

Index

Page numbers in *italics* refer to figures, page numbers followed by 'n' refer to notes.

- abdomen
 acute pain, 521–529
 appendicitis, 292, 521–523
 bowel obstruction, 526, 527
 cholecystitis, 523–526, 525
 stercoral colitis/perforation, 529
 aortic aneurysm, 249, 526–529, 528, 529
 retroperitoneal blood on CT, 549, 551
 CPR-related injuries, 499, 503
 free air in, 196
 intra-abdominal infections, 291–292, 563
 postmortem examination, 62
 abrasions, 173, 201, 609
 following CPR, 497
 abscesses
 lung, 256, 258
 oral, 435
 accidents, 72–84
 assessment, 74–75
 autoerotic asphyxia, 646
 burns and scalds, 82–84, 136–138
 causes and risk factors, 74–76
 choking on food, 23–24, 141, 276–277, 581
 drowning, 84, 221, 228
 electrocution, 41, 230
 falls *see* falls
 manner of death certification, 645–646, 647–648
 mobility scooters, 82
 motor vehicles, 57, 80–82
 in residential care, 580–582
 sleep-related injuries, 84
 statistics, 72–74, 77
 acquired polycystic kidney disease (APKD), 325
 actinic purpura, 55, 56, 144, 200, 610
 mimicking signs of abuse, 181, 200, 200–201, 201
 acute fibrinous and organizing pneumonia (AFOP), 256, 259
 acute kidney injury (AKI), 336–337, 337
 acute lymphoblastic leukemia (ALL), 614, 618
 acute myeloid leukemia (AML), 418–420, 422
 Addison disease, 475
 adenovirus, 254
 adrenal disease, 475
 advance directives, 93
 adverse drug reactions, 294–295
 anaphylaxis, 296, 565–566
 to anesthesia, 559–560
 Beers criteria, 488
 colitis, 291, 389, 566
 diabetes, 477, 479–480
 esophagitis, 375, 376
 fatal, 565–566, 572, 581–582, 645
 on the female urogenital system, 353
 fever, 294
 gastric, 381–383
 hyponatremia, 475
 nephrotoxicity, 337
 pituitary disorders, 472–473
 prescription cascades, 488–489
 pulmonary, 273
 in residential care, 581–582
 small intestinal, 386, 387
 advocate groups, 15
 age at death estimates, 452–459
 aspartic acid racemization, 458–459
 dentition, 457
 DNA, 459
 skeletal, 453–456, 460
 auricular surface of ilium, 454
 cranial sutures, 454
 histomorphology, 458
 limitations, 459
 ossification of cartilage, 456, 457, 458
 osteoarthritis, 453, 456
 pubic symphysis, 453
 sternal end of rib, 454
 age discrimination, 15, 634–635
 age-related meningeal fibrosis, 303
 aging process *see* pathophysiology of aging
 agrarian societies, 4–5
 air embolism, 562, 563, 564
 airway management
 complications, 496, 496, 560
 airway obstructed by blood, 562
 esophageal intubation, 560, 561
 airway obstruction *see* asphyxia
 alcohol use/abuse
 and accidental injury, 76
 brain damage, 313
 diabetes, 479
 ketoacidosis, 337
 liver disease, 395
 and suicide, 227
 volume of distribution, 487
 allergy, 565–566
 to dust mites, 168
 to penicillin, 296
 alopecia, 56, 131
 alternative medicines, 487, 490
 alveolar hemorrhage, 273
 Alzheimer disease, 25
 as cause of death, 21, 302
 diagnosis (antemortem), 302–303, 514–516, 517
 diagnosis (postmortem), 66, 304–306, 621, 622
 genetics, 307
 amalgam tattoos, 450
 amiodarone, 273
 amyloid
 cardiac amyloidosis, 245
 cerebral amyloid angiopathy, 135, 314–316, 511, 515
 plaques in the brain, 304–306, 310, 622
 pulmonary amyloidosis, 261–262, 265, 266
 anal examination, 195–196, 196
 anal fissures, 203
 anal injuries, 196, 198–199
 fistula, 198, 199, 199
 mimicking conditions, 202–203
 anaphylaxis, 296, 565–566
 anaplastic large cell lymphoma, 427
 anatomy, in history, 6, 8–9, 11
 Andrus, Ethel Percy, 12–13
 anemia, 406–412
 B12/folate deficiency, 406, 412
 of chronic disease, 409–412, 601
 in CKD, 412
 diagnosis, 407–409
 endocrine causes, 412
 iron deficiency, 406, 409
 pathophysiology, 405–406, 407
 unexplained, 412
 anesthesia-related deaths, 559–560
 aneurysms
 abdominal aorta, 249, 526–529, 528, 529
 retroperitoneal blood on CT, 549, 551
 cerebral, ruptured, 146
 angiodyplasia, 391
 angiography, 511
 postmortem, 537, 617
 angular cheilitis, 444
 ankylosis, 461, 462, 542, 546
 anorexia nervosa, 112, 119
 anthropological estimation of age *see* age at death estimates
 antibiotics
 adverse effects
 anaphylaxis, 296
C. difficile infection, 291, 388, 389, 566
 gastropathy, 381
 cellulitis, 288
 endocarditis, 285
 intra-abdominal infections, 292
 meningitis, 291
 necrotizing fasciitis, 289
 pressure ulcers, 289
 resistance, 283, 286, 296
 UTIs, 285–286
 anticoagulants, 425
 and falls, 78, 80
 hemorrhage, 565

- intracranial, 316, 317
 postmortem signs of use, 542, 543–545
- antipsychotic agents, 24, 477, 479–480
- Antiquity, old age in, 3–7
- aorta
 abdominal aneurysm, 249, 526–529, 528, 529
 retroperitoneal blood on CT, 549, 551
 aortitis, 249, 249
 dilatation and atherosclerosis, 248, 248
 dissection, 550
 esophageal fistula, 376
 aortic valve, 246, 247
 prosthetic, 247–248, 248
 appendicitis, 292, 521–523
 arachnoid mater, 310
 Armani–Ebstein lesion, 217, 479
 arrhythmias, 239, 240–241, 592
 arterionephrosclerosis, 336
 arteriovenous fistula, 338
 arthritis *see* osteoarthritis
 arthroplasty, 521, 524
 arthropods *see* forensic entomology
- asbestos-related conditions
 asbestosis, 264–265, 620
 mesothelioma, 266–267, 269, 617–620, 621
 pleural plaques, 272, 273
 aspartic acid racemization, 458–459
- aspergillosis, 275, 624
- asphyxia
 autoerotic, 646
 choking on food, 23–24, 141, 276–277, 581
 postmortem imaging, 547, 548
 iatrogenic, 572
 oral injuries, 40
 physical restraints, 581
 strangulation, 151, 192, 194, 194, 201–202
 ocular petechiae, 40, 149
 suicidal plastic bag asphyxia, 226
- aspiration (pneumonia), 272–273, 274, 275, 287, 547–548
- assisted dying *see* euthanasia
- asthma, 267, 593
- asymptomatic bacteriuria, 26, 286
- asymptomatic left ventricular disease, 239
- atherosclerosis
 coronary artery, 63, 64, 241, 242
 bypass grafts, 242, 242, 558
 stents, 243, 243, 562
 imaging, 511, 514
 atrial fibrillation, 239, 592
 atrioventricular node, 245, 246
 atrophic vaginitis, 202
- Australia
 accidents, 74
 demographics, 87
 euthanasia, 92, 95, 103–104, 637
 fitness to stand trial, 632–633
 Law Reform Commission
 Report on elder abuse (2017), 630–631
 retirement, 634–635
 Royal Commission into Ageing (2018), 637–638
 suicide, 226, 228–229, 230
- Austria, 11
- autoimmune diseases
 enteropathy, 385–386
 gastritis, 380, 380
 hepatitis, 395–396
 hypophysitis, 472, 473
 mimicking infection, 294
 pancreatitis, 399, 399
 PBC, 396
- autonomy, 628
 and euthanasia, 93, 95
- autopsies, 51–70, 607–626
 angiography, 537, 617
 anogenital examination, 62, 67–68, 197–199
 body fluid analysis, 68–69, 489, 621, 623
 on vitreous humor, 69, 621, 624, 625
 brain, 65–67, 303, 308, 540–542, 620–621
 defrosted, 219
 cardiovascular system, 63–64, 240, 548–549, 617
 defrosted heart, 219
 implantable electronic devices, 568, 610–612
 cause of death, 70, 238–239
- decomposition *see* decomposition
- on defrosted bodies, 218, 219
- on embalmed/exhumed bodies, 60, 490–492
- external examination, 52, 53–62, 197, 597, 611
 postmortem changes, 59–61, 464, 538–539
- forensic, 52
- GI tract, 64–65, 215–216, 549–550, 624
- hematological system, 68, 614
- histopathology, 68, 69, 119, 197, 304–307, 623
- history of, 8, 9, 11
- iatrogenic conditions, 70, 567–568, 575
- imaging, 62–63, 536–552, 613, 617, 626
 artifacts, 537–538, 538
- internal examination, 62, 63–68
- liver, 65, 219
- lividity, 60, 538, 539
- lung, 64, 252–253, 275–277, 546–548, 617–620
- medical, 52
- microbiological tests, 69, 621–622
 of the morbidly obese, 597, 602
 neck, 61–62, 614–616, 619
 physical abuse, 147, 601, 607, 608
 preparatory investigations, 51, 52–53
 pressure ulcers, 140–141
 rates of in the elderly, 35, 51
 reports, 70
 rigor mortis, 60
 sexual abuse/homicide, 67–68, 197–199
 external examination, 62, 197
 obese bodies, 598
 pelvic block dissection, 611–612
 skeleton, 464, 542, 545–546, 613–614
 special dissections, 622–624
 cut-down of back and extremities, 608–609
 deep leg vein, 615
 esophageal pull through, 624
 pelvic block, 610, 611–612
 posterior-Y incision, 68, 147
 spinal cord removal, 616–617
 vertebral artery, 619
 thromboembolism, 615
 urogenital system, 67
- autosomal dominant polycystic kidney disease (ADPKD), 323–325
- autosomal recessive polycystic kidney disease (ARPKD), 325
- Avicenna, 7
- B cells, 283
 CLL, 423, 426, 617, 618
 DLBCL, 414
 lymphoma, 421
 non-Hodgkin B-cell SLL, 418, 419
see also plasma cells
- back, autopsy procedures, 608–609
 posterior-Y incision, 68, 147
- Bacon, Roger, 7–8
- bacteremia, 285
see also sepsis
- balanitis, 346
- bamboo spine, 461, 462, 542, 546
- Barbarian Law, 7, 9
- bariatric surgery, 596
- barotrauma, 497–499
- Barrett esophagus, 378, 378
- basal metabolic rate, 112
- baths, death in, 84, 221
- beam hardening artifact, 537, 538
- bedding, condition of, 32, 36, 36
- bedridden individuals, neglect, 32, 39, 174
- Beers criteria, 488
- Belgium, 98–101
- beneficence, 95–96
- benign prostatic hyperplasia (BPH), 322, 323, 343
- Benivieni, Antonio, 8
- berylliosis, 265
- biochemistry, 68–69, 489, 621, 623
 age determination, 458–459
 hypothermia, 218
 nutrition, 117
 on vitreous humor, 69, 621, 624, 625
- biological reserve, decline in, 20–21, 24
- bird mites, 168, 168
- bites
 human, 187, 190, 193
 postmortem animal predation, 233, 539
 dogs, 33, 234
 rodents, 33
- black (hairy) tongue, 439
- bladder, 67, 355
 acute cystitis, 341
 age-related changes, 26, 322
 calculi, 340
 cystocele, 321
 gender differences, 342
 iatrogenic injuries, 342
 interstitial cystitis, 342
 normal variants/congenital disorders, 327
 trauma, 341–342
 tumors, 340, 341
 urinary incontinence, 26, 355–356
- blood
 postmortem analysis, 68–69, 489
 transfusion-related deaths, 563
- blow flies, 163, 164
 adults, 164, 165
 larvae, 164, 166
- body diagrams, 53–54, 55
- body habitus, 59
- body lice, 167
- body mass index (BMI), 118, 589, 590
 high *see* obesity
 low, 600
- body temperature
 postmortem, 60
 thermoregulation, 209
see also hyperthermia;
 hypothermia
- bone
 donations, 371
 Paget's disease, 461, 463, 547
 radiocarbon dating, 453
see also fractures; skeleton
- bone marrow
 emboli, 140, 501
 plasma cell dyscrasias, 331, 420, 423, 424, 426, 463
 postmortem examination, 68
- Bouhler, Phillip, 88

