
 spinal tumours, 69
 ultrasound-guided, 258
- bisphosphonates, 37, 197, 208
- blood supply
 bone, 238
 femoral head, 164
 menisci, 44
- Bloom's taxonomy of assessment, 10–11
- Blount's disease (idiopathic tibia vara), 187–189
- bone
 architecture, 268, 277
 basic science, 233–236
 biomechanical properties, 225–227
 blood supply, 238
 brittle, 196
 Hounsfield units, 258
 loss
 classification, 22
 in DDH, 42
 THA loosening, 21–29
 TKA loosening, 51–53
 metabolism, disordered, 36, 84
 necrosis, 166
- bone cement. *See* cement (bone cement)
- bone densitometry, 261–262
- bone graft substitutes, 226–227
- bone grafts/grafting, 225, 239
 ACL repair, 50–51
 AVN hip, 29–30
 DDH revision, 42
 spine, 80, 85
 TKA revision, 52–53
 tumour cavity, 210,
See also allografts; autografts; vascularized fibular graft (VFG)
- bone marrow fat cell hypertrophy, 28
- bone mineral density (BMD), 236–237
- bone morphogenetic proteins (BMPs), 236
- bone pain, Paget's disease, 37
- bone patella tendon bone (BPTB) graft, 50–51
- bone scanning, 262–264
- boundary lubrication, 225
- Boutonnière deformity, 157, 272
- bowed legs (genu varum), 186
- brace/bracing
 elbow, 95–96
 humerus, 133
 hyperextension, 148
 spine, 76
- brachial plexus, 269, 277–278
- British Orthopaedic Association/standards of Trauma (BOAST), 135–136
- Brostrom ligament repair, 56
- Brown–Sequard (hemi-cord) syndrome, 83, 144
- bucket handle tear, meniscus, 44
- buttress plate, 112
- calcaneal fracture, 115–116
- calcaneocuboid joint, 60
- calcaneofibular ligament (ATFL), 55–56
- calcium deposits, 90–91
- candidates, appearance and affect, 7
- carpal alignment index, 276
- carpal tunnel, 276, 280
- carpometacarpal (CMC) joint, 153–154
- cartilage
 articular, 234, 270, 278
 changes in OA, 26
 types, 233–234
- cartilage-producing matrix, 104
- cartilaginous structures, menisci, 44
- case-control study, 245
- categorical data, 248
- Catterall classification, 167
- cauda equina syndrome, 73–74, 210–212
- CAVE mnemonic, 190
- cavus foot, 60–62
- cells of bone, 233–236
- cement (bone cement)
 biomechanics, 229
 cementing techniques, 20–21
 filling/augmentation, 71, 210
 removal, 21, 24, 202
- cement mantle scale, 21
- central cord syndrome, 83, 143–144
- central slip rupture, 157
- cephalomedullary nail, 120
- ceramic implants
 scratch profile, 273, 279
 THA, 31
 wear particles, 34
- cerebral palsy (CP)
 feet, cavus, 60
 hips, 181, 183
 spine, scoliosis, 75, 77
- cervical discs
 discectomy, 80, 143
 prolapse, 73–74, 206–207
 replacement, 80
- cervical myelopathy, 79–80
- cervical spine
 anterior approach, 80, 206–207
 distraction injuries, 84
 facet dislocation, 148
 flexion injuries, 84
 fractures
 C1 (atlas), 83
 C2 (axis), 83
 C3–C7 (subaxial), 83–84
 hangman's fracture, 83, 146
 odontoid peg, 145–146
 trauma, 81
- Chance fractures, 147–148
- Charcot arthropathy, 62
- Charcot–Marie–Tooth (CMT) disease, 60–61
- Charnley THA, 229, 251
- cheilectomy, 67
- chemotherapy, 106–107
- chondroitin sulphate, 26
- chondrosarcoma, 71, 104–105
- chordoma, 71
- Chrisman–Snook procedure, 56
- chromium ions, 18, 32, 214, 230
- claustrophobia, MRI and, 261
- clinical trials
 cohort vs case-control study, 245
 design aspects, 242–243
 hypothesis testing, 244–245
 sampling, 242–244
 study power, 245
 types, 244
- club foot (talipes equinovarus).
See talipes equinovarus (club foot)
- cobalt ions, 18, 32, 214, 230
- Cobb angle, 75
- Codman's triangle, 106
- cohort study, 245
- Coleman block test, 62
- collagen, 231–232
- collagenase injections, 156
- common peroneal nerve, 205
- compartment syndrome, 115
- compression injuries, 83–84
- computed tomography (CT), 258–259, 261
- conduction velocity, nerves, 264
- conduit graft, 237
- confidence interval (CI), 244

