

Detailed contents

1	Practising paediatrics	1
	Reading and learning paediatrics	2
	Professional conduct and attitudes	3
	Professional skills	4
	Knowledge	6
<hr/>		
2	Epidemiology, evidence, and practice	9
	Introduction	10
	Descriptions in populations	10
	Summary of study designs	11
	Levels of evidence	12
	Basics of statistics	14
	Training and special knowledge skills	16
	Useful websites and resources	18
	References	18
<hr/>		
3	Clinical assessment	19
	Communication skills	20
	Taking a paediatric history: introduction	21
	The presenting complaint	22
	History of present illness	24
	Past health history	25
	Symptom review	26
	Family history	28
	Examining a child: introduction	28
	General condition	29
	Vital signs	30
	Respiratory system	31
	Cardiovascular system	32
	Gastrointestinal system	33
	Genitourinary system	34
	Musculoskeletal system	34

4	Resuscitation	35
	Cardiopulmonary arrest	36
	Rapid cardiopulmonary assessment	36
	Paediatric basic life support	38
	Choking children	39
	Paediatric advanced life support	40
	Rhythm disturbances	42
	Treating supraventricular tachycardia	43
	Following unsuccessful resuscitation	44
<hr/>		
5	Emergency and high dependency care	45
	The ABC of high dependency	46
	Respiratory distress	48
	Respiratory distress: management	50
	Foreign-body inhalation	51
	Drowning	52
	Circulation: cardiovascular difficulty	53
	Cardiovascular system difficulty: assessment	54
	Cardiovascular system difficulty: therapy—1	56
	Cardiovascular system difficulty: therapy—2	58
	Cyanosis: assessment	60
	Cyanosis: management	62
	Anaphylaxis	64
	Hypovolaemic shock	65
	Burns	66
	Burns: treatment	68
	Sepsis	70
	Altered level of consciousness	72
	Altered level of consciousness: clinical assessment	74
	Altered level of consciousness: Glasgow coma scale	76
	Altered level of consciousness: management	78
	Status epilepticus	80
	Poisoning	82
	Poisoning: management	84
	Poisoning: antidotes and substrates	86
	Fluid and electrolytes	89
	Fluid and electrolytes: dehydration	90
	Fluid and electrolytes: abnormalities	92
	Renal insufficiency	94

Glucose: hypoglycaemia 96
Diabetic ketoacidosis 98
Diabetic ketoacidosis: treatment 100
Inborn error of metabolism 102
Other acid–base problems 104
Further reading 106

6 Neonatology 107

Newborn life support 108
Perinatal definitions 110
Small for gestational age 111
Large for gestational age 112
Prematurity 114
Birth at the limit of viability 116
Outcome following prematurity 117
Basic obstetrics 118
Obstetric problems 120
Maternal disorders causing neonatal disease 124
Birth trauma 126
Non-specifically ill neonate 128
Neonatal jaundice 130
Hypoglycaemia 132
Neonatal seizures 134
The floppy infant 136
Hydrops foetalis 138
Routine care of the newborn 140
Milk feeding 142
Routine neonatal examination 144
Normal variations and minor abnormalities 146
Newborn fluid and electrolyte balance 148
Respiratory distress syndrome 150
Acute respiratory diseases 152
Neonatal X-rays 156
Neonatal respiratory support 160
Conventional positive pressure ventilation 162
High frequency oscillatory ventilation 164
Bronchopulmonary dysplasia 166
Circulatory adaptation at birth 168
Patent ductus arteriosus 169
CNS malformations 170

Hypoxic–ischaemic encephalopathy	172
Cerebral haemorrhage and ischaemia	176
Necrotizing enterocolitis	178
Neonatal infection	180
Transplacental (congenital infection)	182
Prevention of neonatal infection	184
Neonatal abstinence syndrome	186
Inborn errors of metabolism	187
Retinopathy of prematurity	188
Metabolic bone disease	190
Orofacial clefts	191
Neonatal haematology	192
Rh disease (rhesus haemolytic disease)	194
Bilirubin encephalopathy (kernicterus)	195
Neonatal dermatology	196
Perinatal death	198