Index

- bowel
 obstruction, 526, 527, 549, 551
 postmortem examination, 64, 65
see also colon; small intestine
- Braak staging of neurofibrillary tangles, 305
- Brack, Victor, 90
- brain
 age-related changes, 24–25, 310–312
 alcohol abuse, 313
 central pontine myelinolysis, 313
 cerebral atrophy, 509, 510, 540, 548, 621
 cerebrovascular disease *see* cerebrovascular disease
 dementia *see* dementia
 donation for research, 371
 frailty syndrome, 24, 600–601
 hepatic encephalopathy, 313
 hydrocephalus, 516, 517, 540
 leukoaraiosis, 310, 511, 515
 meningitis/encephalitis, 289–291, 312
 postmortem examination, 65–67, 303, 308, 540–542, 620–621
 defrosted, 219
 risk factors for accidents, 75
 seizures (new-onset), 314
 subdural hematoma *see* subdural hematoma
 tumors, 66–67, 67, 313–314
 Wernicke encephalopathy (thiamine deficiency), 313
- Brandt, Karl, 88
- breast
 cancer, 595
 postmortem examination, 68
- bronchiectasis, 275, 277
- bronchiolitis, respiratory, 273–275
- bronchopneumonia, 142, 254, 256
- bruises *see* contusions
- bruxism, 436
- bunions (hallux valgus), 154, 159
- burns, 83–84, 136–138, 182
 electrical, 41, 230
 inflicted scald, 140
- buttocks
 physical abuse, 132, 133
 pressure ulcers, 42
- Byzantine Empire, 6–7
- CAA (cerebral amyloid angiopathy), 135, 314–316, 511, 515
- cachexia, 109, 111, 118
- café coronary (choking on food), 23–24, 141, 276–277, 581
- callus, 157, 158
 heloma, 157–158, 158, 159, 160
- calorie requirements, 112
- Canada
 accidents, 74
 euthanasia, 92–93, 97–103
 hypothermia, 212
 retirement, 634
 cancer *see* neoplasms
- Candida*
 esophagitis, 377
 oral, 437
- cantharisis, 164
- carbon monoxide poisoning, 229
- carcinoids (neuroendocrine tumors), 384–385
- cardiac implantable electronic devices (CIEDs), 568, 569, 570, 610–612
- cardiomegaly, 239–240
 dilated cardiomyopathy, 240, 244, 244–245
 hypertrophic cardiomyopathy, 240, 244
- cardiopulmonary resuscitation (CPR), 495–503
 abdominal injuries, 499, 503
 chest injuries, 496–497, 539
 abrasions, 497
 barotrauma/volotrauma, 497–499
 blind cardiac stick, 505
 cardiac, 502
 chest tube insertion, 504
 defibrillation, 498
 pulmonary emboli, 501
 rib fractures, 145, 500, 501
 rib spreaders, 505
 soft tissue hemorrhage, 498, 499
 sternal fractures, 500
 delayed complications, 502
 head and neck injuries, 496
 history, 495
 in the obese, 596
 other injuries, 501
 peritoneal lavage incision, 504
 urine stick, 504
 vascular access, 504
 risk factors for injury, 496
- cardiovascular system, 238–249
 age-related changes, 23
 air embolism, 562, 563, 564
 amyloidosis, 245
 aorta *see* aorta
 atrial fibrillation, 239, 592
 cardiomegaly, 239–240
 dilated cardiomyopathy, 240, 244, 244–245
 hypertrophic cardiomyopathy, 240, 244
 causes of death, 238–239, 510
 CIEDs, 568, 569, 570, 610–612
 conduction system, 245, 246
 CPR-related injuries, 497, 502
 diabetes, 480, 481
 dialysis-associated disease, 245
 endocarditis, 285, 436
 frailty syndrome, 600
- galectin-3, 239
- heart failure, 239, 269, 511, 515, 591
- heart transplants (elder donation), 370
- hemopericardium, 502, 549, 550, 567
- hypothermia (ECG trace), 211
- ischemic heart disease, 63, 241, 549, 591
 atherosclerosis, 64, 242
 bypass grafts, 242, 242, 558
 stents, 243, 243, 562
 ventricular wall rupture, 241
- myocarditis, 243, 243–244
 and obesity, 590–592
 postmortem examination, 63–64, 240, 548–549, 617
- pulmonary hypertension, 269, 271, 271, 592
- sudden cardiac death, 240–241, 481, 592
- Tako-Tsubo disease, 241–242
- valvular disease, 246
 aortic valve, 246, 247, 248, 248
 donations of valves, 371
 mitral valve, 232, 246, 247, 248, 248
 ventricular fibrillation, 240–241
see also thromboembolism
- caregivers, abusive/neglectful, 31, 39, 43–44, 174, 179
- carotid artery stenosis, 514
- cartilage
 calcification/ossification, 456, 508
 costal, 458, 508
 thyroid, 457, 509
 chondrosarcoma, 508
- Catel, Werner, 90
- cause of death
 in centenarians, 125
 certification, 70, 641–643, 642
 commonest causes, 20, 238–239, 253
 iatrogenic, 558–566
 celiac disease, 385–386
 cellulitis, 287–288, 288
- centenarians, causes of death, 125
- central nervous system (CNS)
 brain *see* brain
 spinal cord, 312–313, 317–318, 616–617, 620
- central pontine myelinolysis, 313
- centrilobular emphysema, 253, 255
- cerebral amyloid angiopathy (CAA), 135, 314–316, 511, 515
- cerebrospinal fluid, 290–291
- cerebrovascular disease
 age-related changes, 311–312
 diabetes, 480–481
 epidemiology, 510
 hemorrhagic, 314–316
 CAA, 135, 314–316, 511, 515
 imaging, 510, 511, 515, 541, 541
 subarachnoid hemorrhage, 146
 traumatic or non-traumatic?, 317
 ischemic, 314, 592
 hemorrhagic
 transformation, 316, 541
 imaging, 510–511, 512, 513, 514, 540–541
 vertebrobasilar insufficiency, 614
 postmortem examination, 66, 540–542
 vascular dementia, 307
see also subdural hematoma
- certification of death *see* death certification
- cervical injuries *see* neck
- cervix
 inflammation, 349
 tumors, 351
- Charcot, Jean Marie, 11
- chemical restraint, 43, 175
- chemotherapy
 adverse effects, 381–382, 565
 for hematological malignancies, 413
- chest drains, 568
 incision for, 504
- chest injuries
 abuse, 201
 CPR-related *see* cardiopulmonary resuscitation, chest injuries
- children
 child abuse compared with elder abuse, 2–3
 victims of Nazi “euthanasia” program, 88–90
- China (Ancient), 4
- choking
 autoerotic asphyxia, 646
 on food, 23–24, 141, 276–277, 581
 physical restraints, 581
 postmortem imaging, 547, 548
- cholangiocarcinoma, 397, 397
- cholecystectomy, 292
- cholecystitis, 397–398, 398, 523–526, 525
- cholesterol embolism, 620
- chondrosarcoma, 508
- Christianity
 attitude towards the elderly, 4, 5, 7
 and dissection, 8
 chronic kidney disease (CKD), 337–338, 412, 601

- chronic lymphocytic leukemia (CLL), 423, 426, 617, 618
- chronic obstructive pulmonary disease (COPD), 251, 252
- centrilobular emphysema, 253, 255
- chronic traumatic encephalopathy, 307
- Cicero (Marcus Tullius Cicero), 5
- circumcision
 female (female genital mutilation), 356
 male, 356
- cirrhosis, 395
- Classic of Filial Piety (Xiaojing)*, 4, 5
- Clostridium difficile* colitis, 291, 388, 389, 566
- clothing
 as material evidence, 53, 193
 paradoxical undressing, 213, 214
- clotting disorders *see* thromboembolism
- CMV *see* cytomegalovirus
- coagulopathy
 mimicking homicide, 38
 mimicking trauma, 144, 175, 181
- coal dust pneumoconiosis, 263
- cobalamin (vitamin B₁₂)
 deficiency, 312–313, 406, 412
- Cockcroft–Gault equation, 487–488
- cockroaches, 163
- cod fish spine, 460, 545
- cognitive impairment, 24–25
see also dementia
- colchicine, 382–383
- cold *see* hypothermia
- coleopteran larvae, 164
- collagenous colitis, 390
- Colles fracture, 136
- colon
 age-related changes, 388
 angiodysplasia, 391
 cancer, 393, 526, 529–530, 595
 diverticular disease, 390
 hemorrhoids, 202–203, 391
 iatrogenic colitis, 389
 IBD, 389–390
 infectious colitis, 291, 388, 389, 566
 ischemic colitis, 391, 516, 549
 microscopic colitis, 390
 obstruction, 526, 526, 527, 549, 551
 polyps, 391–393, 392
 portal hypertensive colopathy, 391, 391
 stercoral colitis, 529
 volvulus, 527
- community acquired pneumonia, 286–287
- competence
 decision-making capacity, 635–636, 637
 fitness to stand trial, 631–634
 testamentary capacity, 635, 636
- computed tomography (CT)
 scans, 536–552
 artifacts, 537–538, 538
 neck, 194
 stroke, 510
- confusion, 313
- consent
 for euthanasia, 93, 637
 in patients with dementia, 192
- Conti, Leonard 274.11 n
- contusions, 175, 607
 age of, 133, 200
 chest, 201
 facial, 41, 56
 raccoon eyes, 133, 135
 grasp marks, 40
 in hematological disorders, 427
 patterned, 133, 134
see also senile purpura
- cor pulmonale, 271, 271
- corneal transplants, 372
- corns (heloma), 157–158, 158, 159, 160
- coronary artery disease, 63, 64, 241, 242, 549, 591
 bypass grafts, 242, 242, 558
 stents, 243, 243, 562
- coroners, 9, 12, 44–45, 52
 and organ donation, 368–369
- corpora amyloacea, 312
- costal cartilage calcification/ossification, 458, 508, 508
- CPR *see* cardiopulmonary resuscitation
- crab lice (pubic lice), 167
- cranial sutures, 454, 455
- creatinine, 487–488
- cremation, 492
- Crohn disease, 389, 390
- Cronkhite–Canada syndrome, 383
- cryptogenic organizing pneumonia *see* organizing pneumonia
- cryptorchidism, 328
- CT scans *see* computed tomography (CT) scans
- cupping therapy, 145, 187
- cystitis, 341, 342
- cystocele, 321
- cytochrome P450, 393
- cytokines, 284
 frailty syndrome, 24, 599
 sarcopenic obesity, 602
- cytomegalovirus (CMV), 254, 377
 and organ donation, 370
 reactivation, 284
- “dead in bed” syndrome, 477–478
- deafness, 24
- death certification, 641–647
 cause of death, 70, 641–643
 contributory factors, 643
 General Death Certificate Form, 642, 643
 hyperthermia, 221–222
 International Form of Medical Certificate of Cause of Death, 642
 manner of death, 570–574, 580, 644–648
 mechanism of death, 570–571, 643
- death investigations *see* medico-legal death investigations
- death scene, 44, 45, 51
 accidental hypothermia, 213, 214, 215
 Diogenes syndrome, 231
 forms, 46–49
- decision-making capacity, 635–636, 637
 for assisted dying, 93, 637
 testamentary, 635, 636
- decomposition, 60, 61, 234
 gas, 539, 549–550, 552
 insect activity, 234
 morbidly obese bodies, 597
 mummification, 235
 skin discoloration, 61, 234
- decubitus ulcers *see* pressure ulcers
- deep venous thrombosis (DVT), 406, 423–425, 591–592, 612–613
- deep leg vein dissection, 598, 615
see also anticoagulants; pulmonary embolism, thrombotic
- defibrillators
 CPR-related injuries, 496, 498
 implantable, 568, 612
- defrosted bodies, 218, 219
- dehydration, 121–122, 185
 hypertonic, 122
 skin tenting, 32, 59, 132
- dementia, 302–308
 abuse victims, 43, 176, 190–191
 consent for examination, 192
 as cause of death, 21, 302
 chronic traumatic encephalopathy, 307
 diagnosis (antemortem), 66, 302–303, 514–516, 517
 frailty syndrome, 24, 601
 FTLD, 304, 307
 genetics, 307–308
 HIV-related, 293
 Lewy body, 66, 304, 306–308
 neuropathology, 25, 303–307
 postmortem examination, 66, 303–307, 620–621
 Alzheimer disease, 304, 621, 622
- other dementias, 308, 622
- prevalence, 302
- sexual disinhibition, 356
- unfitness to stand trial, 631–634
- vascular, 307
- demographics, 1
 in Antiquity, 3–4
 600–1700AD, 7, 9
 20th century, 12, 87
 Germany, 113
 21st century, 72, 190, 368
 USA, 30, 114
 and countries’ socioeconomic status, 367
 increase in life expectancy, 19
- dendritic cells, 283
- dentures, 432, 442
- depression, 151, 600–601
 and assisted dying, 100
- dermatology *see* skin
- dermatoporosis *see* senile purpura
- desquamative interstitial pneumonia (DIP), 275
- diabetes mellitus, 469, 475–483
 alcohol-related, 479
 cardiovascular/
 cerebrovascular disease, 480, 481
 diabetic ketoacidosis, 477, 477, 478–479, 479
 drug-induced, 477, 479–480
 epidemiology, 475–476, 476
 foot conditions, 159–160, 161, 482
 frailty syndrome, 600
 fulminant, 480
 hyperosmolar hyperglycemic state, 479, 480
 hypoglycemia
 recurrent, 469, 470
 in type 1, 477, 478
 in type 2, 478
 infections, 481–483, 482, 483
 kidney disease, 334, 335, 479
 long-term survival in type 1, 476–477
 neuropathy, 335
 and obesity, 592
 suicide in, 477
 type 2, 26, 470, 478
- dialysis, 338
 complications, 245, 562–563
- diarrhea, 291, 388
- diet, poor *see* malnutrition
- diffuse alveolar damage, 256–257, 260, 261
- diffuse idiopathic skeletal hyperostosis (DISH), 462, 542
- diffuse large B-cell lymphoma (DLBCL), 414
- dilated cardiomyopathy, 240, 244, 244–245
- Diogenes syndrome, 32–33, 231–234, 601

