

Index

Page numbers are in *italics* for illustrations/figures and **bold** for tables.

A

abducens nerve, **120**
A-beta fibres, **445**, **445**
ablation, 438. *See also* endometrial ablation
ABO blood groups, 222, 222–223
absorption, 344
ACE inhibitors, *see* angiotensin-converting enzyme inhibitors
acetylcholine, 146
acidaemia, 396, 402
acid–base balance, 215, 252, 262, 510
acid phosphatase, 432
acinar cells, 382
actin, 221, 504
active transport, 7, 28
acupuncture, 451, 467
acute closed angle glaucoma, 582
acute eczema, 550
acute lymphoblastic leukaemia (ALL), 46–50, 237
bone marrow biopsy, 48
case study, 46–48
causes, 49
neutropenia, 49
prognosis, 50
treatment, 50
vital signs, 46–47
acute myeloid leukaemia (AML), 237
Adam's apple, 567
Addison's disease, 390–392, 391
A-delta fibres, **445**, **445**, **451**
adenohypophysis, 376
adenosine diphosphate (ADP), 7, 29, 209
adenosine triphosphate (ATP), 7, 29, 244
adipose tissue, 22
adrenal crisis, *see* adrenal insufficiency
adrenal glands
anatomy, 379
cortex, 379, 379, 380–382
Cushing's disease, 390, 390
disorders, 390–394
insufficiency, 390–394. *See also* adrenal insufficiency
medulla, 379–380, 379
physiology, 379–382
adrenal insufficiency, 390–394
adrenal crisis, 392
case study, 393–394
primary, 390–392, 391
secondary, 391, 391

treatment, 393
types, 390–391, 391
adrenocorticotrophic hormone (ACTH), 377, 380
aerobic respiration, 30
aetiology, 175
Age UK, 531
agglutination, 244
agranulocytes, 220
albumin, 215
alcohol, 350
alcohol consumption
cancer, 39
folate deficiency, 228
aldosterone, 380, 381, 473, 512
Alexander technique, 467, 473
allergen, 114
allodynia, 454, 473
Alopecia UK, 560
alteplase, 132
alveolar sac, 175
Alzheimer's disease (AD), 136–137
care and management, 137
non-pharmacological management, 137
pathophysiology, 136–137
pharmacological management, 137
stages, **137**
amantadine (*Symmetrel*), in Parkinson's disease, 135
amenorrhoea, 420
American College of Rheumatology, 504
amiloride (*Midamar*), 192
amine, 531
amino acids, 29, 348–349
amitriptyline (*Elavil*), in multiple sclerosis, 139
amphiarthroses, 482
amputation, 473
amrinone, for shock, **108**
anaemia, 225–235
aplastic, 230–232
haemolytic, 232–233
iron deficiency, 225–228
macrocytic, 228–229
microcytic, 225
normocytic, 230–235
sickle cell, 233–235
anaerobic metabolism, 167, 175
anaerobic respiration, 30
analgesic, 473

analgesic ladder, 465–466
anaphase, 11, 11, 13
anaphylactic shock (anaphylaxis), 100, 114, 223
causes, **100**, **102**
clinical presentation, **103**
signs and symptoms, 100
stages, **100**
anastomosis, 344
aneurysm, 193–196, 209, 588
aetiology, 193
care and management, 194
case study, 195–196
classification, 193
Dacron graft, 194
dissecting, 193, 193
fusiform, 193, 193
investigations, 193–194
pharmacological treatment, 195
saccular, 193, 193
symptoms, 194
angina, 168–170, 473
blockage in coronary arteries, 168, *169*
care and management, 170
investigations, 168
non-pharmacological treatment, 170
pathophysiology, 168–169
pharmacological treatment, 170
signs and symptoms, 170
stable, 169
types, 169
unstable, 169
variant, 169
angiotensin-converting enzyme (ACE) inhibitors, 166
angular cheilitis, 344
anion, 531
anterior segment, eye, 569
anthropometry, 368
antibodies, 90, 114, 244
anticholinergic, 588
anticholinesterase, 504
antidiarrhoeals, 521
antidiuretic hormone (ADH), 175, 377, 512
anti-emetic, 519, 531, 588
antifungal therapy, 73
antigens, 90, 114, 222, 244
antihistamine, 588
antihypertensives, 132
for heart failure, 165

antimotility medicines, 521
 antiplatelet, 473
 antipyretic, 588
 anti-rheumatoid drugs, 76–77
 anuria, 114, 531
 anus, 317
 aorta, 151, 169, 209
 ascending, 152
 chemoreceptors in, 105
 elastic recoil, 181, 181–183
 functions, 153
 aortic arch, 150, 152
 aplastic anaemia (AA), 230–232
 aetiology, 230
 blood transfusion, 231
 care and management, 231
 pathophysiology, 231
 pharmacological treatment, 231–232
 symptoms, 231
 apoptosis, 34, 35
 appendix, 317
 aqueous humour, 569
 arachidonic acid, 464, 473
 areolar tissue, 22
 aromatherapy, 473
 arterial insufficiency, 197–199
 aspirin, 199
 care and management, 198
 pain control, 198
 pathophysiology, 197
 pharmacological treatment, 198–199
 signs and symptoms, 197
 versus venous insufficiency, 197
 arteries, 175, 181, 181–183, 209
 atheroma build-up, 188
 elastic, 181–182
 insufficiency, *see* arterial insufficiency
 muscular, 182
 structure, 181
 arteriogram, 187
 arterioles, 24, 182–183, 209
 arteriosclerosis, 186–189, 209. *See also*
 atherosclerosis
 Arthritis Care, 504
 Arthritis Research UK, 504
 artificial larynx, 579
 asbestos, risk of cancer, 39
 ascites, 175
 aspiration, 588
 aspirin, 132, 464
 in angina, 170
 in arterial insufficiency, 199
 Asthma UK, 310
 atherosclerosis, 175, 186–189, 193
 aetiology, 186
 arteriogram, 187
 care and management, 189
 effects, 188
 investigations, 187
 pathophysiology, 187–188
 pharmacological treatment, 189
 signs and symptoms, 188
 atheroma build-up, in artery, 188
 atheromatous plaque, 175
 atopic eczema, 550–551
 atria, 151, 151, 154–155, 175

atrioventricular (AV) bundle, 155
 atrioventricular (AV) node, 153, 155, 155
 atrioventricular valves, 151, 151, 175
 atrophy, 588
 atropine, for shock, 108
 aural fullness, 571
 autoimmune diseases, 82
 autoimmunity, 82, 90
 autonomic nervous system (ANS), 122–124
 AVERT, 89
 axon, 473

B

baclofen, in multiple sclerosis, 139
 bacteria, 69–70, 70, 90
 bacilli, 70, 70
 cocci, 69, 70
 reproduction, 70, 70
 shapes, 69, 70
 spiral, 70, 70
 bacteraemia, 114
 barium meal, 344
 baroreceptor, 209
 Bartholin's glands, 411
 basal cell carcinoma (BCC), 548
 basal ganglia, 119
 basophils, 220
 Bayer Aspirin, 199
 beta-blockers
 for angina, 170
 for heart failure, 166
 bicuspid valve, 151, 151, 176
 bile, 244, 329, 344
 bile duct, 327
 bilirubin, 244
 The Biology Project, 89
 Biomedical Central, 244
 biotin, 351
 bisphosphonates, for osteoporosis, 492
 bisoprolol, for heart failure, 166
 blood
 clotted, 213
 composition, 213, 214
 diseases, 223–240
 formed elements, 216–221
 functions, 214–215
 glucose levels, 348
 groups, 222–223, 244
 overview, 213
 plasma, 213, 215–216
 platelets, 220–221
 properties, 214
 protection, 215
 red blood cells, 216–219
 regulation, 215
 transportation, 215
 white blood cells, 219–220
 blood-brain barrier, 121–122, 146
 blood cells, 80–82
 leucocytes, 80–81
 mediator cells, 81
 phagocytic cells, 81
 blood clotting, 221–222, 221
 blood pressure, 184–185, 209
 factors affects, 185
 regulation, 184–185