7	Practical procedures	201
	Capillary blood sampling	202
	Venepuncture	203
	Intravenous cannulation	204
	Peripheral arterial blood sampling	205
	Peripheral arterial cannulation	205
	Umbilical arterial catheter	206
	Umbilical venous catheter	208
	Central venous catheterization via a peripheral vein	209
	Airway management	210
	Mask ventilation	211
	Endotracheal intubation	212
	Insertion of a chest drain	214
	Intraosseous infusion	216
	Intracardiac injection	216
	Pericardiocentesis	217
	Abdominal paracentesis	217
	Urethral bladder catheterization	218
	Suprapubic aspiration of urine	219
	Lumbar puncture	220
	Cerebral ventricular tap	221
	Exchange transfusion	222

8	Cardiovascular	225
	Common presentations 226	
	Cyanosis 226	
	Heart failure 226	
	Heart murmurs 228	
	Murmurs: clinical features 230	
	Acyanotic: congenital heart disease 232	
	Left to right shunt: atrial septal defect 233	
	Ventricular septal defect 234	
	Persistent ductus arteriosus 234	
	Right to left shunt: tetralogy of Fallot 235	
	Transposition of the great arteries 236	
	Common mixing: complete atrioventricular septal defect 236	
	Tricuspid atresia 237	
	Aortic stenosis 237	
	Pulmonary stenosis 238	
	Coarctation of the aorta 238	
	Hypoplastic left heart syndrome 239	
	Total anomalous pulmonary venous connection 239	
	Hypertrophic obstructive cardiomyopathy 240	
	Dextrocardia 240	
	Infection: infective bacterial endocarditis 242	
	Rheumatic fever 244	
	Pericarditis 246	
	Myocarditis 248	
	Cardiomyopathy 249	
	Cardiac arrhythmias 250	
<hr/>		
9	Respiratory medicine	253
	Introduction 254	
	Common presentation: wheeze 255	
	Common presentation: stridor 256	
	Common presentation: cough 257	
	Common presentation: breathlessness 258	
	Common presentation: snoring 259	
	Investigations 260	
	Asthma 262	
	Asthma: drug delivery devices 264	
	Asthma: clinic management (1) 266	

Asthma: clinic management (2)	268
Cystic fibrosis	270
Cystic fibrosis: problems	271
Cystic fibrosis: management (1)	272
Cystic fibrosis: management (2)	274
Chronic lung disease of prematurity	276
Congenital respiratory tract disorders	278
Sleep apnoea	279
Allergic rhinitis	280
Upper airway infections	282
Laryngeal and tracheal inflammation	284
Bronchial disease	286
Bronchiolitis	288
Pneumonia	290
Pneumonia: treatment	292
Pneumonia: effusion, empyema	293
Pulmonary tuberculosis	294
Other disorders	295

10 Gastroenterology and nutrition 297

Healthy eating for children	298
Vomiting	300
Acute diarrhoea	302
Chronic diarrhoea	304
Constipation	306
Faltering growth (failure to thrive)	308
Recurrent abdominal pain	310
Gastrointestinal haemorrhage	312
Jaundice	314
Adverse reactions to food	316
Nutritional disorders	320
Nutritional support	322
Parenteral nutrition	324
Oesophageal disorders	326
Pancreatitis	328
Intestinal disorders	330
Inflammatory bowel disease	332
Malabsorption	334
Coeliac disease	336

Gastrointestinal infections 338
Intestinal parasites 340
Acute hepatitis 342
Chronic liver failure 344
Alpha₁-antitrypsin deficiency 346
Wilson's disease 346
Liver transplantation 347