Index

- discrimination against the elderly, 15, 634–635
 dissection (anatomical), 6, 8–9, 11
 diverticular disease, 390
 DNA
 age estimation of adults, 459
 postmortem analysis, 69
 do not resuscitate (DNR), 555
 dogs, postmortem predation by, 33, 233, 234, 539
 donation of organs and tissues, 60–61, 367–372, 393
 drain flies, 164
 driving accidents, 81
 drowning, 84, 221, 228
 degloving, 228
 drugs *see* adverse drug reactions; medications
 drugs of abuse
 and accidental injury, 76
 lung pathology, 275, 276
 dura mater, 310
 Durand-Fardel, Charles, 11
 dust mites, 168
 dyadic death (homicide–suicide), 150–151, 230–231
 dysphagia, 23–24, 432
- ear, 24, 61
 eating disorders, 112, 119
 ecchymosis, 173, 175
 coagulopathy, 144, 181
 contusions *see* contusions
 cupping therapy, 145, 187
 senile purpura, 55, 56, 144, 200, 610
 mimicking signs of abuse, 181, 200, 200–201, 201
 torn hamstring, 139
 vaccination site, 183
 elbow trauma, 136
 elder abuse, 15, 30, 173–174
 Australian Law Reform Commission Report, 630–631
 categories, 31–33, 130, 174, 490, 629
 compared with child abuse, 2–3
 definitions, 30–31, 130, 629
 detection/diagnosis, 2, 43–44, 76, 179–187, 520–521
 emotional, 48, 176
 financial, 38, 48, 176–179
 imaging, 194, 520–521, 545–546
 medicolegal investigations, 34–44, 46
 autopsy procedures, 197–199, 601, 607, 611–612
 chain-of-custody of evidence, 489
 data collection, 45, 46–49
 elder death review teams, 45–46
 imaging, 194, 545–546
 neglect *see* neglect
- outcomes, 16
 physical *see* physical abuse
 prevalence, 16, 34, 130, 190, 629
 reporting to the authorities, 44–45, 190–191, 629–630
 sexual *see* sexual abuse/assault
 toxicology, 489–490
see also homicide
 electrocution, 41, 230
 electrolytes, postmortem analysis, 69, 122, 621
 embalmed bodies, 60, 490–492
 embolism
 air, 562, 563, 564
 bone marrow, 140, 501
 cholesterol, 620
 fat, 501
 in heart, 614
 ischemic stroke, 314
 pulmonary *see* pulmonary embolism
 Emergency Department
 assessment, 76
 emotional abuse, 48, 176
 emphysema, 251, 253, 255, 503
 emphysematous pyelonephritis, 332
 empyema, 256
 encephalitis, 291, 312
 end of life care, 96, 492
 see also euthanasia
 endocarditis, 285, 436
 endocrinology, 26, 469–470, 471, 592
 adrenal disease, 475
 “rejuvenation” therapy, 13
 thyroid disease, 294, 412, 474–475
 see also diabetes mellitus; pituitary gland
 endometrial cancer, 350, 595
 endometritis, 349–353
 entheses, and age estimation, 456
 entomology *see* forensic entomology
 environmental trauma, 19
 epididymitis, 347
 erectile dysfunction, 323
 penile prostheses, 346
 erythropoiesis, 406
 erythropoietin (EPO), 412
 esophagus, 24, 375
 Barrett esophagus, 378, 378
 esophagomalacia, 539
 iatrogenic esophagitis, 375, 376
 infectious esophagitis, 376, 377
 insertion of endotracheal tube into, 560, 561
 postmortem examination, 65, 624, 624
 reflux esophagitis, 377–378
 tumors, 378, 379, 595
 varices, 377, 624
 ethics (of euthanasia), 92, 93–96
 ethylene glycol poisoning, 67
 euthanasia, 87–105
 assisted suicide, 92, 231
 consent/decision-making capacity, 93, 637
 ethics, 92, 93–96
 law, 92–93, 97–104, 637
 mercy killing, 151, 231
 Nazi Germany, 88–92
 Netherlands, 92, 98–101, 104–105
 self-help advice, 96–97
 terminology, 93–94
 USA, 98–101, 104
 Evidence Transfer Sheets, 54
 exhumation, 491–492
 extra corporeal membranous oxygenation (ECMO), 338
 extracorporeal shockwave lithotripsy (ESWL), 340
- eye
 corneal transplants, 372
 deterioration in vision, 24
 open-globe injuries, 77
 petechiae, 40, 61, 149, 184
 postmortem examination, 61
see also vitreous humor analysis
- facial trauma
 due to abuse, 41, 56, 130–131, 133, 134, 437–447, 445
 raccoon eyes, 133, 135
 due to CPR, 496
 due to falls, 77, 136, 138, 232, 448, 518
 fallopian tube cancer, 350
 falls, 24–25, 76–80
 causes and risk factors, 24–25, 75–76, 80, 132–135
 death following, 38–39, 77, 80, 136
 epidemiology, 514
 injuries following, 77–78, 135–136, 447
 elbow, 136
 fractures, 518–520
 hamstring, 139
 head and face, 77, 135, 136, 138, 232, 448, 518
 hip, 136, 138, 518, 519, 600
 knee, 136, 139
 lacerations, 78
 shoulder, 521
 spine, 317–318, 461, 519
 wrist, 136, 520
 measures aimed at reduction of, 78
 and medications, 78–80, 136
 in residential care, 580
 while walking, 82
 false teeth, 432, 442
 fat embolism, 501
 febrile neutropenia, 415–417
 fecal impaction, 529
 female genitalia
 age-related changes, 200, 202, 322
 body art, 356–357
 female genital mutilation, 356
 Fournier gangrene, 594–595
 iatrogenic injuries, 353
 infection, 349, 354
 inflammation, 349–353, 354, 355
 lichen sclerosis, 202, 202, 354
 normal variants/congenital disorders, 329
 postmortem examination, 62, 67–68, 197–199
 pelvic block dissection, 611–612
 prolapsed uterus, 348, 349
 sexual assault, 195, 196, 202
 examination, 194–195
 fatal, 198, 199
 mimics of, 202, 202, 321
 trauma, 353–354
 tumors, 67, 348, 352, 353, 595
 femoral artery puncture complications, 504, 561
 femur *see* hip
 ferritin, 409
 fever, 284, 294–295
 febrile neutropenia, 415–417
Final Exit: The practicalities of self-deliverance and assisted suicide for the dying, 96–97
 financial abuse/exploitation, 38, 48, 176–179
 fire, 82–84, 136–138
 self-immolation, 230
 firearms
 gunshot wounds, 56–57, 646
 contact wound, 148
 location of bullet by x-ray, 63
 recording charts, 57
 suicide, 227, 228, 229–230
 fisting injuries, 198, 199, 199, 202
 flesh flies, 164
 adults, 164, 166
 larvae, 164, 166
 folate deficiency, 412
 follicular lymphoma, 421
 foot, 154–161
 age-related changes, 154, 155–157
 anatomy, 155, 155
 diabetic, 159–160, 161, 482
 hallux valgus, 154, 159
 hammer toe, 154, 158, 159
 neglect, 32, 37, 131, 161
 osteoarthritis, 160–161
 pressure ulcers, 42, 143, 161, 183
 skin, 156–158
 callus, 158
 heloma (corns), 157–158, 158, 159, 160
 vascular disease, 160