blood vessels
 ACE inhibitor effects, 166
 arteries, 181, 181–183
 blood flow, 180
 blood pressure, 184–185
 capillaries, 181, 183, 183
 diseases, 185–205
 haemorrhagic stroke, 132
 kidney, 250
 liver, 328
 overview, 179
 parasympathetic effects, 124
 structure, 181, 181–184
 sympathetic effects, 124
 veins, 181, 183–184, 184
 venules, 181, 183
 B lymphocytes, 220, 245
 BMC Cancer, 58
 BMC Ear Nose and Throat Disorders, 588
 body fluid, 508–509
 body mass index (BMI), 354, 360, 368
 body mechanics, 483
 bolus, 322
 bone, 481
 production, 481, 481
 structure, 481, 482
 types of, 482
 bone healing, 487
 bone marrow biopsy, 48
 bone metastases, 473
 bradycardia, 473
 bradykinin, 114
 brain, 118–121
 blood supply to, 121
 brainstem, 118, 120–121
 cerebellum, 118, 119
 cerebrum, 118, 119
 damage to, 132
 diencephalon, 118, 119–120
 parts, 118
 trauma, 126
 breast, 52
 breast cancer, 51–53
 causes, 52
 signs and symptoms, 52, 52–53
 types, 51
 British Association of Dermatologists, 560
British Cancer Journal, 58
 British Heart Foundation, 209
 British Hypertension Society, 209
British Journal of Renal Medicine, 276
 British Lung Foundation, 310
 British Medical Journal, 368
 British Nutrition Foundation Task Force, 356
 British Pain Society, 472
 British Society for Allergy and Clinical Immunology, 113
 British Thoracic Society, 310
 Brittle Bone Society, 504
 bronchospasm, 176
 buffer, 368
 bundle branches, 154, 155
 bundle of His, 154, 155
 BUPA, 175

- C**
- caecum, 317
 - calcium, **352**
 - calf-muscle pump, 200
 - calories, 348
 - cancer, 59
 - acute lymphoblastic leukaemia, 46–50
 - alcohol and risk of, 39
 - biology, 34–37
 - breast, 51–53
 - causes, 37–40
 - clinical model, 36, 36
 - death rates, 34
 - definition, 33
 - development, 36, 36–37
 - diet and risk of, 39
 - drug therapy, 42–44
 - environmental factors, 37–40
 - environmental pollution, 39
 - genes, role of, 37
 - gene therapy, 44
 - hormonal therapy, 44
 - hormones and risk of, 40
 - immunotherapy, 43
 - lung, 50–51
 - molecular biology model, 36, 36
 - occupation exposure, 39
 - overview, 33–34
 - pain, 454–456, **455**
 - photodynamic therapy, 44
 - prevention, 45–46
 - radiation exposure, 38
 - radiation therapy, 43
 - sexual and reproductive behaviour, 39
 - signs and symptoms, 41, 42
 - sites, 34, 41
 - smoking and risk of, 38–39
 - staging, 41
 - surgical therapy, 44
 - treatment, 42–44
 - viruses and, 40
 - Cancer Research UK, 58, 560
 - Cancer Symptoms, 58
 - cancerous cell, 35
 - Candida albicans*, 330
 - candidiasis, 330
 - cannula, 588
 - capillaries, 181, 183, 183, 210
 - captopril, for heart failure, 165
 - carbamazepine (Tegretol), in epilepsy, 141
 - carbohydrates, 29, 348, 368
 - carcinogen, 59
 - carcinogenesis, 33
 - cardia, 323
 - cardiac accelerator nerves, 154–155, 155
 - cardiac muscle, 23, 150
 - cardiac output, 104
 - cardiogenic shock, 97, **102**, 166–168
 - aetiology, 166
 - care and management, 168
 - causal factors, **102**
 - cycle of, 167
 - investigations, 166
 - pathophysiology, 167
 - pharmacological treatment, 168
 - signs and symptoms, 167
 - cardiovascular (CV) centre, 155
 - cardiovascular system, 94
 - carotid arteries, 121
 - endarterectomy, 133
 - carrier/transport protein, 29
 - cartilage, 21, 504, 588
 - catalysts, 29
 - cataracts, 580
 - cation, 531
 - cauda equina syndrome, 496
 - cauterisation, 589
 - cell cycle, 12, 12
 - cell membrane, 4–8, 30
 - anatomy, 4, 4–5
 - degree of permeability, 6–7
 - functions, 5, 6
 - transport across, 5–8
 - cell(s)
 - anaerobic metabolism, 167
 - anatomy, 3–4
 - apoptosis, 34, 35
 - cancerous, 35
 - characteristics, 2–3
 - clotted, 213, 214
 - differentiation, 59
 - division, 59
 - immune system, 77
 - mediator, 81
 - membrane-bound vesicle, 5
 - microscopic, 64
 - neuroglia-supporting, 24
 - nucleus, 3, 3, 9–10
 - organelles, 3, 14–16, 30
 - phagocytic, 24, 81
 - precancerous, 34
 - structure, 3
 - tissues, 17–25
 - types of, 17
 - cell theory, 2
 - central nervous system (CNS), 117–122, 118, 473
 - brain, 118–121
 - cerebrospinal fluid, 121
 - meninges, 122
 - spinal cord, 122, 123
 - centrioles, 16
 - cerebellum, 118, 119, 121
 - cerebral arterial circle, 121
 - cerebral cortex, 119, 473
 - cerebrospinal fluid (CSF), 121
 - cerebrovascular accident, 146
 - cerebrum, 118, 119, **119**, 121
 - cerumenolytic, use of, 570
 - cervix, 412, 413
 - C fibres, 445, **445**, 451
 - Changing Faces, 560
 - cheeks, 318, 318
 - chemical barriers, 80
 - chemical compensatory mechanisms, 105
 - chemical digestion, 317, 324
 - chemical reaction, 29
 - chemical stimuli, 444
 - chemoreceptor, 210
 - chemotaxis, 91
 - child resistant packaging, 490
 - chiropractice, 473
 - chlamydiae, 73
 - cholecystokinin (CCK), 328, 349
 - cholesterol, 350
 - cholesterol-reducing drugs, 133
 - cholinesterase, 504
 - chordae tendineae, 151
 - choroid plexus, 146, 568, 569
 - chromatids, 11, 29
 - chromosomes, 9–10, 29
 - chronic bronchitis, 298
 - chronic eczema, 550
 - chronic lymphoblastic leukaemia (CLL), 237
 - chronic myeloid leukaemia (CML), 237
 - chyme, 324, 328, 344
 - cilia, 16, 589
 - as mechanical barrier, 80
 - ciliary body, 568, 569
 - cimetidine (Tagamet), 332
 - circle of Willis, 121, 121
 - cisternae, 14
 - CJD, see Creutzfeldt-Jakob Disease
 - claudication, 504
 - clitoris, 411
 - clotting cascade, 210
 - coagulation, 221–222, 245, 589
 - co-amoxiclav, 340
 - cocci, 69–70
 - coccobacilli, 70
 - codeine, **463**
 - coenzyme, 245, 368
 - cognitive behavioural therapy (CBT), 467
 - cold therapy, 467
 - collagen, 176
 - fibres, 21, 210
 - colon, 317, 325
 - cancer, 45
 - colonoscopy, 521–522
 - colorectal cancer, 59
 - columnar epithelium, simple, 19, 19–20
 - communited fracture, 487
 - compression fracture, 487
 - computerised tomography (CT) scan, 469
 - concentration gradient, 7, 29
 - cones, 569
 - congenital, 589
 - congestive heart failure, 161–166
 - conjunctiva, 568, 568
 - connective tissue, 20–22, 245, 589
 - characteristics, 21
 - dense, 21–22
 - functions, 20–21
 - loose, 22
 - reticular, 22
 - contaminated intermediate, 67, 90
 - controlled drug, 473
 - cornea, 568, 568
 - coronary arteries
 - blockage, 168, 169
 - function, **153**
 - coronary ligament, 327
 - coronary vasoconstriction, 473
 - coronary veins, **153**
 - corpus callosum, 119
 - corticotropin, 377
 - corticotropin-releasing hormone (CRH), 377
 - cortisol, 380, 382, 473

cranial nerves, 120
 crepitus, 504
 crescendo angina, 169
 Creutzfeldt-Jakob disease (CJD), 71, 90
 cricoid cartilage, 567
 crystal-induced arthritis, 493. *See also* gout
 cuboidal epithelial tissue, 19
 Cushing's disease, 390, 390
 cyanosis, 165
 cyclo-oxygenase-2, 473
 cystic medial degeneration, 193
 cystitis, 90
 cytoplasm, 3, 9, 29, 59
 cytokine, 504
 cytoskeleton, 16
 cytotoxic drugs
 aplastic anaemia, 230
 cancer, 43
 cytotoxicity, 59
 cytotoxic T lymphocytes, 34, 59