11 Nephrology 349

Polyuria and frequency 350
Abdominal/renal mass 351
Haematuria 352
Proteinuria 354
Urinary tract infection 356
Vesicoureteric reflux 360
Acute kidney injury 362
Acute kidney injury: diagnosis and treatment 364
Chronic kidney disease 366
Chronic kidney disease: treatment 368
Congenital urinary tract anomalies 370
Inherited renal disease 372
Glomerulonephritis 374
Haemolytic–uraemic syndrome 376
Nephrotic syndrome 378
Nephrotic syndrome: complications and follow-up 380
Renal tubular disorders 382
Proximal renal tubular acidosis 384
Bartter's syndrome 386
Renal calculi 388
Hypertension: definition 390
Hypertension: causes and features 394
Hypertension: management 396

12 Endocrinology and diabetes 399

Obesity 400
Obesity: management 404
Type 1 diabetes mellitus 406
Type 1 diabetes mellitus: management 408

Type 1 diabetes mellitus: insulin therapy 410
Acute complications of Type 1 diabetes mellitus 412
Type 1 diabetes mellitus: long-term complications 414
Type 1 diabetes mellitus: associated illnesses 415
Type 2 diabetes mellitus 416
Other forms of diabetes mellitus 418
Goitre 420
Solitary thyroid nodule 421
Thyroid carcinoma 421
Medullary thyroid cancer 421
Congenital hypothyroidism 422
Acquired hypothyroidism 424
Hyperthyroidism (thyrotoxicosis) 425
Graves's disease 426
Thyroiditis 428
Adrenal insufficiency 430
Adrenal insufficiency: treatment 432
Adrenal excess 434
Congenital adrenal hyperplasia 436
Mineralocorticoid excess 438
Mineralocorticoid deficiency 439
Inherited endocrine syndromes 440
Hypocalcaemia 442
Rickets 444
Hypercalcaemia 446
Posterior pituitary: syndrome of inappropriate antidiuretic hormone secretion 448
Hypopituitarism 449
Posterior pituitary: diabetes insipidus 450
Polycystic ovarian syndrome 452

13 Growth and puberty**455**

Normal growth 456
Normal puberty 458
Assessment of growth 460
Assessment of puberty 462
Short stature 466
Constitutional delay in growth and puberty 468
Intrauterine growth retardation 468
Turner's syndrome 469

Coeliac disease 469
 Chronic inflammatory disorders 469
 Skeletal dysplasias 469
 Growth hormone deficiency 470
 Growth hormone deficiency: management 472
 Tall stature 474
 Delayed puberty: assessment 476
 Delayed puberty: management 478
 Precocious puberty 480
 Precocious puberty: management 482
 Variants of normal puberty 484
 Disorders of sex development 486
 Disorders of sex development: management 488
 Androgen insensitivity syndrome 490
 Micropenis 491
 Gynaecomastia 492

14 Neurology 495

Examination 496
 Examination: children aged <5 years who can't walk 498
 Congenital abnormalities 500
 Paroxysmal episodes: not epilepsy 502
 Paroxysmal episodes: general management 504
 Seizures and childhood epilepsies 505
 Seizures: management 506
 Epilepsies: neonatal 508
 Epilepsies: infantile 510
 Epilepsies: mid to late childhood (1) 512
 Epilepsies: mid to late childhood (2) 514
 Headache 516
 Headache: migraine 518
 Bell's palsy 519
 Acute disseminated encephalomyelitis 520
 Stroke in childhood 522
 Acute abnormal movements 524
 Subdural haemorrhage in a child under 2 years 526
 Neurocutaneous disorders 530
 Macrocephaly and microcephaly 534
 Degenerative disorders 536
 Neuromuscular disorders 538

Peripheral neuropathies 541
Guillain–Barré syndrome 542
Neuromuscular junction 544
Muscular disorders 546
Management of neuromuscular junction and muscular disorders 548
Cerebral palsy 550
Acute encephalopathy 552