- congenital scoliosis, 75, 78
 congenital vertical talus, 192–194
 consent, 125, 156
 constrained implants, TKA, 52
 corticosteroids, AVN induced by, 28
 cotyoplasty, 17
 courses, oral exam practice, 3, 9
 Craig splint, 175
 crescent sign/line, 27–29
 crosslinked UHMWPE, 35
 Crowe classification, 39–40
 cruciate ligaments, 44, 49–52
 cruciate retaining (CR) implants, 52
 Curling's ulcer, 145
 cysts, aneurysmal bone, 71, 107
 cytokines, 26, 34–35
- data
 analysis, 246, 248–249
 interpretation, 246–251
 types, 248
- decompression surgery, spinal
 tumours, 70–71
- DeLee and Charnley zones, 272, 279
 deltoid ligament, 205
 Denis classification, 84, 140
 Denise-Browne (DB) boots, 190, 192
 developmental dysplasia of the hip
 (DDH), 39–42, 171–176
 guidelines, 175
 leg length discrepancy, 40–42
 risk factors (mnemonic), 171–172
 screening, 252
 sonographic grading, 175
- diagnosis, absolute SpPins and
 SnNouts, 245
- diffuse idiopathic skeletal hyperostosis
 (DISH), 85
- digital radiography, 257
- Dimeglio scoring system, 192
- discitis, 72, 238
- discs. *See* intervertebral discs
- disease-modifying anti-rheumatic
 drugs (DMARDs), 60
- distal interphalangeal (DIP) joint, 157
- distal metatarsal articular angulation, 65
- divot sign, 18
- Drennan and Levine
 metaphyseal–diaphyseal angle,
 187–188
- dual energy X-ray absorptiometry
 (DEXA), 261
- Duchenne muscular dystrophy,
 75, 77
- Dunn osteotomy, 162
- Dupuytren's diathesis, 155
- Dupuytren's disease (DD), 89,
 155–156
- dysplasia, discussed, 33–40
- Eaton classification, 153
- effective joint space, 34
- elasticity, 226
- elastohydrodynamic lubrication, 225
- elbow, 92
 dislocated, 98–99
 flail elbow, 95–96, 98
 fractures, 128–130
 fracture dislocation, 130
 ligaments, 98
 loose body in, 93–95
 osteoarthritis, 96–98
 painful, 92–95
 painless lump, 108–109
 rheumatoid arthritis, 95–96, 98
- elderly patients
 degenerative changes, 87–88,
 90–91
 spine, 84
 fractures
 femur, 113–114, 120–123
 hip, 137–139
 tibia, 121–123
 malignant tumours, 104
- electromyography (EMG), 265–266
- Elmslie–Trillat procedure, 53
- Elson's test, 157
- enchondromas, 102–103, 149–150
- end plate activity, on EMG, 265
- Enneking's classification, 101
- ependymoma, 71
- epidemiology, incidence and
 prevalence, 251–252
- epidural abscess, 71–72
- equivalence trials, 244
- evidence
 from literature, 4, 9–10
 grades of recommendation, 245
 levels of, 241–242, 248–249
- evidence-based practice,
 introduction, 241
- Ewing's sarcoma, 107–108, 219
- examiners
 conduct, 7–9
 roles, 3
- Exeter THA, 25, 208–209, 229
- explanatory trial, 244
- extended trochanteric osteotomy
 (ETO), 21, 29–24, 202
- extensor carpi radialis brevis
 (ECRB), 93
- extensor digitorum communis
 (EDC), 93
- extensor indicis (EI) tendon, 149
- extensor pollicis longus (EPL)
 tendon, 149
- extensor tendons
 illustrations, 278
 rupture, 95–96
- external fixators, 128, 229
- external iliac artery, 141
- extracellular matrix (ECM),
 231–232
- F waves, 264
- fasciculation potentials, 265
- fasciotomy (fasciectomy), 156, 275
- fat cell hypertrophy, 28
- fat embolism, risk, 122
- fatigue–failure curve, 274, 279
- FATSAT, MRI sequence, 260
- femoral component (THA), 214
 rupture. *See also* femoral stem
 (THA component)
- femoral component (TKR), 54, 216
- femoral condyle, deficient, 43
- femoral head
 AVN, 31–32
 blood supply, 164
 core decompression, 29–30
 Legg–Calvé–Perthes disease,
 164–174
 PFFD classification, 185
 vascular supply, 276, 280
- femoral neck, 18
- femoral nerve, risks to, 201–203
- femoral replacement, 213
- femoral stem (THA component)
 cemented, removal, 24
 in DDH, 41
 loosening, 20–24
- femur
 bone loss, 21
 defects, 22, 39–42
 fractures
 intertrochanteric, 120–121
 intracapsular neck, 113–114
 paediatrics, 176
 pathological, 105, 212–213
 periprosthetic, 220–222
 with tibia, 121–123
 in DDH, 40–42
 osteoporosis index, 261–262
 physeal injury, 196
 short dysplastic (paediatrics),
 183–185
 tumours
 benign, 101–102
 malignant, 105–107, 219–220
- fibrillations, on EMG, 265
- fibroblast growth factor (FGF), 236
- fibroma, non-ossifying, 103–104
- fibula hemimelia, 184
- fibula, fractures, 116–118, 205–206
- Ficat and Arlett classification,
 27–30
- fingers
 abscess, 272