D

Dacron graft
 abdominal aortic aneurysm, 194
 peripheral vascular disease, 198
 daughter cell, 59
 deep pain, 450
 deep vein thrombosis (DVT), 202–205, 473
 aetiology, 203
 care and management, 204–205
 clot formation, 204
 formation, 203
 pathophysiology, 203
 pharmacological treatment, 204–205
 platelet plug formation, 204
 signs and symptoms, 204
 degranulation, 90
 dehydration, 518, 531
 dementia, 136, 146
 demyelination, 138, 146
 deoxyribonucleic acid (DNA), 29
 functions, 9
 Department of Health (DH), 89, 175, 209,
 276, 368
 dermatitis, 550–551, 560
 descending pain pathways, 447
 detoxification, 531
 diabetes insipidus, 385
 diabetes mellitus (diabetes), 82
 case study, 395
 signs and symptoms, 394–395
 type 1 diabetes, 395–396
 type 2 diabetes, 397
 Diabetes UK, 402
 diabetic foot ulcers, 398
 diabetic ketoacidosis (DKA), 396
 diamorphine, 463
 diapedesis, 220
 diaphoresis, 473
 diaphragm, 150
 diarrhoea, 482
 diazepam, in multiple sclerosis, 139
 diencephalon, 118, 119–120
 diffusion, 29
 facilitated, 7, 29
 process, 7

digestion, 317, 344
 accessory organs, 327–329
 chemical, 324
 disorders, 329–340
 protein, 324
 swallowing, 322
 digital rectal examination (DRE), 432
 dihydrocodeine, 463
 diplobacilli, 70
 diplococci, 69, 70
 diplopia, 504
 disaccharides, 348
 discoid eczema, 551
 distal, 589
 distributive shock, 97–99, 98
 case study, 98–99
 clinical investigation, 99
 vital signs, 98–99
 diuretics
 heart failure, 166
 hypertension, 192
 dobutamine, for shock, 108
 docosate sodium (Colace), 228
 donepezil (Aricept), in Alzheimer's disease,
 137
 dopamine, 146
 in Parkinson's disease, 135
 for shock, 108
 dorsal horn, 473
 dorsal horn (spinal cord), 445, 446
 drop attacks, 571
 dual energy X-ray absorptionmetry (DXA)
 scan, 491–492
 duct, 344
 ductal carcinoma, 51
 duodenal ulcers, 330
 duodenum, 317, 323, 324, 325, 327, 328
 dysarthria, 504
 dynorphins, 448, 473
 dysmenorrhoea, types of, 417–418
 dyspepsia, 344
 dysphagia, 368, 504, 589
 dysphonia, 59
 dysphoria, 473
 dyspnoea, 59, 114, 176

E

ear, 564–566, 565
 disorders of, 570–572
 external, 565
 inner, 566
 middle, 565–566
 ear surgery, and care, 572
 ear wax, 570
 ectocervix, 413
 eczema, 550
 acute, 550
 care and management, 552–553
 case study, 553–554
 chronic, 550
 endogenous, 550–551
 exogenous, 551–552
 effusion, 504
 elastic arteries, 181–182
 elastic fibres, 21
 electrolarynx, 579

electrolytes, 510–511, 531
 emotional brain, *see* limbic system
 encephalins, 448
 encirclement, in retinal detachment,
 582
 endocardium, 150, 150–151, 176
 endocrine glands, 20, 344, 372
 amino acid-based, 374
 physiology, 376–383
 position, 374
 receptors, 374
 endocrine-releasing organs,
 372
 The Endocrine Society, 402
 endocrine system, 372–373
 disorders, 383–398
 physiology, 376–383
 response to stress, 382
 endocytosis, 2, 5, 6, 29, 90
 receptor-mediated, 31
 endogenous infection, 64
 endogenous opiate, 448
 endometrial ablation, 425
 endoplasmic reticulum, 3, 14–15
 agranular, 15
 anatomy, 14, 14
 granular, 15
 endorphins, 448, 474
 endothelium, 210
 energy balance, 357
 enteric fevers, 90
 enzymes, 29, 90, 344, 474
 eosinophils, 220
 epicardium, 150, 150
 epiglottis, 322, 567
 epilepsy, 139–141
 care and management, 140–141
 non-pharmacological management,
 141
 pathophysiology, 139–140
 pharmacological management,
 141
 epinephrine (adrenaline), 474
 epinephrine, for shock, 108
 epistaxis, 245, 572–573
 epithelial cell, 589
 epithelial tissue, 18, 18–20
 eructation, 344
 erythema, 210, 550, 561
 erythroblasts, 217
 erythrocytes, *see* red blood cells
 erythropoietin, 217, 245
Escherichia coli (*E. coli*), 64
 eukaryotic cell, 29
 Everyman, 438
 exocrine glands, 20, 344
 exocytosis, 5, 29
 exogenous infection, 64
 external respiration, 285, 286
 extracellular fluid (ECF), 29, 210, 507
 extracellular matrix, 29
 exudate, 589
 eye
 physiology of, 568, 568
 disorders of, 580–583
 case study, 580

F

facial nerve, **120**
 facial palsy, **589**
 facilitated diffusion, **7, 29**
 fallopian tubes, **413**
 false vocal cords, **568**
 fatty acids, **349, 368**
 female breasts, **414, 414**
 femur, **200**
 fibres, **21, 29**
 fibrinogen, **216**
 fibroblast cells, **29, 210, 487**
 fibrous tunic, **568**
 fibula, **200**
 filtration, **7**
 fistula, **344, 368, 589**
 flagella, **3, 16**
 fluid balance chart, **515–516, 516**
 fluid balance monitoring, **105**
 fluid and electrolytes, **507**
 balance, **509–510**
 case study, **520, 524**
 clinical investigations, **521–522**
 compartments, **507–508, 508**
 composition of, **508–509**
 disorders associated, **515**
 vital signs, **525**
 fluke, **90**
 fluorescein angiography, **581**
 fluoxetine, in multiple sclerosis, **139**
 folate deficiency, **228–229**
 Foley catheter, **573, 589**
 folic acid (folate), **232, 351**
 follicle-stimulating hormone (FSH), **377, 413**
 fomites, **67**
 Food Allergy and Anaphylaxis Network (FAAN), **113**
 food groups, **356**
 foot ulcers, diabetic, **398**
 foramen magnum, **121, 146**
 fossa ovalis, **151**
 fractures, **486**
 and bone healing, **487**
 classifications, **487, 488**
 immobility, complications with, **487, 489**
 pathological, **486**
 stress, **486**
 free fatty acids, **349**
 frontal lobe, **474**
 fundus, **323, 344**
 fungi, **72, 72, 90**
 furosemide, **526**

G

galantamine (Reminyl), in Alzheimer's disease, **137**
 gallbladder, **317, 327, 328**
 gametes, fusion of, **14**
 gastrectomy, **245, 368**
 gastric bypass surgery, **358**
 gastric gland, **323**
 gastrin, **324**
 The Gastrointestinal Forum, **344**

gastrointestinal system, **316, 317. See also digestion**
 function, **316–317**
 length, **317**
 salivary glands, **320**
 structure, **317, 318–327**
 gastroscopy, **345**
 general malaise, **59**
 genetic material, **29**
 germline cell, **59**
 glandular epithelium, **20**
 Glasgow Coma Scale (GCS), **127, 128, 146**
 glaucoma, **581–582**
 acute closed angle, **582**
 open angle, **581**
 globulins, **216**
 glossopharyngeal nerve, **120**
 glucagon, **369, 382–383, 474**
 glucocorticoids, **380**
 gluconeogenesis, **348, 369**
 glucose, **7, 29**
 glycaemic control, **589**
 glyceryl trinitrate (GTN)
 for angina, **170**
 for myocardial infarction, **160**
 glycogen, **345, 348, 369**
 glycogenolysis, **348, 369**
 glycoprotein, **29**
 goblet cell, **29**
 golgi apparatus, **3, 15**
 gonadotropins, **377**
 gout, **493–494**
 assessment, **458–459**
 care and management, **494**
 clinical investigation, **469**
 diagnosis, **494**
 predisposing factors, **493–494**
 psychological-based, **467**
 granulocytes, **219**
 granzyme, **34**
 greater omentum, **325**
 greenstick fracture, **487**
 grey matter, **119**
 ground substance, **29**
 growth hormone-inhibiting hormone (GHIH), **376**
 growth hormone-releasing hormone (GHRH), **376**
 gut helminths, see helminths