15 Child development 555

Managing and living with disability 556
Normal development 557
Gross motor development 558
Fine motor development 559
Speech and language development 560
Social, emotional, and behavioural development 561
Developmental assessment 562
Neurodevelopmental delay 564
Learning difficulties/disabilities 566
Developmental co-ordination disorder 566
Communication difficulties 566

16 Child and family psychiatry 567

Prevalence 568
Classification, categories, and dimensions 569
Comorbidity and causation 570
Developmental perspective 571
Systemic thinking 572
Assessment 573
History taking 574
Communicating 575
Asking the difficult questions 576
Depression 578
Suicide and non-fatal deliberate self-harm 580
Bipolar disorder 582
Anxiety disorders 584
Post-traumatic stress disorder 586
Obsessive compulsive disorder 588
Attachment disorder 589

Schizophrenia 590
Somatoform disorders and typical consultation–liaison presentations 592
Anorexia nervosa 594
Bulimia nervosa 596
Oppositional defiant and conduct disorders 598
Attention deficit hyperactivity disorder 600
Autism spectrum disorders 602
Individual psychotherapy 604
Family therapy 605
Psychopharmacotherapy 606

17 Haematology 607

Peripheral blood film 608
Anaemia 610
Haemolytic anaemias 612
Deficiency anaemias 614
Red blood count membrane defect anaemias 616
Red blood count enzyme defect anaemias 618
Sickle cell disease 620
Thalassaemia 622
Immune haemolytic anaemia 624
Red blood cell fragmentation 625
Aplastic anaemia 626
Failure of red cell production (pure red cell aplasia) 628
Polycythaemia 630
Abnormal bleeding or bruising 632
Coagulation studies 634
Disseminated intravascular coagulation 635
Haemophilia A 636
Haemophilia B 637
von Willebrand disease 638
Platelet function disorders 640
Thrombocytosis 641
Thrombocytopenia 642
Acute immune thrombocytopenia 643
Thrombophilia 644
Blood transfusion 646
Blood transfusion reactions 648

18	Oncology	651
	Epidemiology of childhood cancer	652
	Clinical assessment: history	653
	Clinical examination	654
	Key investigations	655
	Acute lymphoblastic leukaemia	656
	Acute myeloid leukaemia	658
	Chronic myeloid leukaemia (adult type)	659
	Juvenile myelomonocytic leukaemia	659
	Lymphoma	660
	Central nervous system tumours (1)	662
	Central nervous system tumours (2)	664
	Neuroblastoma	666
	Wilms' tumour (nephroblastoma)	668
	Other renal tumours in childhood	669
	Bone tumours	670
	Rhabdomyosarcoma	672
	Germ cell tumours	673
	Primary liver tumours	674
	Other rare tumours	675
	Langerhans cell histiocytosis	676
	Haemophagocytic lymphohistiocytosis	677
	Chemotherapy	678
	Stem cell transplant	680
	Radiotherapy	681
	Surgery	681
	Acute care	682
	Acute care: biochemistry	684
	Acute care: other	685
	Urgent care	687
	Principles of follow-up	688
	Palliative care	690
<hr/>		
19	Infectious diseases	693
	Introduction	694
	The child with fever	696
	Fever: examination and assessment	698
	Fever: management (green features)	700
	Fever: management (red or amber features)	701
	Prolonged fever of unknown cause	702

Common infections characterized by rash 704
 Exanthem 1: measles 706
 Exanthem 2: group A streptococcus 707
 Exanthem 3: rubella 708
 Exanthem 4: enteroviruses 708
 Exanthem 5: parvovirus 709
 Exanthem 6: human herpes virus 6 709
 Rash: chickenpox and zoster 710
 Rash: infectious mononucleosis 711
 Lyme disease 712
 Mumps 713
 Bacteraemia and shock 714
 Kawasaki disease 716
 Skin and soft tissues 718
 Meningitis 720
 Mycobacteria 722
 Tropical infections 723
 Immunodeficiency disorders 724
 Human immunodeficiency virus 726
 Immunizations 728