- forced feeding, 138–139, 141, 175, 440
- forensic autopsies, 52
- forensic entomology, 163–170
- cantharidiasis, 164
- cockroaches, 163
- collection and preservation of evidence, 169–170, 170
- estimation of time of death, 163, 164
- lice, 167
- medicolegal species of interest, 164
- blow flies, 165, 166
- flesh flies, 166
- house flies, 166, 167
- mites, 167, 168
- myiasis, 163–164, 168–169
- postmortem damage, 234
- red imported fire ant, 165, 167
- Fournier gangrene, 483, 483, 594–595
- fractures, 201, 428, 613
- dating, 136, 542, 544
- due to falls, 518–520
- untreated, 545–546
- see also specific sites*
- frailty syndrome, 598–602
- burns survival, 83–84
- epidemiology, 599
- frailty score, 74, 75
- neurological conditions, 24, 600–601
- and obesity, 602
- pathophysiology, 20–21, 24, 283–284, 599
- poor thermoregulation, 210, 602
- sarcopenia, 24, 599–600
- France, 11
- frontotemporal lobe
- degeneration (FTLD), 304, 307
- frost erythema, 215, 233
- frostbite, 218, 218
- Fuller, Ida May, 15
- gait, 155, 155–156, 156
- galectin-3, 239
- Galenic medicine, 6
- gallbladder
- carcinoma, 398
- cholecystectomy, 292
- cholecystitis, 397–398, 398, 523–526, 525
- gastric antral vascular ectasia, 383
- gastric conditions *see* stomach
- gastric tube-related peritonitis, 563
- gastroesophageal reflux disease, 377–378, 378
- gastrointestinal stromal tumor (GIST), 422
- gastrointestinal tract, 375
- age-related changes, 23–24, 375, 379–380, 385, 388
- bowel obstruction, 526, 527, 549, 551
- diarrhea, 291, 388
- hemorrhage
- esophageal varices, 377, 624
- lower GI tract, 391
- stomach disorders, 383
- and obesity, 593
- postmortem examination, 64–65, 549–550, 624
- perforation, 539, 549–550
- Wischnewsky spots, 65, 215–216, 216, 233
- see also* colon; esophagus; gallbladder; liver; mouth; pancreas; small intestine; stomach
- gastromalacia, 539, 549–550
- genetics of dementia, 307–308
- genitourinary system *see* bladder; female genitalia; kidney; male genitalia; ureter; urethra
- genomics, 69
- geographic tongue, 440
- geriatric syndromes, 76
- see also individual conditions*
- Germany
- demographics 1910–2050
- “euthanasia” in Nazi period, 88–92
- social provision for the elderly (19 C), 12
- giant cell interstitial pneumonia, 264
- gingival disease, 432, 434, 437, 440
- amalgam tattoos, 450
- skin graft, 439
- glioblastoma, 313–314
- glomerular disorders, 22, 321, 325–331, 336
- gluten-sensitive enteropathy (celiac disease), 385–386
- Gosport War Memorial Hospital (UK), 16–17
- gout, 462
- granny-battering *see* elder abuse; physical abuse
- granulomatosis with polyangiitis (GPA), 273, 331
- granulovacuolar degeneration, 310
- Greece (Ancient), 4–5, 5, 6
- gray hepatization of the lung, 255
- gum disease *see* gingival disease
- gunshot wounds, 56–57, 646
- contact wound, 148
- location of bullet by x-ray, 63
- recording charts, 57
- suicide, 227, 228, 229–230
- hair loss, 56, 131
- hairy cell leukemia, 417
- hallux valgus (bunions), 154, 159
- hammer toe, 154, 158, 159
- hamstring injuries, 136, 139
- hand, osteoarthritis, 509, 510
- hanging, suicidal, 228, 228
- hard metal pneumoconiosis, 264
- Harvey, William, 8–9
- Hayflick limit, 13–14
- head injuries, 135
- chronic traumatic encephalopathy, 307
- CT scans, 541
- distinguishing from non-traumatic ICH, 317
- subdural hematoma, 132, 135, 232, 316–317, 520, 522
- and cerebral atrophy, 135, 144, 194
- see also* facial trauma
- head lice, 167
- healthcare serial killers, 3, 148–149, 570, 586–587
- hearing loss, 24
- heart
- CPR-related injuries, 497, 502
- donation, 370
- postmortem examination, 63–64, 219
- see also* cardiovascular system
- heart failure, 239, 269, 511, 515, 591
- heat *see* hyperthermia
- heel, pressure ulcers, 42, 143, 161, 183
- Helicobacter pylori*, 380, 381
- heloma (corns), 157–158, 158, 159, 160
- hematological system, 405
- age-related changes, 26–27, 283–284, 295–296, 405–406, 425–426
- anemia, 405–412, 601
- conditions associated with malignancy, 414–417
- hematopoiesis, 283, 405–406
- malignant/premalignant conditions, 412–413
- ALL, 614, 618
- AML, 418–420, 422
- anaplastic large cell lymphoma, 427
- B-cell lymphoma, 421
- CLL, 423, 426, 617, 618
- DLBCL, 414
- follicular lymphoma, 421
- GIST, 422
- hairy cell leukemia, 417
- hepatic lymphoma, 420
- hepatosplenic T-cell lymphoma, 415
- Hodgkin disease, 416
- MALT, extranodal, 416
- marginal zone lymphoma, 413
- mastocytosis, 415
- mycosis fungoides, 427
- myelodysplastic syndromes, 417–418, 425
- non-Hodgkin B-cell SLL, 418, 419
- plasma cell dyscrasias, 331, 420, 423, 424, 426, 463
- treatment, 413–414, 418, 423
- mimics of abuse/neglect, 426
- coagulopathy, 38, 144, 175, 181
- lymphomas, 427
- postmortem examination, 68, 614
- presentation of disease, 406
- sickle cell disease, 408, 411
- see also* thromboembolism
- hematopoietic stem cell transplantation, 414
- hemodialysis
- AV fistulas, 338
- complications, 245, 562–563
- hemoglobin, 406
- hemopericardium, 502, 549, 550, 567
- hemoperitoneum, 561
- hemorrhagic stroke, 314–316
- CAA, 135, 314–316, 511, 515
- imaging, 510, 511, 541, 541
- subarachnoid hemorrhage, 146
- traumatic or non-traumatic?, 317
- hemorrhoids, 202–203, 391
- hepatic conditions *see* liver
- hepatic encephalopathy, 313
- hepatitis
- acute, 393–394, 560
- autoimmune, 395–396
- drug-induced, 560
- HBV, 293, 394, 395
- HCV, 293–294, 394, 395
- hepatocellular carcinoma, 293, 396–397, 397, 595
- hepatosplenic T-cell lymphoma, 415
- herbal supplements, 487, 490
- herpes simplex virus (HSV), 254, 377
- reactivation, 284
- hide and die syndrome, 214, 215
- hip
- femoral head necrosis, 463
- fractures, 136, 138, 518, 519, 547, 600
- osteoporosis, 616
- hippocampus, 308, 310
- Hippocrates of Kos, 6
- Hirano bodies, 303, 310
- histopathology, 69, 197
- muscle, 68
- neurodegenerative diseases, 304–307
- stains, 623
- starvation, 119
- historical perspectives, 1–17, 87–88
- child abuse compared with elder abuse, 2–3
- “euthanasia” in Nazi Germany, 88–92

Index

- historical perspectives (cont.)
 hyperthermia, 219–220
 hypothermia, 211–212
 law, 6–7, 9–10, 12, 14–16
 medicine, 6, 7–9, 10–11, 13–14
 social attitudes, 3–6, 7, 10, 12–13
see also demographics
 HIV/AIDS, 292–293, 294
 hoarding, 231, 233
 Hodgkin disease, 416
 Holocaust (including the “*euthanasia*” program), 88–92
 homicide, 147–150
 delayed death, 144
 gunshot wounds, 56, 57, 63, 148, 646
 homicide–suicide, 150–151, 230–231
 manner of death certification, 646, 648
 oral injuries in asphyxia, 40
 petechiae, 40, 149
 rates, 196–197
 recording charts, 57, 58
 in residential care, 584–585, 586–587
 serial killers, 3, 148–150, 570, 586–587
 sexual, 197–199
 anal fisting, 198, 199, 199
 bruising on the thighs, 198
 scene of crime, 150
 vaginal injuries, 198, 199
 stab wounds, 57, 58, 149
 strangulation, 40, 149, 151
 see also euthanasia
 hospices, 47, 492
 hospital-acquired pneumonia, 257–258, 287
 hospitals in the Middle Ages, 5, 7
 house flies, 164
 adults, 164
 larvae, 164, 166, 167
 human trafficking, 38
 humpback flies, 164
 Humphrey, Derek, 96–97
 hunter-gatherer societies, 4
 hyaline pleural plaques, 272, 273
 hydrocephalus, 516, 517, 540
 hyoid bone, 616
 hypercalcemia, 415
 hyperglycemia
 antipsychotic agents, 479–480
 in DKA, 478
 hyperosmolar (HHS/HONK), 479, 480
 hyperlipidemia, 592
 hyperosmolar hyperglycemic state (HHS), 479, 480
 hypersensitivity pneumonitis, 261, 264
 hypertension
 hemorrhagic stroke, 315–316
 kidney disease, 335, 336
 and obesity, 590–591
 portal, 383, 387, 391, 391
 pulmonary, 267–272, 271, 272, 592
 hyperthermia, 21, 219–222
 on death certificates, 221–222
 definitions, 209, 219
 elder abuse, 186
 heat waves, 220–221
 hot baths, 221
 malignant, 559–560
 physiological defense mechanisms, 210
 postmortem findings, 221
 presentation, 209
 hyperthyroidism, 474–475
 hypertonic dehydration, 122
 hypertrophic cardiomyopathy, 240, 244
 hypogammaglobulinemia, 426
 hypoglycemia
 in type 1 diabetes, 477, 478
 recurrent, 469, 470
 in type 2 diabetes, 478
 hyponatremia, 475
 central pontine myelinolysis, 313
 hypophysitis, 472, 473
 hypopituitarism, 473–474, 475
 hyposplenism, 426
 hypostasis (lividity), 60, 538, 539
 hypothalamus, 210
 hypothermia, 210–218
 classification, 210–211
 in Diogenes syndrome, 232–233
 elder abuse, 186
 frailty syndrome, 210, 602
 historical perspectives, 211–212
 localized tissue damage, 218, 218
 physiological defense mechanisms, 210
 postmortem findings, 213–218, 222
 biochemistry, 218
 frost erythema, 215, 233
 hide and die syndrome, 214, 215
 kidney, 217, 217
 pancreas, 216, 216–217, 217
 paradoxical undressing, 213, 214
 pituitary gland, 217, 217–218
 Wischnowsky spots, 65, 215–216, 216, 233
 presentation, 211, 212–213
 risk factors, 213
 treatment, 21, 213
 hypothyroidism, 474
 iatrogenic injuries/deaths, 554–576
 anesthesia-related, 559–560
 classification, 556–557
 by cause of death, 558–566
 by relative contribution of iatrogenic factor, 557
 colitis, 389
 CPR-related *see* cardiopulmonary resuscitation
 esophagitis, 375, 376
 female genitalia, 353
 gastropathy, 381–383, 382
 hypogammaglobulinemia, 426
 improper/withheld care, 568–569
 investigation of, 70, 555–556, 567–568, 574–576
 manner of death, 570–574
 mechanism of death, 570–571
 medical device-related deaths, 567–568
 subclavian line
 misplacement, 567, 568
 medication-related deaths, 16–17, 563–566, 572, 581–582, 645
 misdiagnosis, 568–569
 obesity-related, 596
 procedure-related deaths, 560–563
 air embolism, 562, 563, 564
 airway obstructed by blood, 562
 esophageal intubation, 560, 561
 hemoperitoneum, 561
 infections, 559, 562, 563
 pneumothorax, 562, 564
 subdural hemorrhage, 565
 small intestine, 386, 387
 surgery-related, 289, 342, 353, 558–559, 596, 602
 terminology, 554–555
 urinary tract, 342, 343, 353
 identification of an individual, 61, 68, 154, 157
 idiopathic pulmonary fibrosis (IPF), 252, 258–259
 acute exacerbations, 260–261
 UIP, 259–260, 263
 Ieng Thirith, 633–634
 ilium, articular surface, 454, 455
 imaging
 artifacts, 537–538, 538
 diagnostic, 507–530
 postmortem, 62–63, 536–552, 613, 626
 immersion hypothermia, 210, 211
 immune checkpoint inhibitors, 472–473, 480
 immunosenescence, 26–27, 283–284, 295–296, 406, 425–426
 immunosuppressants, 389
 incontinence, 26, 173, 355–356
 Industrial Revolution, 10–12
 infections, 281–296
 bacteremia, 285
 balanitis, 346
 cardiac, 243, 243–244, 285, 436
 in diabetes, 481–483, 482, 483
 in elder abuse, 186
 epididymitis, 347
 frailty syndrome, 601
 gastrointestinal
 colitis, 291, 388, 389, 566
 esophagitis, 376, 377
 gastritis (*H. pylori*), 380, 381
 norovirus, 291
 small intestine, 385
 hepatitis, 293–294, 393–395, 394
 HIV/AIDS, 292–293, 294
 iatrogenic, 289, 559, 562, 563, 573
 immunosenescence, 283–284, 295–296
 increased risk in the elderly, 281–283
 intra-abdominal, 291–292, 563
 Listeria, 296
 lung *see* lung, infections
 meningitis/encephalitis, 289–291, 312
 mimics of, 294–295
 multi-resistant organisms, 282–283
 Nocardia infection mimicking malignancy, 295, 295
 and obesity, 594–595
 pelvic inflammatory disease, 349
 postmortem tests, 69, 621–622
 prevention, 284–285
 prostatitis, 344
 sepsis, 27, 125, 284, 336–337, 426
 skin and soft tissues, 287
 cellulitis, 287–288, 288
 Fournier gangrene, 483, 483, 594–595
 necrotizing fasciitis, 288–289, 482, 482–483
 pressure ulcers, 43, 125, 140–141, 142, 289
 surgical site, 289
 STIs, 167, 355, 357
 UTIs, 26, 285–286, 342, 356
 asymptomatic bacteriuria, 26, 286
 cystitis, 341
 pyelonephritis, 325, 325–332
 vaginal, 354
 inflammatory bowel disease (IBD), 389–390
 influenza, 253–254
 inguinal cut-down, 504
 insects *see* forensic entomology
 institutional care *see* residential care
 insurance (medical), 12–13
 interstitial lung disease (ILD)
 acute exacerbations, 260–261
 amyloidosis, 261–262, 265, 266
 asbestosis, 620