H

haem, **217**
 haematocrit, **245**
 haematoma, **505**
 haemoglobin, **59, 217, 218, 245**
 defects, **232**
 haemoglobinopathies, **232**
 haemolysis, **219, 219**
 haemolytic anaemia, **232–233**
 aetiology, **232**
 care and management, **233**
 pathophysiology, **232–233**
 signs and symptoms, **233**
 haemolytic–uremic syndrome (HUS), **239**
 haemopoiesis, **505**
 haemoptysis, **59**

haemorrhage, **589**

haemorrhagic stroke, **132**

haemostasis, **221–222, 245**

coagulation, **221–222**

platelet aggregation, **221**

vasoconstriction, **221**

hair follicles, **542**

head injury, management of, **129–131**

Health concerns (web site), **244**

heart

 apex of, **150**

 base of, **150**

 blood flow, **152–153**

 cardiac muscle, **150**

 chambers, **151, 151**

 conducting system, **153–154**

 diseases, **156–170**

 electrocardiogram, **158**

 failure, see heart failure

 location, **149, 150**

 nerve supply, **154–156**

 output to, **155**

 structure, **150–152**

 valves, **151, 151**

 vessels, **152, 152**

heart failure (HF), **161–166**

 ACE inhibitors, **166**

 aetiology, **163**

 care and management, **165**

 case study, **162**

 echocardiography, **163**

 investigations, **163**

 left, **161, 164**

 non-pharmacological treatment, **165–166**

 pathophysiology, **163**

 pharmacological treatment, **165–166**

 right, **161, 164**

 vital signs, **162**

heat therapy, **467**

helminths, **74, 90**

hepatic artery, **328**

hepatic duct, **327**

hepatic portal vein, **328**

hepatic vein, **328**

hepatopancreatic ampulla, **327**

hepatosplenomegaly, **59**

herd immunity, **90**

hereditary, **589**

histamine, **90–92, 114, 474**

histoplasmosis, **91**

HIV tutorial (University of Utah), **89**

homeopathy, **474**

homeostasis, **114, 245**

hormone replacement therapy (HRT), for osteoporosis, **492**

hormones, **373–375**

 adrenocorticotropic, **377**

 anti-diuretic, **175**

 circulating, **373**

 compensatory mechanisms, **103–104**

 definition, **30**

 glucocorticoid, **380**

 growth, **376**

 hypothalamus, **376–377, 377**

 local, **373**

 parathyroid, **379**

- hormones (*Continued*)
 pituitary gland, 376–377, **377**
 receptors, 373, 374
 regulation, 375, 375
 release, 373, 375
 response, 375
 target cells, 373
 thyroid, 378, 378–379
 thyrotropin-releasing, 377
 transport, 373
- HPV, *see* human papillomavirus
 HPV vaccines, 46
 human papillomavirus (HPV), 39, 45
 humidification, 589
 hydration, 517–518
 hydrocele, 431
 hydrochloric acid, 324
 hyperalgesia, 454, 474
 hyperglycaemia, 396
 hyperkeratosis, 550, 561
 hyperosmolar hyperglycaemic state (HHS), 396
 hyperparathyroidism, 389
 hypersensitivity reaction, 114
 hypertension, 189–192, 193, 210, 474, 589
 aetiology, 190
 diuretics, 192
 FAST test, 190
 investigations, 191
 isolated systolic, 190–191
 malignant, 190–191
 non-pharmacological treatment, 192
 pathophysiology, 191
 pharmacological treatment, 192
 primary, 190–191
 secondary, 190–191
 symptoms, 191
 types, 190
- hyperthyroidism, 386–387
 long-term effects, 386
 signs and symptoms, 386
 thyroid storm, 387
 treatment, 387
- hypertonic solution, 532
- hyperventilation, 114
- hyphae, 72, 91
- hypnotherapy, 467
- hypodermoclysis, 518, 532
- hypoglossal nerve, **120**
- hypoparathyroidism, 389
- hypoperfusion, 114
- hypopharynx, 567, 567–568
- hypopituitarism, 384–385
 causes, 384, 384
 signs and symptoms, 384–385
 treatment, 385
- hypothalamus, 119–120, 474
 hormones, **377**
 physiology, 376–367
- hypothyroidism, 387–389
 causes, 387
 elderly patients, 388
 myxoedemic coma, 389
 signs and symptoms, 388
 thyroxine replacement therapy, 388
 treatment, 388
- hypotonic solution, 532
- hypoventilation, 474
- hypovolaemia, 589
- hypovolaemic shock, 97, 97
 causative factors, **102**
 clinical presentation, **103**
- hypoxaemia, 474
- hypoxia, 105, 114, 474
- hysterectomy, **425**
- I**
- idiopathic thrombocytopenic purpura (ITP), 239
- ileocaecal valve, 325
- The Ileostomy and Internal Pouch Support Group, 344
- ileum, 317, 325, 325
- imipramine (Tofranil), in multiple sclerosis, 139
- immune system, 63, 77–82
 blood cells, 80–82
 cells, 77
 immune surveillance, 34
 immunity, 79–80. *See also* immunity
 innate, 79–81
 lymphatic system, 77–79, 78
 malfunctioning, 82
 organs, 77
 proteins, 77
- immunity, 79–80, 245
 herd, 90
 non-specific, 79–80
 specific, 81
 types, 79
- immunodeficiency, 82, 91
- immunoglobulins, 91, 114, 245
- immunology, 77
- immunosuppressant drugs, 76–77
- infection, 63
 aerosol transmission, 65
 airborne transmission, 65
 case study, 67–69
 contact transmission, 65–66
 contaminated intermediates, 67
 droplet spread, 64–65
 endogenous, 64
 exogenous, 64
 faecal-oral route, 67
 of host cells, 71
 inoculation, 66
 peripheral intravenous cannula, 96
 person-to-person transmission, 65
 soil, 66
 spreading/transmission, 64–69
 vector transmission, 67
 vital signs, 68
 waterborne transmission, 65
- inferior vena cava, 151, **153**, 154, 169, 176, 180
- inflammation, 82–84
 causes, 83
 effects, 83
 process, 82, 83
 symptoms and signs, 82–83
- inflammatory breast carcinoma, 51
- infundibulum, 376
- inhaler technique, 297
- inoculation, 66
- inorganic substance, 30
- Inside Cancer (website), 58
- insulin, 382–383
- integral plasma membrane proteins, 4–5
- intermediate filaments, 16
- internal carotid artery, 121
- interneuron, 474
- interstitial fluid, 114
- interstitial space, 176, 532
- interventricular septum, 154
- intestine, 345
- intracellular fluid (ICF), 507
- intracellular space, 176
- intracranial pressure (ICP), increased, 126–129
 care and management, 127–128
 case study, 130–131
 effects, 127
 head injury, management of, 129–131
 signs and symptoms, 126
 vital signs, 130
- introcular pressure (IOP), 581–582, 589
- intrinsic factor, 245
- ionising radiation, 38
- ions, 5, 30
- iris, 568, 569
- iron, **352**
- iron deficiency anaemia, 225–228
 aetiology, 225
 bone marrow sample, 226
 care and management, 227
 investigations, 225–226
 pathophysiology, 226
 pharmacological treatment, 227–228
 signs and symptoms, 226–227
- iron supplements, 227–228
- ischaemia, 114, 474, 589
- ischaemic stroke, 132
- islets of Langerhans, 382
- isoproterenol, for shock, **108**
- isotonic solution, 532
- J**
- jejunum, 317, 324, 325, 327
- joints, 482–483, 483
- Journal of Renal Nursing*, 276
- K**
- keratin, 538, 541, 543, 561
- ketone, 369
- kinin, 24, 91, 474
- Kwashiorkor, 369
- L**
- lactic acid, 176
- large intestine, 325–326, 345
 anatomy, 325, 326
 functions, 327
 length, 325
- laryngectomy, 575, 578–579, 579
 case study, 577–578
 and hypoxia, 579
 loss of patient's voice after, 579