Index

- fingers (*cont.*)
 Boutonniere deformity, 157, 272
 extensor tendons, 272, 278
 flexor pulleys, 271, 278
 flexor tendons, 276
 nail anatomy, 272
 PIP joint ligaments, 278
 rheumatoid, 157–158
 tumours, 272
 ulnar drift, 157,
 See also Dupuytren's disease;
 metacarpophalangeal (MCP)
 joints
- fish osteotomy, 162
- fixation systems, 227–229, 275
 Blount's disease, 188–189
 bridging plate, 122–123
 circular frame, 122, 123
 external, 128, 229
 intramedullary nail, 121
 pathological femoral fracture, 213
 pelvic vertical shear fracture, 137
 periprosthetic femoral fracture,
 220–221
 tension band wire, 271, 278
- fixed model effects, 248
- flail elbow, 95–96, 98
- flare phenomenon, 263
- flat foot (*pes planus*), 62
- fleck sign, 114
- flexor digitorum longus (FDL), 63–64
- flexor hallucis longus (FHL), 64
- flexor pulleys, 271, 278
- fluid-film lubrication, 225
- ¹⁸F-fluorodeoxyglucose (FDG), 262
- foot/feet
 cavus foot, 60–62
 club foot, 189–192
 fracture dislocation, 114–115
 fractures, 115–116, 123–121
 hallux rigidus, 66–67
 hallux valgus, 58–60, 64–66
 hallux varus, 66
 high arch, 60–61
 pes planus, 62
 rheumatoid arthritis, 58–60
 surgical risks, 125
 tumour, benign, 102–103
 vertical talus, 189–194
- footwear. *See* orthotic treatment
- forearm
 anatomy, 275, 280
 fractures, 132–134
 displaced, 203–204
 non-accidental, 196–198
 osteogenesis imperfecta (OI),
 196–197
 radius, 130–132
 forefoot deformities, 58–60, 189–190
- Forestier's disease, 85
- Fracture Risk Assessment Tool
 (FRAX), 261
- fractures
 bone scanning, 262
 fixation
 biomechanics, 227–229
 healing, 238–239
 open, 129
 pathological, 105
- Frankel grading system, 83
- free radical stabilization, 35
- fretting wear, 33
- Friedrich's ataxia, 60
- frozen shoulder, 88–89
- Fs (6x) mnemonic, 171–172
- Fulkerson procedure, 53
- funnel plot, 246–251
- gadolinium contrast, 260
- Galleazzi test, 171
- gallium, bone scan, 263–264
- ganglion, wrist, 152
- Gantz osteotomy, 162
- Gelberman classification, 154
- General Medical Council (GMC),
 125
- geniculate blood vessels, 44
- genu valgus (knocked knees), 186
- genu varum (bowed legs), 186
- giant cell tumour, 209–210
- Gillespie and Torode classification,
 184
- glenohumeral joint, 273, 279
- Goldthwait–Roux procedure, 54
- golfer's elbow, 92–93
- Graf classification, 172–175
- grafts/grafting
 ACL, 49–51
 hamstring, 50–51,
 See also allografts; autografts;
 bone grafts/grafting;
 vascularized fibular graft
 (VFG)
- greater tuberosity fracture, humerus,
 126–127
- grind test, 153
- Gross and associates classification, 22
- growth plate. *See* physis (growth plate)
- Gruen zones, 272, 279
- H reflex, 264–265
- haemangiomas, 71, 103
- hallux rigidus, 66–67
- hallux valgus, 58–60, 64–66
- hallux varus, 66
- halo vest/jacket, 83–84, 145–146, 148
- hamartomatous lesions, 104
- hamstring graft, 50–51
- hands
 enchondroma, 103, 149–150
 paediatrics, 149–151
 parts for illustrations, 278,
 See also fingers; scaphoid;
 thumbs
- hangman's fracture, 83, 146
- hard (Aspen) collar, 145
- Hardinge surgical approach, 25,
 201–202
- Harris and Barrack scale, 21
- Hartofilakidis classification, 39–40, 42
- Hatrup and Johnson grading system,
 66–67
- Hauser procedure, 54
- Hawkin's sign, 118
- hemiarthroplasty
 femoral neck fracture, 113
 infected, 13–17
 toe, 67
 wear debris, 17
- hemi-cord syndrome, 83, 144
- Henry's approach, 203–204
- hereditary motor–sensory neuropathy
 (HMSN), 60–61
- Herring classification, 167–168
- heterogeneity, 241–242, 247–248
- heterotopic ossification (HO), 37
- Hibb's angle, 62
- high tibial osteotomy (HTO), 43,
 46–48
- Hill–Sach's lesion, 217–218
- hindfoot deformities, 60, 64, 189–190
- hip, 13
 avascular necrosis, 27
 dislocation, 118–120, 141, 171–181,
 183
 fractures, 113, 120–121, 137–139
 in trauma, 139–141
 hemiarthroplasty, 13–17
 infection
 periprosthetic, 13–17, 15–16
 sepsis drainage, 202–203
 irritable, 181–183, 202
 MR arthrograms, 260
 osteoarthritis, 24–27, 213–215
 osteonecrosis, 208–209
 paediatrics, 159–186, 164–174,
 171–181
 Paget's disease, 36–39
 painful
 bilateral, 27, 39–42
 differential diagnosis, 36, 38
 paediatric, 181–183
 post-hemiarthroplasty, 13–17
 post-THA, 18, 20–24
 pseudotumour, 18
 resurfacing, 230
 surgical approaches, 25–26, 136