- DIP, 275
 hypersensitivity pneumonitis, 261, 264
 IPF, 252, 258–259
 NSIP, 261
 organizing pneumonia, 256, 257, 261
 pneumoconiosis, 262–265, 617
 UIP, 259–260, 263
 intracerebral hemorrhage (ICH), 314–316
 CAA, 135, 314–316, 511, 515
 imaging, 510, 511, 515, 541, 541
 subarachnoid, 146
 traumatic or non-traumatic?, 317
see also subdural hematoma
 intubation injuries, 496, 496, 560
 esophageal intubation, 560, 561
 iron deficiency anemia, 406, 409
 iron tablet gastritis, 381, 382
 ischemia, mesenteric, 511–514, 591–592
 colitis, 391, 516, 549
 small intestine, 387, 388
 ischemic heart disease, 63, 241, 549, 591
 atherosclerosis, 64, 242
 coronary artery bypass, 242, 242, 558
 coronary artery stents, 243, 243, 562
 ventricular wall rupture, 241
 ischemic stroke, 314, 592
 hemorrhagic transformation, 316, 541
 imaging, 510–511, 512, 513, 514, 540–541
 Islam, 4
 itching (pruritus), 201
 Japan, 221
 joint disease *see* osteoarthritis
 Judaism, 4
 kayexalate, 386, 387
 Kennedy terminal ulcers, 173, 174–175
 ketoacidosis
 alcoholic, 337
 diabetic, 477, 477, 478–479, 479
 in hypothermia, 217, 217, 218
 kidney
 age-related changes, 22–23, 321–322
 calculi, 339, 339, 340
 diabetes, 334, 335, 479
 ethylene glycol poisoning, 67
 failure
 acute, 336–337, 337
 chronic, 337–338, 412, 601
 glomerular disorders, 22, 321, 325–331, 336
 hypertension, 335, 336
 hypothermia, 217, 217
 normal variants/congenital disorders, 326–327
 pharmacokinetics, 487–488
 polycystic disease, 323–325, 324
 postmortem examination, 67
 pyelonephritis, 325, 325–332
 renal artery stenosis, 322
 renal replacement therapies, 338
 complications, 245, 562–563
 scarring, 335
 sepsis, 336–337
 transplants, donation by elders, 369
 trauma, 333–334
 tumors, 596
 nephroblastoma, 333
 RCC, 325, 332, 333, 596
 knee
 bruised, 136, 180
 fracture, 139
 osteoarthritis, 521, 523
 knife wounds
 homicide, 57, 149
 suicide, 229
 wound chart, 58
 lacerations, 56, 78, 201
 large intestine *see* colon
 larvae of arthropods
 colonization of living tissues (myiasis), 163–164, 168–169
 estimation of time of death, 163, 164
 identification, 164, 166
 rearing, 170
 laryngo-tracheal trauma, 194
 legal issues, 628–638
 Australian Royal Commission into Aged Care (2018), 637–638
 autonomy, 628
 decision-making capacity, 635–636, 637
 for assisted dying, 637
 testamentary, 635, 636
 discrimination, 634–635
 driving licenses, 81
 elder abuse (Australian Law Reform Commission Report), 630–631
 elder law, 15, 629, 637
 elderly prisoners, 634
 euthanasia, 92–93, 97–104, 637
 fitness to stand trial, 631–634
 law in past eras, 6–7, 9–10, 12, 14–16
 retirement age, 628, 634–635
 Legionnaire disease, 287
 leukemia
 ALL, 614, 618
 AML, 418–420, 422
 CLL, 423, 426, 617, 618
 hairy cell, 417
 treatment, 413–414
 leukoaraiosis, 310, 511, 515
 Lewy body dementia, 66, 304, 306–308
 lice, 167
 lichen planus, 354
 lichen sclerosis, anogenital
 female, 202, 202, 354
 male, 346
 lichen simplex chronicus, 354
 life expectancy, 3–4, 19
 limbs, postmortem examination, 62, 147
 lipofuscin, 310
Listeria monocytogenes, 296
 liver
 acute hepatitis, 393–394, 560
 age-related changes, 23, 393
 alcoholic disease, 395
 autoimmune hepatitis, 395–396
 donation, 369, 393
 drug-induced hepatitis, 560
 hepatic encephalopathy, 313
 hyperthermia, 221
 NAFLD, 395, 593
 pharmacokinetics, 393, 486, 487
 postmortem examination, 65, 219
 primary biliary cholangitis, 396
 primary sclerosing cholangitis, 396
 secondary sclerosing cholangitis, 396
 tumors, 293, 396–397, 397, 595
 viral hepatitis
 acute, 393–394
 chronic, 293–294, 394, 395
 lividity, 60, 538, 539
 living conditions, 35–36, 52
 condition of the bedding, 32, 36
 Diogenes syndrome, 32–33, 231–234, 601
 locked in, 35
 locked out, 37
 locked refrigerator, 36
 lobar pneumonia, 255
 loop recorders, 612
 lumbar puncture, 563, 565
 lung, 251–278
 abnormal medication effect, 273
 abscesses, 256, 258
 age-related changes, 25, 251–252
 alveolar hemorrhage, 273
 amyloidosis, 261–262, 265, 266
 asbestosis, 620
 aspergillosis, 275, 624
 aspiration pneumonia, 272–273, 274, 275, 287, 547–548
 asthma, 267, 593
 bronchiectasis, 275, 277
 comorbidities of respiratory disease, 252
 COPD, 251, 252
 CPR-related injuries, 497, 501
 barotrauma/volutrauma, 497–499
 diffuse alveolar damage, 256–257, 260, 261
 donation, 369–370
 drug abuse, 42, 275, 276
 embolism *see* pulmonary embolism
 emphysema, 251, 253, 255, 503
 hypersensitivity pneumonitis, 261, 264
 interstitial lung disease, 258–265
 necrotizing vasculitis, 273
 and obesity, 593
 pleural plaques, 272, 273
 pneumoconiosis, 262–265, 617
 pneumonia (infections), 25, 252–258, 287
 acute, 142, 254, 256
 community acquired, 286–287
 hospital acquired, 257–258, 287
Nocardia mimicking malignancy, 295, 295
P. jirovecii, 253, 257, 262
 viral, 253, 254, 287
 pneumonia (interstitial)
 DIP, 275
 NSIP, 261
 UIP, 259–260, 263
 pneumonia (organizing), 256, 257, 261
 AFOP, 256, 259
 postmortem examination, 64, 252–253, 275–277, 546–548, 617–620
 pulmonary edema, 42, 255, 511, 515
 pulmonary hypertension, 267–272, 271, 272, 592
 smoking-related diseases, 273–275
 tuberculosis, 257, 264, 287, 624
 tumors, 265–266, 267, 548, 549
 mesothelioma, 266–267, 269, 617–620, 621
 lymph nodes, 68
 lymphoma
 anaplastic large cell, 427
 B-cell, 421
 DLBCL, 414
 follicular, 421
 hepatic, 420
 hepatosplenic T-cell, 415
 Hodgkin, 416
 marginal zone, 413
 mycosis fungoides, 427
 non-Hodgkin B-cell SLL, 418, 419
 primary CNS, 314
 treatment, 413–414
 macrophages, 283
 maggots
 colonization of living tissues (myiasis), 163–164