- laryngopharynx, 322
 larynx, 280–281, 280, 567–568
 laxatives, 589
 in multiple sclerosis, 139
 left heart failure (LHF), 161, 164–165
 Legionnaire's disease, 65, 91
 lens, 569
 leptospirosis, 65, 91
 lesion, 505
 leucocytes, see white blood cells
 leukaemia, 235–238
 aetiology, 237
 care and management, 238
 case study, 235–236
 non-pharmacological treatment, 238
 pathophysiology, 237
 pharmacological treatment, 238
 symptoms, 238
 types, 237
 vital signs, 235–236
 levodopa, in Parkinson's disease, 135
 lichenification, 550, 561
 ligament, 505
 ligamentum arteriosum, 151
 ligation, 589
 limbic system, 447, 447, 450, 474
 lingual frenulum, 321
 lipids, 30, 349–350, 369, 589
 absorbed, 350
 solubility in, 6
 lipodermatosclerosis, 201, 202
 lipoproteins, 350, 350, 369
 lips, 318, 318
 liver, 317, 327–328
 anatomy, 327
 blood vessels, 328
 functions, 328
 lobes, 327
 lobular carcinoma, 51
 London Pain Consortium, 473
 low back pain (LBP), 496–497
 care and management, 497
 diagnosis, 497
 risk factors, 497
 lower respiratory tract, 281–283, 282
 lumen, 210
 artery, 181
 vein, 181
 lung (pulmonary) function test, 301–302
 lungs
 cancer, 39, 45, 50–51, 303
 epithelial tissue, 18–19
 location, 150
 sympathetic/parasympathetic effects, 124
 luteinising hormone (LH), 377, 413
 lymph
 node, 59, 79–80, 589
 vessels, 540
 lymphoblast, 59
 lymphocytes, 220
 Lymphoedema Support Network, 531
 lymphoid tissue, 78–79
 lysosome, 30, 245
 lysosomes, 3, 5, 15, 30
- M**
 MacMillan Cancer Support, 310
 macrocytic anaemia, 228–229
 aetiology, 228
 care and management, 229
 folate deficiency, 228–229
 vitamin B₁₂ deficiency, 229
 macronutrients, 347–350, 369
 alcohol, 350
 carbohydrates, 348
 lipids, 349–350
 proteins, 348–349
 macrophages, 210, 220, 505
 macular degeneration, 580–581
 case study, 580
 dry, 581
 fundus fluorescein angiography, 581
 wet, 581
 magnesium, 352
 magnetic resonance imaging (MRI) scan, 134
 malaise, 570, 589
 male reproductive tract, 424–425, 425
 benign prostate, 431–433
 case study, 427
 disorders, 427
 genitalia, 426–427
 malignant prostate, 431–433
 vital signs, 428
 malignant, 59
 malignant melanoma, 545–548
 care and management, 547–548
 changes in moles, 547
 diagnosis, 546
 risk factors, 545–546
 signs and symptoms, 546
 malnutrition, 360–362
 aetiology, 360–361
 assessment, 362
 care and management, 361–362
 complications, 360
 screening tools, 361
 signs and symptoms, 360
 Malnutrition Universal Screening Tool (MUST), 362
 marasmus, 369
 Marfan's syndrome, 193
 massage, 467
 mast cell degranulation, 24
 mastication, 345
 mastoidectomy, 571
 mastoiditis, 571
 matolazone, for heart failure, 166
 McGill Pain Questionnaire, 459–461, 460
 mechanical barriers, 80
 mechanical digestion, 317, 324
 mechanical stimuli, 443
 mechanoceptors, 444
 mediastinum, 176
 mediator cells, 81
 medulla oblongata, 120–121, 176
 megakaryocyte, 59
 meiosis, 13–14, 30
 fusion of gametes, 14
 stages, 13, 13–14
 melanoma, 59
- memantine (Ebixa), in Alzheimer's disease, 137
 menarche, 59
 Ménière's disease, 571–572
 meninges, 122
 meniscectomy, 505
 menorrhagia, drugs for treatment, 423–424
 Men's Health Forum, 437
 menstrual cycle, 413–414, 414
 case study, 415
 clinical investigation, 416–417
 female breasts, 414–415
 menstrual disorders, 415
 vital signs, 415–416
 mesencephalon, 120
 mesenchyme, 245
 mesentery, 325
 metabolism, 30, 532
 metochlorpromide, 519
 metabolite, 30
 metaphase, 11, 11, 13
 metastasis, 41, 59
 microcytic anaemia, 225
 microfilaments, 3, 16
 micronutrients, 350–352, 369
 minerals, 352, 352
 vitamins, 351, 351
 micro-organisms, 63–64, 91–92
 bacteria, 69–70, 70, 90
 chlamydiae, 73
 fungi, 72, 72, 90
 helminths, 74
 mycoplasmas, 74
 protozoa, 73, 91
 rickettsiae, 73
 specimen collection, 79
 types of, 69, 69–74
 viruses, 71, 71–72, 92
 Microscopy, Culture and Sensitivity test, 68
 microtubules, 16
 midbrain, 120
 middle cerebral artery, 121
 milk teeth, 319, 319
 mineralocorticoids, 380
 minerals, 352, 352
 Mini Nutritional Assessment short-form (MNA-SF), 362
 miosis, 474
 mitochondria, 3, 15–16, 245
 mitosis, 10–12, 30
 anaphase, 11, 11
 metaphase, 11, 11
 prophase, 10, 11
 stages, 10
 telophase, 11, 11–12
 mitral valve, 176
 mole, 545
 molecule, 176, 245
 monocytes, 220
 monosaccharides, 348
 morphine, 336, 463
 motor nerve, 474
 mucosa, 323, 589
 mucosal membranes, 91
 as physical barrier, 80
 mucous membrane, 589