- ultrasound uses, 258,
See also developmental dysplasia of the hip (DDH); Paget's disease; total hip arthroplasty (THA)
- Hodgson's surgical approach, 75
- Hoffman's sign, 79
- homogeneity, 241–242
- hormonal theory, in SUFE, 161
- Hounsfield units, 258
- humerus, fractures, 126–130, 132–134
- Hungerford and Lennox classification, 28
- hydrodynamic lubrication, 225
- hydroxyapatite, 226–227
- hypothesis testing, 244–245
- idiopathic tibia vara (Blount's disease), 187–189
- iliac wing, 104
- iliosacral fixation, 141
- illustrations, for viva, 277–280
- immunoglobulin, 269, 277
- implants. *See* prostheses
- incidence, epidemiology, 251–252
- infection
 control/prevention, 16
 gallium bone scan, 263,
See also periprosthetic infection
- inflammatory markers, sensitivity and specificity, 14, 46
- insulin-like growth factor (IGF), 236
- interleukin, 34
- interleukin-1 (IL-1), 26
- interleukin-1 β (IL-1 β), 34
- interleukin-6 (IL-6), 14, 34
- intermetatarsal angle, 65
- interphalangeal joint (IPJ), 66
- intervertebral discs
 age-related changes, 270
 anatomy, 238, 278
 congenital deformities, 78
 discitis, 72, 238
 hemivertebrae, 74–75, 78
 herniated, 74
 nerve supply, 238
 prolapse, 72–74, 206–207, 269, 278
 cauda equina syndrome, 210–212
 facet dislocation and, 142–143
 structure, 84
 surgical approach, 74–75,
See also cervical spine; lumbar spine
- intradural tumours, 71
- intraosseous blood supply, 154
- irritable hip (transient synovitis), 181–183, 202
- Jefferson fractures, 83
- Johnson and Strom classification, 63
- joint aspiration, 14
- joint lubrication, 224–225
- joint space, effective, 34
- juvenile rheumatoid arthritis, 95
- K-wires, 132, 194
- Keller's arthroplasty, 67
- Kellgren and Lawrance Radiographic Criteria, 57
- keratin sulphate, 26
- Kerboull necrotic angle, 29
- Kienbock's disease, 153–155
- Klein's line, 160
- knee
 anatomical and mechanical axes, 225
 aneurysmal bone cyst, 107
 arthroscopy, 112
 dislocation, 204–205
 genu valgus (knocked knees), 186
 genu varum (bowed legs), 186
 idiopathic tibia vara (Blount's disease), 187–189
 MR arthrograms, 260
 osteoarthritis, 46–48, 215–217
 paediatrics, 159–163, 186–189
 painful, post-arthroplasty, 44–46, 48–49
 SUFE, 159–163
 surgical approaches, 204–205, 216
 tumour, 209–210, 219–220,
See also patella
 knocked knees (genu valgus), 186
 knot of Henry, 64
 Kocher–Langenbeck approach, 136
 Kocher's criteria, 182–183
 Kocher's manoeuvre, 217
- labrum, 180–181
- Langenskiöld's classification, 188–189
- lateral collateral ligaments (LCL), 98
- lateral cutaneous nerve, risks to, 203
- lateral parapatellar approach, 216
- lateral pillar classification, 167–168
- lateral ulnar collateral ligament (LUCL), 98, 99
- Lauge Hansen classification, 205
- leg length discrepancy (LLD), 40–42, 183–186
- Legg–Calvé–Perthes disease (LCPD).
See Perthes disease
- levels of evidence, 241–242
- Levine and Edwards classification, 83
- Lichtman classification, 153
- ligaments
 ankle, 55–56
 basic science, 231–233
 insertion to bone, 239
 PIP joint, 272
 spine, 85, *See also* individual ligaments
- limbus, 180–181
- lipomas, 100, 108–109
- Lisfranc tarsometatarsal fracture
 dislocation, 114–115
- loose bodies
 hip, 113–120
 shoulder, 126–127, *See also* wear particulate debris
- lower limb(s)
 anatomy, 274, 279–280
 congenital defects, 183–185
 leg pain, 72–73, 210–212
 trauma, intro, 111
 tumours, 105–107, 209–210,
See also knee; leg length discrepancy (LLD)
- lumbar spine
 disc prolapse, 74, 210–212
 fractures, 81, 139–141
 Paget's disease, 36, 37
 spinal stenosis, 78,
See also thoracolumbar spine
- lunate bone, 153–155
- lunotriquetal (LTL) ligament, 151
- lymphoma, 71
- M wave, 265
- macrophages, 35
- Maffucci's syndrome, 103, 150
- magnetic resonance imaging (MRI)
 arthrograms, 260
 lumbar spinal stenosis, 78
 metal artefact reduction (MARS), 18–19
 metal wear, 230
 quantitative MRI, 261
 scanners, 259–261
 T1 or T2 images, 259–260
- malignant transformation,
 enchondromas, 103
- malignant tumours, 100
 femur, 105–107, 219–220
 flare phenomenon, 263
 hip, 17
 pelvis, 104
 spine, 69–71
- mallet finger, 272
- Maquet procedure, 54
- marking. *See* structured oral exam, marking
- materials
 biomechanical properties, 225–227, 279
 fatigue–failure curve, 274
 scratch profile, 273, 279