Index

- maggots (cont.)
 estimation of time of death, 163, 164
 identification, 164, 166
 rearing, 170
- magnetic resonance imaging (MRI)
 neck trauma, 194, 194
 postmortem, 537
 pressure ulcers, 143
 stroke, 511, 513
- male genitalia
 age-related changes, 322, 323
 body art, 356–357
 circumcision, 356
 examination in cases of sexual assault, 195
 Fournier gangrene, 483, 483
 infections, 344, 346, 347
 inflammation, 346
 malignant/premalignant conditions
 BPH, 322, 323, 343
 penis, 344–345
 prostatic adenocarcinoma, 344, 596
 testis, 346, 347
 normal variants/congenital disorders, 328–329
 pelvic block dissection, 612
 penile prostheses, 346
 postmortem examination, 62, 198–199
 scrotal swelling, 346
 trauma, 344, 345, 346–347
 testicular torsion, 345
 urethral subincision, 356
- malignancy-associated hypercalcemia, 415
- malignant hyperthermia, 559–560
- malnutrition, 111, 185
 anorexia nervosa, 112, 119
 cachexia, 109, 111, 118
 compared with other conditions, 121
 definitions, 109, 111
 denial of access to food, 36
 determination of nutritional status, 118
 energy requirements, 112
 fatal, 109, 118–119, 121
 frailty, 433–437, 600
 functional changes, 115–118
 and hematological conditions, 428
 prevalence, 109, 111
 signs, 32, 35, 112–115, 118
- mandibular tori, 440
- manner of death, 570–574, 580, 644–648
- mastocytosis, 415
- maxillary tori, 440
- Maximianus (Roman poet), 5–6
- mechanical chest compression devices (MCCD), 495
- abrasion injuries, 497
 mechanism of death, 570–571, 643
 medial calcific sclerosis, 249
 medical autopsies, 52
 medical devices, 554–555, 566–567
 iatrogenic deaths, 567–568
 medical examiners, 12, 44–45, 52
 and organ donation, 368–369
 medical procedures, 554
 iatrogenic deaths, 560–563
see also surgery-related complications
- medication pumps
 external, 571
 internal, 570
- medications
 adverse reactions *see* adverse drug reactions
 definition, 554
 drug–drug interactions, 489
 and fall risk/injuries, 78–80, 136
 and hypothermia, 213
 iatrogenic deaths, 16–17, 563–566, 572, 581–582, 645
 incorrect containers, 41
 non-adherence, 488
 over-the-counter, 487, 490
 overdose, 228, 228, 564–565
 pharmacokinetics, 393, 486–488, 493
 polypharmacy, 40–41, 181, 488, 489, 601–602
 postmortem toxicology, 68–69, 489–490, 492–493
 blind cardiac sticks
 inadvisable, 505
 prescription cascades, 488–489
 stolen by carers, 140
- medicine, history of, 6, 7–9, 10–11, 13–14
 CPR, 495
- medicolegal death investigations
 autopsies *see* autopsies
 cardiovascular disease, 238
 chain-of-custody of evidence, 53, 489
 circumstances surrounding the death, 34–44, 52–53
 death scene forms, 46–49
 death scene investigations, 44, 45, 51
 Diogenes syndrome, 32–33, 231–234
 and donation of organs/tissues, 60–61, 368–369
 elder abuse, 34–44, 46
 data collection, 45, 46–49
 elder death review teams, 45–46
 imaging, 194, 545–546
 reporting, 2, 43–45, 190–191, 629–630
 entomology, 163, 164, 169–170
 iatrogenic deaths, 555–556, 567–568, 574–576
- imaging, 62–63, 536–552, 613, 626
 importance of, 2, 30
 investigators, 44
 manner of death, 570–574, 580, 644
 in past eras, 9, 12
 residential care deaths, 36, 44–45, 579–580, 587
 sexual homicide, 150, 197–199
 toxicology, 68–69, 489, 492–493, 505
- membranous glomerulonephritis, 330
- meningioma, 67, 313
- meningitis, 289–291, 312
- menopause, 470
- mercy killing, 151, 231
- mesenteric ischemia, 511–514, 591–592
 colitis, 391, 516, 549
 small intestine, 387, 388
- mesothelioma, 266–267, 269, 617–620, 621
- metabolic syndrome, 592
- microbiology, postmortem
 analysis, 69, 621–622
- microscopic colitis, 390
- Middle Ages, 7–10
- minimal change glomerulosclerosis, 330
- misdiagnosis, 568–569
- mites, 167, 168
- mitral valve, 232, 246, 247
 prosthetic, 248, 248
- mobility scooters, 82
- moisture-associated skin damage, 124, 173
- Mönckeberg arteriosclerosis, 249
- monoclonal gammopathy of undetermined significance (MGUS), 420–421
- Morgagni, Giovanni Battista, 11
- mortician's fracture, 539
- motor neuron disease/
 amyotrophic lateral sclerosis (MND/ALS), 307
- motor vehicle accidents, 57, 80–82
- motorcycle accidents, 82
- motorized mobility scooter accidents, 82
- mouth, 431–450
 abscesses, 435
 age estimation of adults, 457
 age-related changes, 23, 432
 amalgam tattoos, 450
 bruxism, 436
 candidiasis, 437
 carcinoma, 438
 CPR-related injuries, 496
 dentures and crowns, 432, 442
- dysphagia, 23–24, 432
 examination, 61, 431–432, 433, 449–450
 falls injuries, 448
 mandibular and maxillary tori, 440
 myiasis, 168
 neglect, 447–449
 nicotine staining, 438
 periodontal disease, 432, 434, 440
 physical abuse, 437–447
 blunt force trauma, 445
 suffocation/strangulation, 40
 sexual abuse, 193
 skin graft on gums, 439
 tongue pathology, 438, 439
 trauma, 438, 445
 xerostomia, 201, 432–433
- movement disorders, 306–307
- MRI *see* magnetic resonance imaging
- mucosa-associated lymphoid tissue (MALT), extranodal, 416
- multiple myeloma (plasma cell myeloma), 331, 421, 423, 426, 463
- mummification, 235
- murder *see* homicide
- muscle
 foot, 157
 histopathology, 68
 rhabdomyolysis, 186
 sarcopenia, 24, 25, 119–121, 516–518, 517, 599–600
- muscle relaxants, 79–80
- Mycobacterium tuberculosis*, 257, 264, 287, 624
- mycosis fungoides, 427
- myelodysplastic syndromes, 417–418, 425
- myiasis, 163–164, 168–169
- myocardial infarction, 241, 241
 silent, 241
- myocarditis, 243, 243–244
- Nascher, Ignatz Leo, 13, 14
- National Adult Protective Services Association (USA), 45
- natural killer (NK) cells, 283
- natural manner of death, 580, 644–645, 647
- Nazi Germany, 88–92
- neck
 CPR-related injuries, 496
 cuts (suicide), 229
 mortician's fracture, 539
 postmortem examination, 61–62, 614–616, 619
 spinal injuries, 317–318, 461
 strangulation, 151, 194, 194, 201–202
 submental trauma, 133

- vertebral artery dissection, 619
- necrotizing fasciitis, 288–289, 482, 482–483
- Fournier gangrene, 483, 483, 594–595
- necrotizing ulcerative gingivitis, 435
- necrotizing vasculitis, 273
- neglect, 22, 31, 131, 174–175
- appearance of the body, 32, 37, 37
- burns, 182
- death scene forms, 48
- dehydration, 32, 132
- embedded pin, 40
- failure to seek medical care, 37, 545–546
- foot, 32, 37, 131, 161
- living conditions, 35–36, 133
- bedridden individuals, 32, 39, 174
- denial of access to food, 36
- locked-out, 37
- soiled bedding, 32, 36
- malnutrition, 32, 35
- mouth, 447–449
- myiasis, 163–164, 168–169
- perineum, 132
- postmortem predation, 33, 233, 234, 539
- pressure ulcers *see* pressure ulcers
- self-neglect, 31
- Diogenes syndrome, 32–33, 231–234, 601
- skin, 173, 174, 180
- UTIs, 356
- neoplasms
- bladder, 340, 341
- brain, 66–67, 67, 313–314
- chondrosarcoma, 508
- colon, 392, 393, 526, 529–530, 595
- complications, 80, 112, 601
- esophagus, 378, 379, 595
- gallbladder, 398
- gynecological, 67, 348–352, 353, 595
- ovary, 348
- vulva, 348
- hematological *see* hematological system, malignant/premalignant conditions
- kidney
- nephroblastoma, 333
- renal cell carcinoma, 325, 332, 333, 596
- liver, 293, 396–397, 397, 595
- lung, 265–266, 267, 548, 549
- mesothelioma, 266–267, 269, 617–620, 621
- mimicking infection, 294
- mouth, 438
- multiple myeloma, 331, 421, 423, 426, 463
- Nocardia* infection mimicking lung metastases, 295, 295
- and obesity, 595–596
- pancreas, 400
- penis, 344–345
- pituitary, 469, 474
- pituitary apoplexy, 471–472, 472
- prostate, 344, 596
- stomach, 383–385, 384, 530, 595
- testis, 346, 347
- nephrolithiasis, 339, 339
- obstruction, 340
- staghorn, 339
- nephrotic syndrome, 330
- Netherlands, 92, 98–101, 104–105
- neuritic plaques, 298
- neurodegenerative diseases
- dementia *see* dementia
- other, 24, 306–307, 308, 310
- neuroendocrine tumors, 384–385
- neurofibrillary tangles, 305, 310, 622
- neutropenia, febrile, 415–417
- neutrophils, 283
- New Zealand, 74
- nicotine staining, 438
- nitrofurantoin, 273
- nits (eggs of head lice), 167
- Nocardia* infection mimicking malignancy, 295, 295
- non-alcoholic fatty liver disease (NAFLD), 395, 593
- non-specific interstitial pneumonia (NSIP), 261
- normal pressure hydrocephalus, 516, 517, 540
- norovirus, 291
- nose, 61
- nosocomial conditions
- myiasis, 169
- pneumonia, 257–258, 287
- UTIs, 286
- NSAIDs, 381, 386, 389
- Nuremberg trials, 88, 633
- nursing homes *see* residential care
- nutrition, inadequate *see* malnutrition
- obesity, 589–598, 602
- autopsy considerations, 597, 602
- bariatric surgery, 596
- cancer, 595–596
- cardiovascular disease, 590–592
- endocrine conditions, 592
- and frailty, 602
- GI conditions, 593
- iatrogenic complications, 596
- infections, 594–595
- metabolic conditions, 592
- respiratory conditions, 593
- skin conditions, 593–594
- trauma, 596–597
- obstructive sleep apnea, 592, 593
- occupational diseases, 262–265, 617–620
- asbestosis, 620
- mesothelioma, 266–267, 269, 617–620, 621
- ocular petechiae, 61
- due to retching, 184
- due to strangulation, 40, 149
- odontoid fractures, 318
- old age, definitions of, 4, 19–20, 130, 628
- olmesartan, 386
- opioids, 16–17
- oral cavity *see* mouth
- Oregon, USA, 98–101, 104
- organ and tissue donation, 60–61, 367–372, 393
- organizing pneumonia, 256, 257, 261
- AFOP, 256, 259
- osteoarthritis, 462, 521
- and age estimation, 453, 456
- foot, 160–161
- frailty, 600
- hand, 509, 510
- image-guided joint injections, 523
- knee, 521, 523
- shoulder replacement, 524
- osteomalacia, 463
- osteoporosis, 25, 463, 613–614
- hip, 616
- spine, 460, 542, 545, 616
- ovarian tumors, 348
- over-the-counter medications, 487, 490
- overdose
- iatrogenic, 564–565
- suicide, 228, 228
- pacemakers, 568, 610–612
- Paget's disease of bone, 461, 463, 547
- palliative care, 96, 492
- panacinar emphysema, 253
- pancreas
- age-related changes, 398
- pancreatitis, 398–400, 399, 593
- postmortem examination, 65
- hypothermia, 216, 216–217, 217
- transplants, 370–371
- tumors, 400
- paradoxical undressing, 213, 214
- paraseptal emphysema, 253
- Parkinson disease, 24, 310
- parkinsonism, 306
- partial volume artifact, 537, 538
- passive suicide, 227
- pathophysiology of aging, 19–27, 62
- bladder, 26, 322
- bone, 25, 459–460, 613–614
- brain, 24–25, 310–312
- cardiovascular system, 23
- causes of death, 20, 21
- endocrinology, 26, 469–470, 471
- female genitalia, 200, 202, 322
- foot, 154, 155–157
- forensic examinations, 21–22, 27
- frailty, 20–21, 24, 283–284, 599
- gastrointestinal tract, 23–24, 375, 379–380, 385, 388
- hearing, 24
- hematological system, 26–27, 283–284, 295–296, 405–406, 425–426
- imaging of incidental findings, 507–509
- kidney, 22–23, 321–322
- liver, 23, 393
- lung, 25, 251–252
- male genitalia, 322, 323
- mouth, 23, 432
- muscle (sarcopenia), 24, 25, 119–121, 516–518, 599–600
- pancreas, 398
- pharmacokinetics, 393, 486–488
- skin, 22, 199–200
- somatic cells, 11, 13–14
- variability in, 20
- vision, 24
- Peaceful Pill Handbook*, 97
- pedestrian accident victims, 81–82
- pelvic block dissection, 610, 611–612
- pelvic inflammatory disease, 349
- pelvis, 453, 454, 455
- penis
- balanitis, 346
- circumcision, 356
- normal variants/congenital disorders, 325–351
- prostheses, 346
- trauma, 345
- tumors, 344–345
- pensions, 14–15
- peptic ulcers, 381
- percutaneous nephrolithotomy, 340
- perineum
- Fournier gangrene, 483, 483, 594–595
- neglect/self-neglect, 132
- trauma, 196, 197, 202, 346
- periodontal disease, 432, 434, 437, 440
- amalgam tattoos, 450
- skin graft, 439
- peritoneal dialysis, 338
- peritoneal lavage incision, 504
- peritonitis, 563
- pernicious anemia, 406, 412
- petechiae, 56, 61
- due to retching, 184
- due to suffocation/strangulation, 40, 149
- pets, postmortem predation by, 33, 233, 234, 539
- pharmacokinetics, 393, 486–488, 493
- Phoridae (humpback flies), 164
- photography, forensic, 44, 53