20 Bones and joints 731

Clinical assessment 732
 The limping child 734
 The limping child: differential diagnosis 736
 Infections: septic arthritis 738
 Infections: osteomyelitis 740
 Spinal disorders 742
 Spine: kyphosis 744
 Spine: scoliosis 746
 Hip disorders: developmental dysplasia of the hip 748
 Hip disorders: Perthes' disease 750
 Hip disorders: slipped upper femoral epiphysis 752
 Knee disorders 754
 Orthopaedic trauma 758
 Osteochondroses 760
 Osteogenesis imperfecta 762
 Osteopetrosis 764
 Cleidocranial dysplasia 765
 Skeletal dysplasias 766

Juvenile idiopathic arthritis	768
Juvenile idiopathic arthritis: clinical principles and management	770
Systemic arthritis	772
Oligoarticular juvenile idiopathic arthritis	773
Rheumatoid factor-positive polyarthritis	774
Rheumatoid factor-negative polyarthritis	776
Psoriatic arthritis	777
Enthesitis-related arthritis	778
Systemic lupus erythematosus	780
Juvenile dermatomyositis	782
Mixed connective tissue disease—overlap syndromes	784
Scleroderma	786
Henoch–Schönlein purpura	788
Polyarteritis nodosa	789
Wegener’s granulomatosis	790
Takayasu’s arteritis (pulseless disease)	791

21	Adolescent health	793
-----------	--------------------------	------------

Communication	794
Adolescence: overview	796
Adolescent health problems	798
Substance misuse	800
Sexual health problems	801
Adolescence and chronic illness	802

22	Dermatology	805
-----------	--------------------	------------

Assessment of a rash	806
Atopic eczema/dermatitis	808
Red scaly rashes	810
Papular rashes (1)	812
Papular rashes (2)	814
Vesiculobullous rashes	816
Red blanching (erythematous) rashes	818
Pruritus	820
Pustular rashes	822
Purpuric rashes	823
Lymphoedema	823
Blood vessel disorders	824

Skin infection: viral and bacterial 826
Fungal skin infections 828
Parasitic skin infections 829
Protozoal skin infections 829
Hair disorders 830
Nail disorders 832
Photosensitivity and light eruptions 834
Pigmentation disorders 836
Collagen and elastin disorders 838
Connective tissue disorders 839
Miscellaneous skin conditions 840

23 Paediatric surgery 843

Symptoms and signs that should cause concern 844
Congenital abnormalities: upper airway 846
Congenital abnormalities: tracheo-oesophageal 848
Congenital abnormalities: oesophagus 850
Congenital abnormalities: lung 851
Congenital abnormalities: chest 852
Idiopathic hypertrophic pyloric stenosis 854
Ingested foreign bodies 856
Bezoars 857
Midgut malrotation and volvulus 858
Intussusception 860
Duodenal atresia 862
Small bowel atresias 862
Meconium ileus 862
Acute appendicitis 864
Mesenteric adenitis 865
Meckel's diverticulum 865
Gastroschisis 866
Exomphalos (omphalocele) 866
Inguinal hernias 868
Hydroceles 868
Hirschsprung's disease 870
Rectal prolapse 871
Anorectal malformations 872
Umbilical anomalies 874
Testicular torsion 876
Orchitis and epididymitis 877

Testicular trauma 877
Undescended testes (cryptorchidism) 878
Retractile testes 879
Hypospadias 879
Phimosis and paraphimosis 880
Balanitis/balanoposthitis 880
Priapism 880
Penile trauma 881
Imperforate hymen 881
Labial adhesions in infants 881
Miscellaneous conditions 882
Perioperative care 884
Consent for surgery 886
Post-operative care: fluids 888
Post-operative care: analgesia 890
Post-operative care: drains and wounds 891