Index

- materials (*cont.*)
 stress-strain curve, 274
- matrix metalloproteinases (MMPs), 26
- Matsen's traction-countertraction
 reduction, 217
- Mayfield classification, 150
- Meary's angle, 62
- mechanical axis, knee joint, 225
- medial collateral ligaments (MCL), 98, 216
- medial patella-femoral ligament (MPFL), 53
- medializing calcaneal osteotomy, 64
- median nerve, 237
- meniscus, 271, 278
 basic science, 44, 234
 bucket handle tear, 44
- mesenchymal stem cells (MSCs), 233
- meta-analysis, 241–242, 246–251, 246
- metacarpophalangeal (MCP) joints
 rheumatoid, 95–96, 157–158
 silastic replacements, 157–158
 UCL injury, 156–157
- metal artifact reduction sequence (MARS), 18–19, 230
- metal implants, scratch profile, 279
- metal particulate debris, 18, 34, 54, 214
- metal-on-metal (MOM) hip
 biomechanics, 230
 complications, 18
 jumbo head, 32
 outcomes, 19–20
- metal-on-plastic prostheses, wear
 debris, 17, 223–224
- metaphyseal–diaphyseal angle, 187–188
- metaphyseal–epiphyseal angle, 187–188
- metastatic disease, 100
 femur, 105, 108, 212–213
 hip, 17
 knee, 106–107
 spine, 69–71
- metatarsal heads, 58–60
- metatarsophalangeal (MTP) joint
 arthrodesis, 59, 65–67
 movement range, 66
- methotrexate, perioperative, 158
- Meyerding's grading system, 80–81
- micro-elastohydrodynamic
 lubrication, 225
- Miller's pyramid of assessment, 11–10
- Mitchell osteotomy, 65
- Moberg dorsal closing wedge
 osteotomy, 67
- mobile bearing prosthesis, 224
- Monteggia fracture dislocation, 130
- Mose classification, 168, 169
- motor unit action potential (MUAP), 265
- multiple hereditary exostoses, 102
- muramyl-tripeptide (MTP), 107
- muscle
 contraction types, 239
 skeletal, 268, 277
- muscles, electromyography, 265–266
- muscular dystrophy, 60
- musculoskeletal system tissues,
 intro, 231
- Musculoskeletal Tumour Society
 staging system, 101
- myeloma, 71
- Myerson classification, 63
- myokimic discharges, on EMG, 265
- myopathy, EMG findings, 266
- myositis ossification, 94
- nail (finger), anatomy, 272, 278
- nail fixation, 229
- navicular bone, 121–123
- neoplasm, definition, 100
- nerve cells, 267, 277
- nerve conduction studies, 264–265
- nerve fibres, 237
- nerve grafts, 237
- nerves, 237, 267, 277
 injuries, classification, 237
 internervous plane, 206
 risks in surgery, 201–205
- neurogenic claudication, 78–79
- neurogenic shock, 81–82, 144
- neurological injury, spinal trauma,
 82–83
- neuromuscular foot deformity, 60
- neuromuscular scoliosis, 75, 77
- neurovascular system, knee
 dislocation, 204–205
- non-accidental injury (NAI), 196–198
- non-ossifying fibroma, 103–104
- non-parametric tests, 248
- nuclear imaging, 17, 46
- nucleus pulposus, 238
- null hypothesis, 244–245
- obesity, TKA issues, 224
- obturator nerve, risks to, 201–202
- occipital condyle fractures, 83
- odds, data analysis, 249–250
- odontoid peg fractures, 83, 145–146
- Ogden classification, 194
- olecranon, 129–130
- Ollier's disease, 103, 150
- Omega approach, 201–202
- oncology, 100, 105
 lesion characteristics, 104
 MDT team, 103–104,
See also malignant tumours;
 metastatic disease
- open fractures, 129
- open reduction with internal fixation (ORIF), 139, 152
- operating theatres, infection
 control/prevention, 16
- orthodromic potentials, 264
- orthotic treatment
 ankle arthritis, 57
 cavus foot, 62
 flat foot, 63
 hallux rigidus, 66
 pes planus, 63
 rheumatoid foot, 59
- Ortolani's test, 172
- osteoarthritis (OA), 26
 classification, 24
 elbow, 94–98
 hip, 24–27, 213–215
 knee, 46–48
- osteoblastic regulators, 34
- osteoblastoma, 71
- osteoblasts, 36, 39, 233
- osteochondritis dissecans (OCD),
 94–95
- osteochondromas, 71, 101–102
- osteoclasts, 36, 38–39, 233
- osteocytes, 233
- osteogenesis imperfecta (OI),
 196–197
- osteolysis
 implant loosening, 34–36
 Paget's disease, 38
 wear debris, 223–224
- osteomyelitis, 72, 218–219, 221–222
- osteonecrosis, 208–209
- osteopenia, 236, 261
 peri-articular, elbow, 95–96
 talus fracture, 118
- osteoporosis, 137–139, 236–237,
 252
- osteoprotegerin (OPG), 34–35
- osteosarcoma, 71, 101, 105–107
- osteosynthesis, 146
- osteotomy
 chevron, 129–130
 extended trochanteric (ETO),
 21, 24–29, 202
 femoral, 162
 hallux rigidus, 67
 hallux valgus, 65
 hip, 30, 38
 knee, 47–48
 medializing calcaneal, 63–64
 Moberg dorsal closing wedge, 67
 olecranon, 129–130
 radius, distal, 154–155
 shortening, metatarsal, 59
 subtrochanteric, 42, 162
 tibial, 46–48
- outcome measures, 253–256