Index

- physical abuse, 130–132, 151, 175, 182–183
 autopsy procedures, 147, 607, 608
 bites, 187, 190, 193
 of children, 2
 contusions, 40, 41, 175, 201
 on the arm, 132, 181
 on the buttocks, 132, 133
 on the face, 41, 56, 130–131, 133, 134
 on the neck, 133
 total body trauma, 134
 delayed death, 144
 female genital mutilation, 356
 forced feeding, 138–139, 141, 175, 440
 imaging, 194, 520–521
 mimics, 55–56, 144, 607
 biopsy sites, 146
 chronic venous insufficiency, 609
 coagulopathy ecchymosis, 144, 175, 181
 cupping therapy, 144, 187
 fractures due to CPR, 145
 friable skin, 180
 lymphoma, 427
 petechiae due to retching, 184
 ruptured cerebral aneurysm, 146
 senile purpura, 56, 144, 181, 200, 201
 vaccination ecchymosis, 183
 oral injuries, 40, 437–447, 445
 patterned injuries, 132, 133, 134
 petechiae, 40, 149
 raccoon eyes, 133, 135
 restraints, 35, 43, 43, 175
 stealing medications, 140
 thermal injuries, 138, 140, 182
 victims and perpetrators, 32, 146–147, 148, 150–151, 230–231
 weapons, 40, 134
see also homicide
 Pickwickian syndrome, 592, 593
 piles (hemorrhoids), 202–203, 391
 pituitary gland, 470
 autoimmune hypophysitis, 472, 473
 hypopituitarism, 473–474, 475
 hypothermia, 217, 217–218
 pituitary apoplexy, 471–472, 472
 tumors, 469, 474
 plasma cells
 MGUS, 420–421
 multiple myeloma, 331, 421, 423, 426, 463
 plasmacytoma, 424
 pleura/pleural cavity
 complications of pneumonia, 256
 hyaline plaques, 272, 273
 mesothelioma, 266–267, 269, 617–620, 621
 pneumoconiosis, 262–265, 617
 asbestosis, 620
Pneumocystis jirovecii
 pneumonia, 253, 257, 262
 pneumonia, 25, 252–258, 287
 acute, 142, 254, 256
 aspiration, 272–273, 274, 275, 287, 547–548
 community acquired, 286–287
 desquamative interstitial, 275
 hospital acquired, 257–258, 287
 non-specific interstitial, 261
 organizing, 256, 257, 261
 AFOP, 256, 259
 P. jirovecii, 253, 257, 262
 usual interstitial, 259–260, 263
 viral, 253, 254
 pneumothorax, 562, 564
 polycystic kidney disease, 323–325, 324
 polypharmacy, 40–41, 181, 488, 489, 601–602
 polyps
 colon, 391–393, 392
 stomach, 383–385, 384
 Poor Laws, 9–10
 population dynamics *see* demographics
 portal hypertensive colopathy, 391, 391
 portal hypertensive duodenopathy, 387
 portal hypertensive gastropathy, 383
 Posey vests, 173
 postinfectious
 glomerulonephritis, 330
 posterior-Y incision, 68, 147
 postmortems *see* autopsies
 power of attorney, 635
 prescription cascades, 488–489
 pressure ulcers, 42, 57–59, 122–125, 125, 140–142, 174
 buttocks, 42
 causes and risk factors, 58–59, 124–125
 foot/heel, 42, 143, 161, 183
 grades, 122–123, 124, 140
 stage IV, 42, 59, 123, 124, 142, 290
 iatrogenic, 570, 571
 infected, 43, 125, 140–141, 142, 289
 mimics, 174–175
 on MRI, 143
 in the obese, 596
 in residential care, 585–586
 sacral, 59, 124, 143, 184, 290, 522
 treatment, 289
 primary biliary cholangitis (PBC), 396
 primary sclerosing cholangitis (PSC), 396
 prison, 634
 prostate
 adenocarcinoma, 344, 596
 BPH, 322, 323, 343
 prostatitis, 344
 trauma, 344
 prostatic acid phosphatase (PAP), 197–198
 prosthetic heart valves
 aortic, 247–248, 248
 endocarditis, 285, 436
 mitral, 248, 248
 proton pump inhibitor
 gastropathy, 381, 382
 pruritus, 201
 pseudomembranous colitis, 291, 388, 389, 566
 psychological abuse, 48, 176
 pubic lice (crab lice), 167
 pubic symphysis, 453, 455
 pulmonary edema, 42, 255, 511, 515
 pulmonary embolism (PE)
 bone marrow, 140, 501
 fat, 501
 thrombotic, 273, 423–425, 559, 591, 613
 autopsy, 612–613
 bilateral, 559
 and pulmonary hypertension, 272, 272
 saddle embolus, 613
 pulmonary hypertension, 267–272, 271, 272, 592
 veno-occlusive disease, 271, 271–272
 purpura *see* senile purpura
 pyelonephritis, 325, 325–332
 pyrexia, 284, 294–295
 febrile neutropenia, 415–417
 Quebec, Canada, 98–101
 raccoon eyes, 133, 135
 radiocarbon dating of bone, 453
 radiology *see* imaging
 radiotherapy
 colitis, 389
 deaths related to, 563
 esophagitis, 376
 Ranchin, Francois, 8
 rape *see* sexual abuse/assault
 rapid eye movement sleep
 behavior disorder (RBD), 84
 rectus abdominis hematoma, 543–545
 red hepatization of the lung, 255
 red imported fire ant (*Solenopsis invicta*), 165, 167
 religion
 attitudes towards the elderly, 4, 5, 7
 and dissection, 8
 renal artery stenosis, 322
 renal cell carcinoma, 325, 332, 333, 596
 renal conditions *see* kidney
 renal replacement therapies, 338
 complications, 245, 562–563
 residential care
 deaths, 36, 44–45, 579–587
 accidental, 580–582
 death scene forms, 48–49
 homicide, 584–585, 586–587
 natural, 580
 suicide, 575, 582–584
 infections, 282–283, 342
 pressure injuries, 585–586
 sexual abuse, 191
 in the USA, 13, 44–45, 579
 wandering from, 37, 573, 574, 582
 respiratory bronchiolitis, 273–275
 respiratory system
 airway occlusion
 by blood, 562
 by food, 23–24, 141, 276–277, 581
 complications of intubation, 496, 496, 560
 and obesity, 592, 593
 see also lung
 restraints
 chemical, 43, 175
 physical, 43, 43, 173, 175
 locked rooms, 35
 retirement age, 628, 634–635
 rhabdomyolysis, 186
 rheumatoid arthritis, 462
 rib
 calcification/ossification of costal cartilage, 458, 508, 508
 fractures, 542, 544
 due to CPR, 145, 496–497, 499, 500, 501
 sternal ends, 454, 455
 rib spreader injuries, 505
 rigor mortis, 60, 240
 rituximab, 426
 road traffic accidents, 57, 80–82
 Rockwood Frailty Scale, 75
 rodent predation, 33
 Rome (Ancient), 5–6
 sarcoidosis, 244
 sarcopenia, 24, 25, 119–121, 516–518, 517, 599–600
 sarcopenic obesity, 602
 scabies, 168
 scalds, 136–138, 140
 scrotum
 swelling, 346
 trauma, 345, 346–347
 secondary sclerosing cholangitis, 396
 segmental colitis associated with diverticulosis, 390
 seizures (new-onset), 314
 self-immolation, 230

- self-neglect, 31
 Diogenes syndrome, 32–33, 231–234, 601
 foot, 32, 161
 myiasis, 168
 senile purpura, 55, 56, 144, 200, 610
 mimicking signs of abuse, 181, 200, 200–201, 201
 sepsis, 27, 125, 284, 336–337, 426
 serial killers, 3, 148–150, 570, 586–587
 serum analysis, 69
 sevelamer, 386, 387
 sex hormones, 470, 592
 low testosterone, 323, 412, 470
 sexual abuse/assault, 31–32, 175–176, 190–203
 autopsy procedures, 67–68, 197–199
 external examination, 62, 197
 obese bodies, 598
 pelvic block dissection, 611–612
 history taking, 192–193
 homicide, 197–199
 anal fisting, 198, 199, 199
 bruising on the thighs, 198
 death scene forms, 48
 scene of crime, 150
 vaginal injuries, 198, 199
 improvements in response to, 203
 mimics of sexual injuries, 200–203, 202, 321
 physical examination
 and aging skin, 199–201
 anogenital, 194–196, 195, 196, 202
 free air in abdominal cavity, 196
 non-genital areas, 193, 194
 perineal trauma, 196, 197, 202
 presentation, 41, 183, 191–192
 rape kits, 68, 610
 reporting rates, 190–191, 191
 sexual activity in the elderly, 355
 disinhibition in dementia, 356
 sexually transmitted infections (STIs), 167, 355, 357
 Shipman, Harold, 3, 149
 shoulder
 arthroplasty, 524
 fractures, 521
 sickle cell disease, 408, 411
 silicosis, 263–264
 sinoatrial node, 245
 skeleton
 age-related changes, 25, 459–460, 542
 estimating age at death, 453–456, 460
 auricular surface of ilium, 454
 cranial sutures, 454
 histomorphology, 458
 limitations, 459
 ossification of cartilage, 456, 457, 458
 osteoarthritis, 453, 456
 pubic symphysis, 453
 sternal end of rib, 454
 Paget's disease of bone, 461, 463, 547
 postmortem examination, 464, 542, 545–546, 613–614
 radiocarbon dating, 453
see also fractures; osteoarthritis; osteoporosis
 skin
 age-related changes, 22, 199–200
 anatomy, 156
 chronic venous insufficiency, 609
 decomposition, 61, 234
 dehydration, 32, 59, 132
 donations, 371
 ecchymosis *see* contusions; ecchymosis
 foot, 156–158
 callus, 158
 heloma, 157–158, 158, 159, 160
 friable, 180
 hematological conditions
 affecting, 427, 428
 infections, 287
 cellulitis, 287–288, 288
 pressure ulcers, 43, 125, 140–141, 142, 289
 surgical site, 289
 moisture-associated damage, 124, 173, 174
 neglect, 173, 180
 and obesity, 593–594
 postmortem examination, 54–59
 purpura, 55, 56, 144, 200, 200–201, 201, 610
 skin fold measurement, 117
 trauma, 56–57
 blunt force, 56, 175
 CPR-related, 497, 498
 cupping therapy, 145, 187
 grasp marks, 40
 gunshot wounds, 56, 57, 148
 human bites, 187, 190, 193
 mimics of physical abuse *see* physical abuse, mimics
 recording charts, 57, 58
 stab wounds, 57, 149
 ulcers *see* pressure ulcers
 skull
 cranial sutures, 454, 455
 fractures (raccoon eyes), 133, 135
 Paget's disease, 461, 547
 parietal thinning, 542
 sleep problems, 25, 84
 sloughing esophagitis, 376
 small intestine, 385
 bacterial overgrowth, 385
 iatrogenic injuries, 386, 387
 ischemia, 387, 388, 511–514
 malabsorption, 385–386
 obstruction, 526
 portal hypertension, 387
 transplants, 371
 smoke inhalation, 82–83
 smoking, 273–275, 438
 social attitudes to old age, 3–6, 7, 10, 12–13
 social care *see* residential care
 social isolation (Diogenes syndrome), 32–33, 231–234, 601
 Social Security Act (USA), 14–15
 sodium (hyponatremia), 313, 475
 soft tissues
 cellulitis, 287–288, 288
 foot, 157
 Fournier gangrene, 483, 483, 594–595
 necrotizing fasciitis, 288–289, 482, 482–483
 postmortem examination, 68, 147
see also pressure ulcers
 soiling as a sign of neglect, 32, 36, 37
 Spain, 74
 Sparta (Ancient), 4
 sperm retrieval from victims of sexual assault, 195, 196, 197–198
 spine
 ankylosis, 461, 462, 542, 546
 cervical injuries, 317–318, 461
 compression fractures, 460, 519, 542, 545
 degenerative changes, 25, 508–509, 509
 osteoporosis, 616
 postmortem examination, 68, 616–617
 spinal cord infarction, 620
 subacute combined
 degeneration of the spinal cord, 312–313
 spleen
 hepatosplenic T-cell lymphoma, 415
 hyposplenism, 426
 marginal zone lymphoma, 413
 postmortem examination, 68
 septic infarct, 436
 sickle cell disease, 408, 411
 stab wounds, 57, 149
 recording charts, 58
 staghorn calculi, 339, 340
 starvation *see* malnutrition
 stasis dermatitis, 180
 steatosis/steatohepatitis, 395, 593
 Steinach, Eugen, 13
 stercoral colitis/perforation, 529
 sternum, CPR-related fractures, 497, 500
 stomach, 379–380
 bariatric surgery, 596
 cancer, 385, 530, 595
 CPR-related injuries, 499, 503
 gastritis, 380, 380
 gastromalacia, 539, 549–550
 iatrogenic gastropathy, 381–383, 382
 peptic ulcers, 381
 polyps, 383–385, 384
 vascular disorders, 383
 Wischnewsky spots, 65, 215–216, 216, 233
 straddle injuries, 345, 346, 353
 strangulation, 151
 non-fatal, 192, 194, 194, 201–202
 ocular petechiae, 40, 149
 stroke
 in diabetes, 480–481
 epidemiology, 510
 hemorrhagic, 314–316
 CAA, 135, 314–316, 511, 515
 imaging, 510, 511, 515, 541, 541
 traumatic or non-traumatic?, 317
 ischemic, 314, 592
 hemorrhagic
 transformation, 316, 541
 imaging, 510–511, 512, 513, 514, 540–541
 vertebrobasilar
 insufficiency, 614
 postmortem examination, 66, 540–542
 spinal, 620
 subarachnoid hemorrhage, 146
 Strugar, Pavle, 633
 subarachnoid hemorrhage, 146, 307
 subclavian line causing
 hemoperitoneum, 567, 568
 subdural hematoma (SDH)
 following lumbar puncture, 563, 565
 imaging, 541–542, 543
 non-traumatic, 316
 trauma, 132, 135, 232, 316–317, 520, 522, 572
 minor, and cerebral
 atrophy, 135, 144, 194
 substantia nigra, 310
 subtalar joint, 156, 156
 sudden cardiac death, 240–241, 481, 592
 suicide, 226–231
 assisted, 92, 98–101, 104–105, 231
 in diabetes, 477
 homicide–suicide, 150–151, 230–231
 manner of death certification, 646, 648
 methods, 227–230
 electrocution, 230