- mucus, 324, 589
multiple sclerosis (MS), 138–139
care and management, 139
pathophysiology, 138
pharmacological management, 139
signs and symptoms, 138–139
muscle, 22–23, 483–484, 484
cardiac muscle, 23
skeletal muscle, 22–23
smooth muscle, 23
muscle atrophy, 474
muscular arteries, 182
muscularis, 323
musculoskeletal system, 479–480, 480
bone, 481–482
case study, 495
clinical investigations, 491–492
disorders of, 486–488
joints, 482–483, 483
muscle, 483–484
nervous system, 484
vital signs, 495
mutagen, 59
mutation, 59
Mycoplasma genitalium, 74
Mycoplasma hominis, 74
Mycoplasma pneumoniae, 74
mycoplasmas, 74
myelin, 474
myelinated nerve axons, 119
mylohyoid muscle, 321
myocardial infarction (MI), 158–161, 159, 176
aetiology, 158–159
care and management, 160
investigations, 159
non-pharmacological treatment, 160–161
pathophysiology, 159–160
pharmacological treatment, 160–161
signs and symptoms, 160
sublingual glycerine trinitrate, 161
myocardium, 150, 150, 176
myomectomy, **425**
myosin, 221
myringoplasty, 571
myxoedemic coma, 389
- N**
- naevus, 545, 561
nails, 543, 543
nasal packing, 572
nasal polyps, 574
nasal septum, deviated, 572
nasal surgery, and care, 573
nasogastric (NG) tube feeding, 363
nasojejunal (NJ) tube feeding, 363
nasopharynx, 322
National Association for Colitis and Crohn's Disease (NACC), 344
National Heart, Lung and Blood Institute, 244
National Institute for Health and Care Excellence (NICE), 127, 146, 175, 209, 244, 276, 310, 368, 437, 504, 531
National Osteoporosis Society, 504
- National Resource for Infection Control (NRIC), 89
Natural Rubber Latex (NRL), 552
nausea, 518–519, 532
necrosis, 589
needle aspiration, 589
neoplasm, 59
nerve cell, 17
nervous system, 117
autonomic, 122–124, 484
central, 117–122, 118
disorders, see nervous system disorders
parasympathetic, 124, **124**
peripheral, 117, 118, 122–124, 146
somatic, 122
structure, 24, 117–124
sympathetic, 124, **124**, 147
nervous system disorders, 124–141
Alzheimer's disease, 136–137
brain trauma, 126
case study, 125
dementia, 136
epilepsy, 139–141
intracranial pressure, raised, 126–129
multiple sclerosis, 138–139
Parkinson's disease, 134–136
seizures, 139–141
status epilepticus, 140–141
stroke (cerebrovascular accident), 131–134
traumatic brain injury, 126
vital signs, 125, 129
- nervous tissue, 23–24
Netdoctor, 368
neural compensatory mechanisms, 103
neurogenic (vasogenic) shock, 102
causative factors, **102**
clinical presentation, **103**
neuroglia-supporting cells, 24, 30
neurohypophysis, 376
neuron, 444–445, 474
neuropathic pain, 453–454
neuropeptide, 474
neurotransmitter, 474
neutropenia, 49
neutrophils, 220
NHS Choices, 175, 344, 473
NHS Clinical Knowledge Summaries, 113
niacin, **351**
NICE, see National Institute for Health and Care Excellence
nociceptive-specific (NS) neurons, 446
nociceptors, 443–444, 474
non-opioid analgesia, for pain management, 462, 464
non-steroidal anti-inflammatory drugs (NSAIDs), 464–465, 474
norepinephrine, 146
for shock, **108**
normocytic anaemia, 230–235
nose, 566–567, 566
disorders of, 572–574
Northern Ireland Cancer Network, 588
nose bleed, see epistaxis
nuclear membrane, 30
nucleolus, 30
- nucleoplasm, 9, 30
nucleosome, 30
nucleotide sequence, 59
nucleus, 3, 9–10, 17, 70, 245
nulliparous, 59
nummular eczema, see discoid eczema
Nursing and Midwifery Council Code, 227
nutrients, 369
nutrition, 347–364
assessment tools, 355
disorders, 352–363
enteral, 362–363
parenteral, 345, 363
requirements, 352
during shock, 107
- O**
- obesity, 354–359, 369
aetiology, 355
BMI assessment, 355
care and management, 356
case study, 358–359
complications, 354
energy balance, 357
nutritional status, 355
orlistat, 357
pharmacological treatment, 356–357
signs and symptoms, 355
surgery, 358, 358
- obligate intracellular parasites, 91
oblique fracture, 487
O blood group, 222–223
obstructive lung disorders, 293
obstructive shock, 97
causative factors, **102**
oculomotor nerve, **120**
oedema, 91, 513, 532
care and management, 523–526
causes, 514
definition, 513
generalised, 513
localised, 513
peripheral, 514–15, 524–526
pitting, 514
pulmonary, 514, 523–524
oesophageal speech, 579
oesophageal sphincter, 323
oesophagus, 317, 321, 322–323, 345
olfactory, 589
olfactory nerve, **120**
oliguria, 176, 345, 532
oncogene, 59
oncogenic viruses, 37–40, 59
online nutritional information and facts, 175
opacity, 589
open angle glaucoma, 581
opiate, 474, 505
endogenous, 448
receptor, 448, 461, **461**, 474
opioids, for pain management, 461–462, **462**
opsonins, 91
optic nerve, **120**
oral candidiasis, 330
oral cavity, 317–320, 345
cheeks, 318, 318
lips, 318, 318

- palates, 318, 319
teeth, 319, 319–320
tongue, 318, 319
- oral contraceptives, and cancer risk, 40
- oral hygiene, 330
- organelles, 3, 14–16, 30, 245, 369
- centrioles, 16
 - cilia, 16
 - cytoskeleton, 16
 - endoplasmic reticulum, 14, 14–15
 - flagella, 16
 - Golgi apparatus, 15
 - lysosomes, 15
 - mitochondria, 15–16
 - peroxisomes, 15
- orlistat, for obesity, 357
- opharynx, 322, 567, 567
- orthopnoea, 165, 176
- osmolality, 532
- osmosis, 30, 245, 510, 532
- and movement of solute, 8
 - process, 7
- osmotic pressure, 30, 532
- ossiculoplasty, 571
- ossification, 505
- osteoarthritis, 489–490, 490
- care and management, 490
 - diagnosis, 489–490
 - joints affected, 489
 - risk factors, 489
 - signs and symptoms, 489
- osteoblast, 505
- osteoclasts, 505
- osteology, **487**
- osteopathy, 467, 474
- osteophyte, 505
- osteoporosis, 490–493, 505
- care and management, 492–493
 - diagnosis, 491–492
 - risk factors, 491
- otitis externa, 570
- otitis media, 570–571
- otosclerosis, 571
- ovulation, 59
- oxidation, 210
- oxidative phosphorylation, 30
- Oxybutynin (Ditropan), in multiple sclerosis, 139
- oxycodone, **463**
- oxygen therapy, 104, 107
- oxytocin, 377
- P**
- pacemaker, 176
- Paget's disease, 210
- pain, 442
- acute, 448–449
 - ascending pathway, 444–445, 444
 - assessment, 457–461
 - chronic, 449
 - classification, 448–450
 - deep, 450
 - descending pathways, 447–448
 - effects of, **455**
 - experience, 450
 - gate control theory, 451–452, 451
- impulses, 445
- management, 453, 461–469
- pathophysiology, 453
- phantom limb, 453
- physiology of, 443–444, 443
- superficial, 450
- theories, 450
- visceral, 450
- Pain Concern, 472
- pain rating index (PRI), 461
- Pain Talk, 473
- pain threshold, 450
- palates, 318, 319, 322, 345
- palpation, 589
- pancreas, 317, 327, 328–329
- diabetic foot ulcers, 398
 - disorders, 394–398
 - endocrine function, 329
 - exocrine function, 328
 - physiology, 382–383
 - type 1 diabetes, 395–396
 - type 2 diabetes, 397
- papilloedema, 210
- paracetamol, 464
- paralytic ileus, 345
- paraphimosis, 430
- parasite, 91
- parasympathetic nerve, 154–155, 176
- parasympathetic nervous system (PNS), 124, **124**, 146
- parathyroid glands
- disorders, 389
 - hyperparathyroidism, 389
 - hypoparathyroidism, 389
 - physiology, 379
- parathyroid hormone (PTH), 379
- parenteral nutrition, 345, 363
- Parkinson's disease (PD), 134–136
- care and management, 136
 - non-pharmacological management, 135–136
 - pathophysiology, 134–135
 - pharmacological management, 135
- parotid gland, 317, 321
- passive immunisation, 91
- passive transport, 7, 30
- patch testing, 554
- pathogen, 91, 245
- pathological fractures, 486–487
- patient controlled analgesia (PCA), 462, 474
- Patient UK, 209
- pelvic inflammatory disease (PID), 91, 420
- pelvis, 409–410, 470
- female external genitalia, 410–411, 411
- pepsinogen, 324
- peptic ulcer, 330–334
- aetiology, 331
 - care and management, 332
 - case study, 332–333
 - investigations, 331
 - pathophysiology, 332
 - pharmacological treatment, 332
 - signs and symptoms, 331
 - sites, 331
 - stress management, 334
- percutaneous endoscopic gastrostomy (PEG), 363
- pericardial cavity, 150
- pericardium, 150, 150, 176
- peripheral intravenous cannula (PVC), 96
- peripheral nervous system (PNS), 117, 118, 122–124, 146, 474
- autonomic nervous system, 122–124
 - somatic nervous system, 122
- peripheral oedema, 514–515, 524
- peripheral plasma membrane proteins, 5
- peripheral vascular disease (PVD), 196–197
- aetiology, 196
 - Dacron graft, 198
 - Doppler ultrasound, 197
 - investigations, 196–197
- peripheral vascular resistance, 114
- peristalsis, 23, 345
- peritoneum, 339, 345
- peritonitis, 338–340, 345
- broad spectrum antibiotics, 340
 - care and management, 339
 - clinical investigations, 339
 - pathophysiology, 339
 - pharmacological treatment, 340
 - signs and symptoms, 338
- peritonsillar abscess, 575
- permanent teeth, 319, 320
- pernicious anaemia (PA), 229
- peroxisomes, 15
- pethidine, **463**
- phagocytic cells, 24, 81, 83, 245
- phagocytosis, 5, 30, 81, 91
- phantom limb pain, 453
- pharynx, 317, 321, 322, 345
- phenytoin (Dilantin), in epilepsy, 141
- pheromones, 411, 542, 561
- phimosis, 429
- phospholipids, 350
- phosphorus, **352**
- photocoagulation, 582
- photodynamic therapy (PDT), 581
- photoreceptors, 569
- physical barriers, 80
- pinocytosis, 5, 30
- pitting oedema, 514
- Pituitary Foundation, 402
- pituitary glands, 121, 376–377
- diabetes insipidus, 385
 - disorders, 384–385
 - hormones, **377**
 - hypopituitarism, 384, 384–385
 - physiology, 376–377
- plasma, 213, 215–216, 245, 532
- anti-A antibody, 222
 - anti-B antibody, 222
 - electrolytes, 216
 - gases, 216
 - nutrients of metabolism, 216
 - proteins, 215–216
 - waste products of metabolism, 216
 - water, 215
- plasma membrane, 3
- plasma membrane proteins (PMPs), 4–5
- integral, 4–5
 - peripheral, 5