- paediatrics, 159
- ankle, 218–219
 - elbow, 99
 - feet, 189–194
 - femoral head blood supply, 164
 - femur, 176, 183–185
 - forearm fractures, 196–198
 - halo vest, 148
 - hand, 149–150
 - hip, 159–186
 - dislocated, 171–181, 183
 - irritable hip, 181–183
 - septic, 202–203
 - subluxation, 181
 - intervertebral discs, 72–73, 238
 - juvenile RA, 95
 - knees, 159–163, 186–189
 - lower limbs, bowed legs, 186
 - osteogenesis imperfecta (OI), 196–197
 - Perthes disease, 164–174
 - physeal injury, 196
 - scoliosis, 75, 77–78
 - septic arthritis, 182–183
 - spondylolisthesis, 81
 - tumours
 - benign, 101–104
 - spinal, 70, 71
 - wrist, ganglion, 152
- Paget's disease, 36–37, 84
- hip, 36–39
 - long bones, 36–37
 - lumbar spine, 36–37
 - protrusio acetabuli, 37
 - radiographic features, 36–37
 - skull, 37
- Paley classification, 184–185
- Paprosky classification, 22–29
- parametric tests, 248
- paramyxoviral infection, 37
- parosteal osteosarcoma, 219–220
- pars interarticularis, 81, 83
- patella, 43–44, 50, 53–54
- patella baja, 47–48
- patellofemoral maltracking, 54
- pathological fractures, 105, 212–213
- patient reported outcome measures (PROMs), 253–255
- Pavlick harness, 175–176, 179
- pelvis
 - fractures
 - classification, 139
 - multiple trauma, 135–136, 139–141
 - vertical shear, 136–137
 - malignant tumours, 104
- periarticular fractures, 259
- peripheral neuropathy, 58–59
- periprosthetic fracture, 220–222
- periprosthetic infection
 - hip (THA), 13–17, 21, 221–222
 - imaging, 17, 46, 263–264
 - knee (TKA), 44–46
- periprosthetic osteolysis, 34–36
- periprosthetic regions, effective joint space, 34
- peroneal nerves, 44
 - at risk, 47, 205
- peroneal tendon, 56
- peroneus brevis tendon, 56
- Perthes' disease
 - classification, 165–169
 - differential diagnosis, 165
 - grading, 169
 - paediatrics, 164–174
 - prognostic signs, 169
- pes planus (flat foot), 62
- Peterson classification, 194
- physis (growth plate)
 - anatomy, 271, 278
 - basic science, 234–236
 - fractures, classification, 194, 234
 - injury, 196
 - layers, 194
 - zones, 234–235
- pillar pain, 276
- pilon fracture, 116–118, 139–140
- pinning in situ (PIS), 161–163
- Pirani score, 190–191
- pivot-shift test, 99
- plasticity, 226
- plate fixation
 - buttress, 135
 - calcaneal, 116
 - dynamic compression, 203–204
 - fixed angle, 120–122
 - humerus, 133–134
 - tibial plateau fracture, 228
- platelet-derived growth factor (PDGF), 34, 236
- polyethylene, 35
 - wear debris, 17, 223–224
- Ponseti's serial casting, 190, 192, 194
- popliteal fossa, 204–205, 219–220
- positive sharp waves, on EMG, 265
- positron emission tomography (PET), 262
- posterior cord syndrome, 83, 144
- posterior cruciate ligament (PCL), 44, 49–52
- posterior distal tibiofibular ligament, 55
- posterior interosseous nerve (PIN) palsy, 95–96
- posterior longitudinal ligament (PLL), 143
- posterior malleolus (PM), 206
- posterior tibiofibular ligament, 205
- post-traumatic arthritis, 56–58
- Powers' ratio, 83
- pragmatic trial, 244
- prevalence, epidemiology, 251–252
- pro-inflammatory cytokines, 26
- pronation external rotation injury, 206
- PROSTALAC spacer, 16
- prostheses
 - constrained, 52
 - mobile bearing, 224
 - surface biomechanics, 230
 - wear in, 33–36, *See also* individual prostheses
- proteoglycans, 26, 234, 268, 277
- protrusio acetabuli, 37
- proximal focal femoral deficiency (PFFD), 183–185
- proximal interphalangeal (PIP) joint
 - Boutonniere deformity, 157, 272
 - ligaments, 272, 278
- pseudotumour, 18, 32
- pubic rami, fractures, 136–137, 140–141
- pulley system, thumb, 271, 278
- pulses, peripheral, 79
- quantitative CT, 261
- quantitative MRI, 261
- radial head, dislocation, 95–96, 98–99, 130
- radial nerve, risks to, 203
- radial styloid, 127–128, 153
- radial tunnel syndrome, 93
- radiation, 257–258
- radiocarpal joint, 127–128
- radiographs, 257–258
- radiological classification
 - Blount's disease, 188
 - Kellgren and Lawrence, 57
 - Perthes' disease, 165–167
 - SUFE, 160
- radiology, introduction, 257
- radiotherapy, 71
- radioulnar joint, 130–132
- radius
 - fractures, 130–132, 139–140, 203–204, 275
 - measurements, 276, 280
 - physeal injury, 196
 - wrist levelling procedures, 154–155
- Randall Loder grading system, 160
- random model effects, 247–248
- receptor activator of nuclear factor- κ B ligand (RANKL), 34–35
- recommendation, grades of, 241, 245–246