Index

- suicide (cont.)
 exsanguination, 229
 firearms, 227, 228, 229–230
 hanging, 228, 228
 overdose, 228
 plastic bag asphyxia, 226
 self-help advice on
 euthanasia, 96–97
 self-immolation, 230
 pacts, 231
 passive, 227
 prevalence, 226
 in residential care, 582–584
 risk factors, 227
 sulfonyleureas, 478
 surgery-related complications,
 289, 558–559, 602
 in the morbidly obese, 596
 urinary tract, 342, 343, 353
 swallowing difficulties, 23–24,
 432
 Switzerland, 92, 98–101
 α -synuclein, 304, 306
- T cells, 27, 283
 lymphomas
 anaplastic large cell, 427
 hepatosplenic, 415
 mycosis fungoides, 427
 Taiwan, 74
 Tako-Tsubo disease, 241–242
 tattoos, 357
 tau protein, 304–305
 teeth
 abscesses, 435
 age estimation of adults, 457
 bruxism, 436
 dentures and crowns, 432,
 442
 devices to assist brushing,
 449
 disease, 432, 434, 440
 edentulous individuals, 458
 examination, 61, 431–432,
 433
 trauma, 445
 telomere shortening, 14
 temporal arteritis, 294
 terminal burrowing
 phenomenon, 214, 215
 testamentary capacity, 635, 636
 testis
 age-related changes, 323
 cryptorchidism, 328
 torsion, 345
 trauma, 346–347
 tumors, 346
 embryonal carcinoma,
 347
 seminoma, 347
 testosterone, low, 323, 412, 470
 thermal injuries, 83–84, 136–138,
 182
 electrical, 41, 230
 inflicted scald, 140
 thermoregulation, 209
 see also hyperthermia;
 hypothermia
- thiamine deficiency, 313
 thromboembolism, 406,
 423–425, 591–592,
 612–613
 deep leg vein dissection, 598,
 615
 see also anticoagulants; pul-
 monary embolism,
 thrombotic
- thyroid gland
 and anemia, 412
 calcified/ossified cartilage,
 457, 509
 hyperthyroidism, 474–475
 hypothyroidism, 474
 thyroiditis, 294
- tissue donation, 368–369,
 371–372
- toenails, overgrown, 32, 37, 131
 tongue pathology, 438, 439
 total energy expenditure (TEE),
 112
- toxicology, 486–493
 adverse drug reactions see
 adverse drug reactions
 drug–drug interactions, 489
 embalmed/exhumed bodies,
 490–492
 non-adherence, 488
 over-the-counter medications,
 487, 490
 overdose, 228, 228, 564–565
 palliative care, 492
 pharmacokinetics, 393,
 486–488, 493
 polypharmacy, 40–41, 181,
 488, 489, 601–602
 postmortem analysis, 68–69,
 489–490, 492–493
 blind cardiac sticks
 inadvisable, 505
 prescription cascades,
 488–489
 transfusion-related deaths, 563
 transgenerational violence, 147
 transplants
 adverse effects of
 immunosuppressants,
 389
 organ and tissue donation,
 60–61, 367–372, 393
- trauma
 bladder, 341–342
 elbow, 136
 female genitalia, 353–354
 fatal, 198, 199
 FGM, 356
 iatrogenic, 353
 sexual assault, 195, 196, 202
 gunshot wounds, 56, 57, 63,
 646
 head see facial trauma; head
 injuries
 kidney, 333–334
 male genitalia, 344, 345,
 346–347
 testicular torsion, 345
 mouth, 438, 445
- neck, 133, 194, 317–318, 461
 and obesity, 596–597
 skin see skin, trauma
 stab wounds, 57, 58, 149
 total body, 134
 ureter, 343
 see also accidents; physical
 abuse
- trials, 631–634
 Trinidad, 74
 tuberculosis, 257, 264, 287,
 624
 tumor lysis syndrome,
 414–415
 tumors see neoplasms
- UK see United Kingdom
 ulcerative colitis, 389–390
 ulcers
 Kennedy terminal ulcers, 173,
 174–175
 peptic, 381
 pressure see pressure ulcers
 types of chronic ulcer,
 123
- undernutrition, 109
 see also malnutrition
- United Kingdom (UK)
 care of the elderly, 9–10, 10,
 13, 16–17
 euthanasia, 92, 96
 fitness to stand trial, 632
 hypothermia, 212
 retirement, 634
 sexual assault rates, 191
- United Nations Principles for
 Older Persons (1991),
 72
- United States of America (USA)
 accidents, 72–74
 care of the elderly, 12–13,
 14–15
 demographics, 30, 114
 elder abuse, 44, 45, 629
 euthanasia, 88, 98–101, 104
 fitness to stand trial, 632
 hyperthermia, 220–221
 hypothermia, 212
 retirement, 634
 suicide, 226, 229–230
- urban entomology
 lice, 167
 mites, 167, 168
 red imported fire ant, 165,
 167
- ureter
 normal variants/congenital
 disorders, 327–328
 stents, 343
 trauma, 343, 353
 ureteroscopy, 340
 urethra
 female, 322
 male, 329, 356
 urinary analysis, 69
 urinary catheters, 286
 urinary incontinence, 26, 173,
 355–356
- urinary tract infections (UTIs),
 26, 285–286, 342, 356
 asymptomatic bacteriuria, 26,
 286
 cystitis, 341
 pyelonephritis, 325, 325–332
 urogenital system see bladder;
 female genitalia; kidney;
 male genitalia; ureter;
 urethra
- urothelial carcinoma, 340, 341
 USA see United States of America
 usual interstitial pneumonia
 (UIP), 259–260, 263
- uterus
 endometrial cancer, 350, 595
 endometritis, 349–353
 prolapsed, 348, 349
- vaccination, 283, 284, 426
 ecchymosis at site, 183
- vagina
 examination, 195
 postmortem, 67–68, 612
 infection, 354
 inflammation, 349, 354–355
 postmenopausal, 202, 322
 trauma, 196, 202, 353–354
 fatal, 198, 199
 mimics of, 202, 202, 321
 tumors, 351, 353
- vasculitis, 55, 614
 pulmonary, 273
 renal, 331
 temporal arteritis, 294
- venous hemolysis leading to
 pseudo-marbling, 219
 venous insufficiency in the lower
 limbs, 609
- venous thromboembolism
 (VTE), 406, 423–425,
 591–592, 612–613
 deep leg vein dissection, 598,
 615
 see also anticoagulants; pul-
 monary embolism,
 thrombotic
- ventilator acquired pneumonia,
 257–258
- ventricular assist devices, 569,
 570
- vertebral artery dissection, 619
 vertebral column see spine
 vertebrobasilar insufficiency, 614
 Vesalius, Andreas, 8
- viruses
 CMV, 254, 284, 370, 377
 diarrhea, 291
 encephalitis, 291, 312
 esophagitis, 377
 hepatitis, 293–294, 393–395,
 394
 HIV, 292–293, 294
 HSV, 254, 284, 377
 influenza, 253–254
 pneumonia, 253, 254, 287
 reactivation of latent
 infections, 284

- vision, deterioration, 24
 vitamin B₁ deficiency, 313
 vitamin B₁₂ deficiency, 312–313, 406, 412
 vitreous humor analysis, 69, 621, 624, 625
 dehydration, 122
 diabetes, 478
 volutrauma, 497–499
 volvulus, 527
 vulva
 inflammation, 349, 354, 355
 trauma, 353–354
 tumors, 348, 352, 353
 warfarin, 316
 Warren, Marjory, 13
 Washington State, USA, 98–101, 104
 water, immersion hypothermia, 210, 211
 water loss *see* dehydration
 weight loss, 113–115, 118
 Weisman, August, 11
 Wernicke encephalopathy, 313
 West Nile virus, 291
 white blood cells, 26–27, 283, 406
 see also leukemia; lymphoma
 white matter hyperintensities (leukoaraiosis), 310, 511, 515
 will-making (testamentary) capacity, 635, 636
 Wilms tumor, 333
 Wischnowsky spots, 65, 215–216, 216, 233
 workhouses, 9–10, 10
 World Medical Association, 95
 wrist
 cuts (suicide), 229
 fractures, 136, 520
 xanthogranulomatous pyelonephritis, 332
 xerostomia, 201, 432–433
 Zerbi, Gabriele, 8