24	Special senses	893
	Common presentations 894	
	Hearing assessment 896	
	Childhood deafness 898	
	Disorders of the ear 900	
	Common disorders of the nose 902	
	Disorders of mouth and tongue 904	
	Visual development and examination 905	
	Vision assessment 906	
	Vision screening in the UK 908	
	Squints (strabismus) 910	
	Ametropia (refractive disorders) 911	
	Amblyopia 911	
	Visual impairment 912	
	Nystagmus 913	
	Disorders of the eye: infection and inflammatory 914	
	Eye foreign body 916	
	Cataract 916	
	Glaucoma 917	
	Orbit and eyelids 918	
	Back of the eye problems 920	
	Trauma 922	

25	Genetics	925
	Useful resources 926	
	Clinical genetics and genetic counselling 927	
	When to refer to clinical genetics 928	
	Taking a family history 930	
	Genetic testing 932	
	Chromosome tests 933	
	Molecular genetic analysis 934	
	Practical issues relating to genetic testing 935	
	Down syndrome 936	
	Common chromosomal disorders 938	
	Genetic disorders with cardiac features 940	
	Genetic testing in cognitive impairment 942	
	Genetic disorders with neuromuscular features 944	
	Genetic disorders with dermatological features 946	
	Genetic disorders of growth 948	
	Miscellaneous genetic conditions 950	
	Miscellaneous congenital malformations 951	
<hr/>		
26	Inherited metabolic disease	953
	General principles 954	
	Metabolic syndromes: neurological 956	
	Metabolic syndromes: metabolic acidosis 958	
	Metabolic syndromes: storage dysmorphism 959	
	Metabolic syndromes: hepatic syndromes 960	
	Metabolic syndromes: cardiac syndromes 962	
	Urea cycle disorders 964	
	Disorders of amino acid metabolism 965	
	Disorders of organic acid metabolism 966	
	Disorders of carbohydrate metabolism 967	
	Disorders of lipoprotein metabolism 967	
	Lysosomal storage diseases 968	
	Disorders of fatty acid oxidation 970	
	Mitochondrial disorders 971	
	Peroxisomal disorders 972	
	Disorders of nucleotide metabolism 973	
	Disorders of porphyrin metabolism 974	
	Disorders of metal metabolism and transport 976	

27	Community child health	979
	Introduction 980	
	Voluntary and charitable organizations 980	
	Organizations and structures 981	
	Health surveillance and promotion 982	
	Special educational needs 986	
	Children with disabilities 987	
	Specific learning difficulties 988	
	Chronic fatigue syndrome 990	
	Absence from school 991	
	Constipation and soiling 992	
	Enuresis 994	
<hr/>		
28	Child protection	997
	Definitions 998	
	Illness fabricated or induced by carers 999	
	Physical abuse 1000	
	Sexual abuse 1002	
	Emotional abuse 1003	
	Medical involvement in child protection 1004	
	Referrals to other agencies 1005	
	Medical assessment 1006	
	Assessment by social care 1008	
	Prevention strategies 1010	
	Further reading 1010	
<hr/>		
29	Pharmacology and therapeutics	1011
	Prescribing for children 1012	
	Adverse drug reactions 1014	
	Pharmacokinetics 1016	
	Drug metabolism 1017	
	Pain management 1018	
	Sedation 1019	
	Fever 1019	
<hr/>		
30	International health and travel	1021
	Child survival: world health 1022	
	World health: childhood illness 1023	

Taking children on holiday 1024
Illness after international travel 1026
Further reading 1028

31 Paediatrics, ethics, and the law 1029

Ethics 1030
Common law 1031
Recognition of ethical issues in everyday clinical practice 1032
Clinical case study 1033
The doctor–child relationship 1034
Parental responsibility 1035
The doctor–parent relationship 1035
Assent and consent 1036
Confidentiality and disclosure 1038
Withholding or withdrawing treatment in children 1040
Good ethical and legal practice in suspected child abuse 1042
Serious case reviews 1043
Legal aspects of international adoption 1044