Index

- recurrent laryngeal nerve, 207
 references, literature, 4, 9–10
 Reimer's migration index (RIM), 181
 respiratory disorders, 96, 122
 reverse-polarity shoulder replacement, 92
 revision courses. *See* structured oral exam, courses
 rheumatoid arthritis (RA)
 elbow, 95–96, 98
 foot, 58–60
 hands, 157–158
 juvenile, 95
 knee, 43
 risks, data analysis, 249–250
 Risser's sign, 76
 rod fixation, 141
 rotator cuff, 87–88, 91–92
- sacrum, fractures, 84, 140–141
 Salter and Thompson classification, 167
 Salter–Harris classification, 194, 234
 sampling, clinical trial, 242–244
 saphenous nerve, 51
 sarcoma, 100
 sarcomere, 277
 scaphoid, 150–153
 scaphoid non-union advanced collapse (SNAC) wrist, 153
 scapholunate angle, 150
 scapholunate ligament (SL), 151–152
 scarf osteotomy, 65
 sciatic nerve
 in hip dislocation, 118
 in THA, 21, 25–26
 risks to, 40–41, 201–202
 scoliosis, 74–78
 late-onset, 76–77
 paediatrics, 75, 77–78
 scratch profile, 273, 279
 screening, programme features, 252–253
 screws
 cannulated, 125, 162–163
 osteosynthesis, 146
 questions, 273, 279
 tibial fractures, 112–113, 227–228
 seat belt injuries, 147–148
 Seddon classification, 237
 Selenius curve, 186
 sensitivity and specificity, 14, 46, 253
 septic arthritis, paediatrics, 182–183
 septic hip, 202–203
 Seymour fracture, 272
 shoulder, 86
 dislocation, 87–88, 217
 fracture dislocation, 126–127
 frozen shoulder, 88–89
 imaging, 258, 260
 infection in, 86–87
 instability, arthroscopy, 218
 rotator cuff, 87–88, 91–92
 spaces and intervals, 269, 278
 subacromial impingement, 90–92
 Sillence classification, 196–197
 Singh and Maini index, 261–262
 single heel raise test, 63
 single photon emission tomography (SPECT), 262
 skeletal survey, 198
 skeletal traction, 137–138
 skull, Paget's disease, 37
 slipped upper femoral epiphysis (SUFE), 159–163
 small cell carcinoma, metastases, 212–213
 Smith Peterson approach, 202–203
 soft tissue, 231
 damage, 115–117, 205
 release, 181, 194
 seat belt injuries, 147–148
 swellings, 258
 THA approaches, 201
 solitary plasmacytoma, 71
 sonographic grading, 175
 Southwick radiological grading, 160
 specificity. *See* sensitivity and specificity
 spica cast, 175–177
 'spilled tea-cup' sign, 150
 spina bifida, 60
 spinal cord
 anatomy, 270, 278
 injury, 143–145
 spinal dysraphism, 60, 76
 spinal fusion, 85
 spinal ligaments, 85
 spinal muscular atrophy, 75
 spinal shock, 82, 144
 spinal stenosis, 270, 278
 cervical, 79–80
 lumbar, 78–79
 spinal tumours, 69–71
 spine, 69
 anatomy, 278
 ankylosing spondylitis, 85
 basic science, 238
 epidural abscess, 71–72
 facet dislocation, 148–143
 hip pain from, 21, 25
 Paget's disease, 84
 trauma, 81–84, 148, *See also* cervical spine; lumbar spine; scoliosis
 spino pelvic stabilization, 140
 spiral cords, 155–156
 splints, 175–180
 spondylolisthesis, 79–81, 146
 Staphylococcus aureus infection, 46, 72
 statistics, data interpretation, 246–251
 Steel's blanch sign, 160
 Steinberg *et al.* staging system, 29
 stem cell therapy, 30–31
 Stener lesion, 157
 steroids
 AVN induced by, 28
 intra-articular, 57
 joint infection and, 87
 perioperative, 158
 spinal trauma and, 82
 subacromial bursa, 90
 Stimson dislocation reduction, 217
 STIR, MRI sequence, 260
 stress and strain, 226, 232–233, 274, 279
 stress ulceration, 145
 structured oral exam
 answering questions, 3–9
 courses, 3, 9
 format, 3
 marking system, 3, 5–6, 9–10
 preparation, 2–3
 purpose and value, 1–2
 references from literature, 4, 9–10
 revision for, 2–3
 topics, 2, 9
 study power, 245
 Stulberg classification, 169
 subacromial impingement, 90–91
 subaxial (C3–C7) fractures, 83–84
 subscapularis tendon, 88
 subtalar joint, 60
 subtrochanteric fracture, 212–213
 subtrochanteric osteotomy, 42
 Sunderland classification, 237
 superficial peroneal nerve, 206
 superior gluteal nerve, risks to, 201–203
 supination external rotation (SER) injury, 205–206
 supracondylar fracture, femur, 121–123
 supra-maximal stimulation, 264
 surgical approaches
 ankle fracture, 205–206
 cervical spine, 206–207
 forearm fracture, 203–204
 hip
 septic drainage, 202–203
 THA, 25–26, 201–202
 knee, 49, 204–205
 survival analysis, 251
 swan neck deformity, 272
 synovial carcinoma, 94