- plasmapheresis, 505
 plasma protein systems, 24
 platelets, 220–221, 245
 aggregation, 221
 pleural disorders, 30–35
 plombage (scleral buckling), 582
 pneumatic retinopexy, 583
 pneumonia, 290, 589
 polymodal nociceptors, 444
 polyp, 589
 polypeptide, 245
 polysaccharides, 348
 pons, 120, 121
 porphyrins, 59
 posterior segment, eye, 569
 postnasal pack, 589
 potassium, **352**
 sparing agents, 192
 transport, 8
 precancerous cell, 34, 59
 present pain index (PPI), 461
 pressure necrosis, 589
 primary cancer, 59
 prions, 71–72, 91
 proctitis, 345
 prognosis, 59
 prokaryotic cell, 30
 prolactin-inhibiting hormone, 377
 prophase, 10, 11, 13
 prostaglandins, 91, 345, 464, 474
 prostate-specific antigen (PSA), 432
 prosthesis, 590
 proteins, 348–349, 369
 immune system, 77
 integral plasma membrane, 4–5
 peripheral plasma membrane, 5
 proto-oncogene, 60
 protoplasm, 30, 70
 protozoa, 73, 91
 proximal, 505
 pruritus, 474, 550, 561
 psoriasis, 554–555
 The Psoriasis Association, 560
 psychological-based pain, 467
 ptosis, 505
 ptyalin, 345
 Public Health England, 89, 531
 puerperal fever, 91
 pulmonary artery, **153**, 176
 pulmonary circulation, 176
 pulmonary embolism, 474
 pulmonary oedema, 176, 514
 pulmonary trunk, 150
 pulmonary valve, 154
 pulmonary veins, **153**, 176
 pulmonary ventilation, 283
 pulse oximetry, 590
 pupil, 568, 569
 Purkinje fibres, 154, 155
 purulent, 590
 pus, 91, 590
 pyrexia, 475, 570, 590
 pyelonephritis, 91
 pylorus, 323, 325, 345
 pyridoxine, **351**
- Q**
 quinapril, for heart failure, 165
 quinsy, 575
- R**
 radiation therapy, 60
 radiculopathy, 496
 ranitidine (Zantac), 332
 rasagiline, in Parkinson's disease, 135
 receptor-mediated endocytosis, 31
 receptor sites, 5, 31
 rectum, 317
 red blood cells, 216, 216–219, 245
 formation, 217, 218
 haemoglobin, 217, 218
 haemolysis, 219, 219
 haemolytic anaemia, 232–233
 respiratory gases, transport of, 218–219
 sickled, 233
 referred pain, 453, 455
 reflex arc, 447, 448, 475
 reflexology, 467, 475
 regurgitation, 590
 The Renal Association, 276
 renal system, 249
 renin-angiotensin-aldosterone system, 381
 renin angiotensin mechanism, 104
 reproductive health, 408
 reservoir of infection, 91
 Respiratory Education UK, 310
 respiratory insufficiency, 590
 respiratory system
 anatomy, 280–285
 disorders of, 288–305
 physiology, 280–285
 restrictive disorders, 302–303
 Resuscitation Council (UK), 113
 reticular activating system, 120
 reticular connective tissue, 22
 reticular fibres, 21
 reticular formation, 475
 retina, 568, 569
 retinal detachment, 582–583
 retinopathy, 583
 rhesus factor (Rh), 223
 rheumatoid arthritis, 82
 riboflavin, **351**
 ribosomal ribonucleic acid (rRNA), 31
 ribosome, 3, 31
 rickettsiae, 73
 right heart failure (RHF), 161, 164
 rivastigmine tartrate (Exelon), in Alzheimer's disease, 137
 rods, 569
 The Royal College of Ophthalmologists, 588
 Royal College of Physicians, 146
 Royal National Institute of Blind People, 588
 rugae of mucosa, 323
- S**
 salbutamol, 92
 saliva
 composition, 320
 functions, 320–321
 salivary glands, 317, 320–321, 321
 schistosomiasis, 65, 90, 92
 Schwann cell, 146
 sciatica, 496
 sclera, 568, 568
 Scottish Intercollegiate Guidelines Network (SIGN), 209, 531
 sebaceous glands, 542
 seborrhoeic eczema, 551
 sebum, 542, 561
 seizures, 139–141
 care and management, 140
 classification, **140**
 selective oestrogen receptor modulator (SERM), for osteoporosis, **492**
 selective permeability, 5, 31
 selegiline (Eldepryl), in Parkinson's disease, 135
 selenium, **352**
 semilunar valves, 151, 151, 176
 sensory fibre, 475
 sensory nerve, 540
 sensory tunic, 569
 Sepsis Six care bundle, **108**
 Sepsis Six Saving Lives video, 113
 septic arthritis, 505
 septic shock, 101, **102**
 causative factors, **102**
 clinical presentation, **103**
 septoplasty, 572
 septum, 151, 176
 serosa, 323
 serotonin, 92, 445, 475
 Sexual Advice Association, 438
 shiatsu, 467, 475
 shock
 anaphylactic (anaphylaxis), 100
 cardiogenic, 97, 166–168
 care of patient, 106–108
 case study, 94–96
 causative factors, **102**
 clinical presentation, **103, 106**
 compensatory (non-progressive) stage, 103–105, **106**
 distributive, 97–99, 98
 hypovolaemic, 97, 97
 irreversible (refractory) stage, 106, **106**
 neurogenic, 102
 oxygen therapy, 104
 pathophysiology, 102
 pharmacological management, 108, **108**
 physiological changes, **106**
 physiological parameters, 96
 progressive (decompensated) stage, 105, **106**
 septic, 101
 stages, 102–106
 types, 97–102, **102**
 vital signs, 95
 sibutramine, 356
 sickle cell anaemia, 233–235
 care and management, 234–235
 pain management, 234–235
 pathophysiology, 234
 symptoms, 234
 Sign Station, 588
 silver nitrate sticks, 572