- synovial chondromatosis, 95
 synovial fluid, 44, 183, 224
 synovial joints, 224–225
 synovitis, 26
 systematic review, 241–242, 246–251
- T1 or T2 images, in MRI, 259–260
 talar tilt test, 55
 talipes equinovarus (club foot), 60, 189–192
 correction (mnemonic), 190
 scoring system, 191–192
 talonavicular joint, 60, 193–194
 talus
 defects, 56, 192–194
 fractures, 116–118
 tantalum rod decompression, 31–32
 tarsometatarsal fracture dislocation, 114–115
 technetium bone scan, 262–264
 tendinosis, 93
 tendonitis, calcific, 90–91
 tendons, 231–233
 insertion to bone, 239
 ultrasound, 258
 vasculature, 268, 277
 tennis elbow, 92–93
 tension band wire, 271, 278
 tests
 outcomes, 253
 parametric vs non-parametric, 248–249
 thenar muscle, 276
 thigh skin fold sign, 171–172
 thigh, anatomy, 274, 279
 Thompson's hemiarthroplasty, 13–14, 17
 thoracic spine
 disc prolapse, 73,
 See also thoracolumbar spine
 thoracolumbar injury classification and severity score (TLICS), 83
 thoracolumbar spine
 fractures, 82, 144–145, 147–148
 trauma, 81, 83
 thrombophilic theory, Perthes disease, 164
 thumbs
 arthritis, 153–154, 158
 EPL tendon rupture, 149
 pulley system, 271, 278
 ulnar collateral ligament injury, 156–157
 tibia
 aneurysmal bone cyst, 107
 Blount's disease, 187–189
 fractures, 111–113, 116–118, 121–123, 139–140
 in knee replacement, 216
 osteomyelitis, 218–219
 physeal injury, 196
 tumours, 103–104, 209–210
 tibial component (TKR), 54
 tibial nerve, 205–206
 tibial plateau, 111–113, 227–229
 tibial tubercle (TT), 53–54
 tibialis anterior tendon, 194
 tibialis posterior tendon, 62–63
 tibiofemoral angle, 187–188
 time/distance/shielding (TDS), 258
 toes. *See* hallux rigidus; hallux varus
 Tokuhashi grading system, 69–70
 total ankle replacement, 57–58
 total elbow replacement (TER), 95–98
 total hip arthroplasty (THA)
 cemented, 208–209, 229
 cemented vs uncemented, 38
 ceramic, 31, 32
 dislocation risk, 113–114
 femoral neck fracture, 113
 jumbo head, 32
 loosening, 20–24, 272
 MOM hip resurfacing compared, 20
 ORIF and, 139
 osteoarthritis, 25–26
 Paget's disease, 37–38
 painful, bone scan, 263–264
 periprosthetic fracture, 220–222
 prostheses compared, 229–230
 revision surgery, 21, 202, 214–215, 221–222
 surgical approaches, 25–26, 201–202
 survival rates, 214
 uncemented, 38, 229–230
 wear in, 33–36
 younger patient, 213–215,
 See also wear particulate debris
 total joint replacement, toe, 67
 total knee arthroplasty (TKA)
 anatomical and mechanical axes, 225
 constrained implants, 52
 HTO revision, 47–48
 infected, 44–46
 loosening, 51–53
 malalignment, 54
 osteolysis, 223–224
 painful, bone scan, 263–264
 procedure, 216–217
 revision surgery, 46, 51–53
 UKA compared, 48–49
 valgus knee, 43–44
 wear in, 36
 trabeculae of femur, 261–262
 traction-countertraction method, 217
 tranexamic acid (TXA), 246–251
 transscaphoid perilunate fracture-dislocation, 150–151
 transforming growth factors (TGFs), 236
 transient synovitis (irritable hip), 181–183, 202
 trapdoor procedure, 30
 trapeziectomy, 153
 trauma, multiple injuries, 139–140
 Trethowan's sign, 160
 trimalleolar fracture, 205–206
 trochanteric osteotomy, 21, 24, 202
 T-score BMD, 236
 tumour necrosis factor (TNF), 34, 236
 tumours, 100
 differential diagnosis, 218–219
 margins, 101
 pathology, 209–210
 PET in diagnosis, 262
 reactive zones, 101
 staging, 101, *See also* benign tumours; malignant tumours
 ulna
 fracture, 130, 139–140, 203–204
 ulnar minus variant, 154–155
 ulnar collateral ligament (UCL), 156–157
 ultra-high molecular weight polyethylene (UHMWPE), 33–36
 ultrasound, 172–175, 258
 unicondylar knee arthroplasty (UKA), 46–49
 Vaccaro *et al.* classification, 83
 valgus deformity
 hindfoot, 64
 knee, 43–44, 215–216
 Van der Vleuten utility index formula, 11
 varus deformity
 hindfoot, 60
 knee, 46–47
 vascular claudication, 79
 vascular system
 bone, 238
 knee dislocation, 204–205
 menisci, 44
 vascularized fibular graft (VFG), 29–30
 vastus lateralis muscle, 43–44
 VATER syndrome, 78
 Vaughn–Jackson syndrome, 95–96
 vertebral body, 71, 83

Cambridge University Press

978-1-107-62736-9 - Postgraduate Orthopaedics: Viva Guide for the FRCS (Tr & Orth) Examination

Edited by Paul A. Banaszkiwicz

Index

[More information](#)

Index

- viral infection, in Paget's disease, 37
 viscoelasticity, 274, 279
 viscosity, 226
 vitamin E, 35
 viva voce, old style, 4
 volar capsule, 127–128
 volar plate, 272
- Waldenstrom radiographic
 classification, 165–167
- water
 in cartilage, 26
 in collagen, 234
- Watson–Jones approach, 201–202
- wear, 33, 224
- wear particulate debris
 ceramic implants, 34
 metal, 34, 54, 214
 pseudotumour, 18, 32
 metal-on-plastic prostheses,
 17, 223–224
- Weber classification, 205
- websites, oral exam questions, 2
- Weil osteotomy, 59
- Wilson radiological grading, 160
- Wiltze classification, 81
- wrist
 arthritis, 153
- diagrams and questions, 275
- dislocation, 130–132
- fracture, displaced, 127–128
- fusion, 158
- ganglion, 152
- joint levelling procedure, 154–155
- MR arthrograms, 260
- pain, Kienbock's disease, 153–155
- SNAC, 153, *See also* carpal tunnel
- Xiapex® injections, 156
- X-rays, 76, 257–258
- Z-plasty, 156, 273, 279