- simple epithelial tissues, 18
 simvastatin, 133, 170
 sinoatrial (SA) node, 153, 155, 155, 176
 sinusitis, 574–576
 skeletal muscle, 22–23
 skin
 anatomy, 537
 cancer, 545–549
 case study, 553
 clinical investigations, 554
 disorders of, 544
 eczema, 550
 epidermis, 538–539, 539
 physical barrier, 80
 physiology, 537
 structure, 537
 types, 549
 vital signs, 523
 small intestine, 324–325, 345
 duodenum, 324, 325
 ileum, 325, 325
 jejunum, 324, 325
 length, 324
 mesentery, 325
 smooth muscle, 17, 23
 sodium, **352**
 sodium pump, 28
 sodium valporate (Epilim), in epilepsy, 141
 solute, 31, 60
 solvent, 60
 somatic cell, 60
 somatic nervous system, 122
 somatosensory cortex, 475
 spherocytosis, 232
 spinal accessory nerve, **120**
 spinal cord, 122, 123
 spinal nerves, 122, 123
 spinothalamic tract, 446, 446, 475
 spiral bacteria, 70, 70
 spiral fracture, 487
 spirochetes, 70, 70
 spironolactone (Aldactone), 192
 spleen, 60, 79
 spongiform encephalopathy, acute, 71
 squamous cell carcinoma (SCC), 60, 548
 squamous epithelium, 18
 stable angina, 169
 staphylococci, 69, 70
Staphylococcus aureus, 101
 statins, for atherosclerosis, 189
 status epilepticus, 140–141
 sternum (breastbone), 226
 steroids, for cancer, 44
 stoma, 532, 590
 stomach, 317, 322–324, 325, 345
 anatomy, 322, 323
 functions, 324
 layers, 323
 lumen of, 323
 stratified cuboidal epithelial tissue, 20
 stratified epithelium, 18, 19, 20
 stratified squamous epithelial tissue, 18, 20
 streptobacilli, 70
 streptococci, 69, 70
Streptococcus pyogenes, 101
 stress fracture, 487
 stroke (cerebrovascular accident), 131–134
 care and management, 133
 haemorrhagic, 132
 ischaemic, 132
 non-pharmacological management, 133
 pathophysiology, 132
 pharmacological treatment, 132–133
 risk factors, 131
 signs and symptoms, **132**
 transient ischaemic attack, 132
 strontium ranelate, for osteoporosis, **492**
 sublingual gland, 321
 sublingual glyceryl trinitrate, 161
 submandibular area, 92
 submandibular duct, 321
 submandibular gland, 317, 321
 submucosa, 323
 submucous resection (SMR), 572
 substance P, 445, 447, 475
 substantia gelatinosa, 475
 substantia gelatinosa (SG) cells, 452
 substantia nigra, 146
 sulphur, **352**
 superficial pain, 450
 superior vena cava, 150–151, **153**, 154, 169, 176, 180
 surgical emphysema, 576
 Surviving Sepsis Campaign Guidelines, 107
 swallowing, 322
 sweat glands, 541, 541
 swimmer's ear, 570
 sympathetic nerve, 154–155, 176
 sympathetic nervous system, 124, **124**, 147
 synapse, 475, 505
 synarthrosis, 482
 synovial joints, 482–483, 483
 synthesis, 369
 syringing, 590
 systemic circulation, 176
 systemic inflammatory response syndrome (SIRS), **101**
 systemic lupus erythematosus (SLE), 74–75
- T**
- tachycardia, 475
 tachypnoea, 475
 tears, as mechanical barrier, 80
 teeth, 319, 319–20
 milk, 319, 319
 telophase, 11, 11–13
 terminal cancer, 60
 thalamus, 119, 475
 thermal stimuli, 443
 thoracotomy, 475
 thiamine, **351**
 throat, 567–568, 567
 disorders of, 574–577
 hypopharynx, 567, 567–568
 oropharynx, 567, 567
 thrombin, 222
 thrombocytopenia, 60, 238–240
 aetiology, 238–239
 care and management, 239–240
 non-pharmacological treatment, 240
 pathophysiology, 239
 pharmacological treatment, 240
 signs and symptoms, 239
 thrombolytic agents, 132
 thromboplastin, 222
 thromboplastinase, 222
 thrombotic thrombocytopenic purpura (TTP), 239
 thromboxane, 210
 thyroid gland
 disorders, 385–389
 hormones, 378, 378–379
 hyperthyroidism, 386–387
 hypothyroidism, 387–389
 negative feedback control, 378
 physiology, 378–379
 thyroid-releasing hormone (TRH), 378, 379
 thyroid-stimulating hormone (TSH), 377–379, 378
 thyroid storm, 387
 thyrotropin, 377
 thyrotropin-releasing hormone (TRH), 377
 thyroxine replacement therapy, 388
 tibia, 200
 tinnitus, 571, 590
 tissues, 17–25
 areolar, 22
 connective, 20–22
 epithelial, 18–20
 glandular epithelium, 20
 inflammatory response, 24–25
 injury, 24–25, 84
 lymphoid, 78–79
 muscle, 22–23
 nervous, 23–24
 perfusion, 167, 176
 repair, 24–25
 types, 17–18
 T lymphocytes, 220
 tongue, 318, 319, 321
 tonicity, 532
 tonsillitis, 574–575
 tonsils, 567
 toxic shock syndrome (TSS), 101, 113
 trabeculae carnaeae, 151
 tracheo-oesophageal fistula, 576
 tracheostomy, 575, 575–577
 care after, 576
 complications, 576
 cuffed tracheostomy tubes, 576
 purpose of, 575
 temporary, 575, 575
 uncuffed tracheostomy tubes, 576
 tramadol, **463**
 transcutaneous electrical nerve stimulation (TENS), 420, 467, 493
 transient ischaemic attack (TIA), 132
 transmembrane ion gradient, 31
 transmission (T) cells, 452
 transport proteins, 7
 transrectal ultrasound (TRUS), 432
 transverse fracture, 487
 trauma and shock factsheet, 113
 traumatic brain injury, 126
 triamterene (Dyrenium), 192
 tricarboxylic acid cycle, 31
 tricuspid valve, 151, 151, 176

Index

606

trigeminal nerve, **120**
triglycerides, 350, 369
trocar, 439, 590
trochlear nerve, **120**
trypanosomiasis, 91–92
tryptase test, 99
T score, DXA scan, 492
tuberculosis pharmacological therapy, 290
tubulin, 16
tumour, 60
tumour suppressor gene, 60
tunica externa, 181, 210
tunica interna, 181
tunica intima, 210
tunica media, 181, 210
tunnel vision, 581
tympanic membrane rupture, 570
tympanoplasty, 571
type A antigen, 222
type A blood group, 222
type B antigen, 222
type B blood group, 222
type 1 diabetes, 395–396
type 2 diabetes, 397

U

UK National Eczema Society, 560
The UK Sepsis Trust Professional Resources, 113
ulceration, 475
ulcerative colitis, 334–338
 care and management, 335–336
 case study, 336–338
 investigations, 334
 morphine, 336
 pathophysiology, 335
 pharmacological treatment, 336
 signs and symptoms, 335
 surgery, 336
ultraviolet radiation, 38
undernutrition, 369
unstable angina, 169
upper respiratory tract, 280–281, 280
uric acid, 505
uterine artery embolisation (UAE), **425**
urinary bladder, 325
urobilinogen, 245
uterus, 411, 412
uvula, 322

V

vaccine, 60
vagus nerves, **120**, 154–156
variant angina, 169
variant CJD (vCJD), 71
varicose eczema, 551
varicose veins, 199–202
 care and management, 201–202
 complications, 201, 202
 signs and symptoms, 199
vascular permeability, 90–92
vascular tissue, 22
vascular tunic (uvea), 569
vasoconstriction, 114, 176, 210, 221
vasodilatation, 114, 210
vasopressin, 377
vCJD, see variant CJD
vectors, 60, 71, 92
veins, 181, 183–184, 184, 210
 leg susceptible to varicosity, 201
 lumen, 181
 structure, 181
 varicose, 199–202, 200
venous eczema, 202
venous insufficiency, 199–202
 versus arterial insufficiency, **197**
venous serum, reference values in, 592–594
venous return, 475
venous ulcer, 202
ventricles, 147, 151, 151, 154–155, 176
ventricular folds, 568
venues, 181, 183, 210
verbal rating scale, 459, 459
Verity (self-help group), 438
vertigo, 571, 590
vesicles, 31
vesiculation, 550, 561
vestibulocochlear nerve, **120**
vibrios, 70, 70
villi, 326
viruses, 71, 71–72, 92
 infection of host cells, 71
 oncogenic, 37–40, 59
 prions, 71–72
 replication, 71
 unconventional slow, 71
visceral pain, 450
visual acuity, 580, 590
visual analogue scale, 459, 459

vitamin B₁₂ deficiency, 229
vitamins, 351, **351**, 369
vitrectomy, 583
vitreous humour, 569
vocal cords, 568
voice prostheses, 579
vomiting, 519–520, 532

W

waste products
 cell membrane and, 4
 liver, 328
 by micro-organisms, 64
nephrons, 251
plasma, 216
water, 517–518
 body fluid, 508
 functions of, 509
 osmotic pressure, 510
 in plasma, 215
 total body water, 509
water-soluble vitamins, 351, **351**
Water UK, 531
wax softener, 570
white blood cells, 80–81, 219–220, 245
white matter, 119, 475
wide dynamic range (WDR) neurons, 446
Women's Health Forum Royal College of Nursing, 438
World Health Organisation (WHO), 368, 465
 analgesic ladder, 466
wound healing, 83

X

xerosis, 550, 561

Y

yeasts, 72

Z

zinc, **352**
zona fasciculata, 380
zona glomerulosa, 380
zona reticularis, 380
zonule, 568, 569
Z score, DXA scan, 492
zygomatic arch, 321
zygotes, 14



M





