

INDEX

A

- Abdominal pain
 - acute, 336–337
 - chronic, 335–336
- Abdominal wall, peritoneum, and diaphragm
 - abdominal wall defects, 175–179, 312
 - congenital diaphragmatic hernias, 186–190
 - eventration of the diaphragm, 190
 - FAST assessment, 11
 - inguinal disorders, 181–184
 - peritoneal and peritoneal cavity disorders, 184–186
 - traumatic diaphragmatic hernias, 156–157
 - umbilical disorders, 179–181
- Abdominal wall defects
 - anomalies, 175–176
 - diagnosis, 176
 - gastroschisis, 175–179, 312
 - incidence, 175
 - long-term complications, 179
 - omphaloceles, 175–179, 312
 - postoperative considerations, 178–179
 - steps for primary closure, 177–178
 - treatment, 176
- Abscessed teeth, description and treatment, 124
- Abscesses. *See* Abscessed teeth; Infections; Lung abscesses; Parapharyngeal abscesses; Perianal and perirectal abscesses
- Absorption of drugs
 - oral drugs, 481–482
 - parenteral drugs, 482
 - topical drugs, 482
- Acalculous cholecystitis, symptoms, diagnosis, and treatment, 230
- Accessory spleen, description and treatment, 236
- Accommodative esotropia, description and treatment, 107
- Acetaminophen
 - herpetic gingivostomatitis treatment, 123
 - postoperative pain management, 20
- Acetaminophen with codeine, postoperative pain management, 21
- Acetazolamide, hyphema treatment, 115
- Acinetobacter baumannii*, wound infection cause, 143
- Acquired heart disease
 - Kawasaki disease, 323–324
 - rheumatic heart disease, 323
- Acquired immunodeficiency syndrome
 - diagnosis and treatment, 360
 - symptoms, 359–360
- Acute abdominal pain
 - causes, 336–337
 - intraabdominal masses and tumors and, 336
 - omental cysts and, 336
- Acute chest syndrome, sickle cell disease and, 397–398
- Acute inflammatory splenomegaly, description and treatment, 237
- Acute purulent conjunctivitis, description and treatment, 99
- Acyclovir
 - chickenpox treatment, 425
 - neonatal conjunctivitis treatment, 339
- Addison disease, hypotonia in infants and, 388
- Adenosine, tachycardia treatment, 320
- Adenovirus
 - bronchiolitis and, 287
 - croup and, 289
 - viral gastroenteritis cause, 329

- ADH. *See* Antidiuretic hormone
- Administration of drugs to children
- age-specific constant of proportionality to determine creatinine clearance (table), 485
 - body surface area and, 485
 - general rules, 484–486
 - inhalants, 491, 493
 - intramuscular injection, 490–491
 - intravenous infusion, 490
 - nasogastric route, 487
 - oral administration, 486–487
 - rectal administration, 487, 490
 - renal status determination, 485–486
 - subcutaneous injection of drugs, 491
 - tips for, 486
- Adolescents
- adrenal disorder treatment, 376
 - asthma and, 282
 - atopic dermatitis and, 424
 - diabetes mellitus management, 371
 - glomerular filtration rate and, 407
 - growth and development, 276
 - hyperthyroidism and, 375
 - pediatric neurological examination, 381–384
 - recurrent headaches and, 389–390
 - sickle cell disease and, 397–398
 - snake bites and, 458
 - whooping cough and, 347
- Adrenal disorders
- autoimmune conditions and, 375–376
 - description, 375
 - signs and symptoms, 376
 - treatment, 376–377
- AE. *See* Aeromedical evacuation
- Aeromedical evacuation
- aircraft used, 53
 - cabin altitude restriction and, 54–56
 - challenges of, 53
 - Critical Care Air Transport Teams and, 53, 56
 - decreased cabin pressure and, 54
 - humanitarian transport requests, 57
- hypoxia and, 53–54
- key steps for requesting, 58
 - mission duration and, 55
 - noncertified equipment waivers and, 56
 - patient clearance and, 58
 - patient movement procedure, 58
 - patient movement requirement centers and, 57, 59
 - special considerations, 56–57
 - stressors of flight, 53–57
 - thermal stress/humidity and, 54
 - vibration, gravitational forces, subdued lighting, and noise and, 55
- Afghanistan. *See also* Operation Enduring Freedom
- health statistics, xxi
- AIDS. *See* Acquired immunodeficiency syndrome
- Airway
- assessment of, 5–6
 - disorders of the upper airway, 127–131
 - surgical procedures for procuring an emergency airway, 15, 131
 - upper airway anomalies, 312–313
- Alagille syndrome, biliary hypoplasia and, 229
- Albumin, nephrotic syndrome treatment, 410
- Albuterol
- anaphylaxis treatment, 287
 - bronchiolitis treatment, 288
 - pulmonary agent exposure treatment, 466–467
 - riot control agent exposure treatment, 468
 - side effects, 281–282
- Allergic colitis
- diagnosis and treatment, 330
 - gastrointestinal bleeding and, 335
 - protein-losing enteropathy and, 331
- Allergies. *See also* Anaphylaxis
- atopic dermatitis and, 423–424
- Amebiasis
- diagnosis and treatment, 352–353
 - symptoms and etiology, 352

- American Academy of Pediatric Dentistry, first dental visit recommendation, 121
- American Academy of Pediatrics, first dental visit recommendation, 121
- Amoxicillin
- gastroesophageal reflux disease treatment, 334
 - infective endocarditis prophylaxis, 325
 - scarlet fever treatment, 418
 - traumatic injuries to teeth and, 123
 - urinary tract infection treatment, 357
- Ampicillin
- bacterial tracheitis treatment, 291
 - buccal cellulitis treatment, 342
 - gastroenteritis treatment, 222
 - gastroschisis treatment, 176
 - infective endocarditis prophylaxis, 325
 - omphalocele treatment, 176
 - orbital cellulitis treatment, 342
 - parotitis treatment, 343
 - pneumonia treatment, 347
 - sialadenitis treatment, 343
 - splenectomy and, 241
 - urinary tract infection treatment, 254
- Amputations
- cut-away view of stockinette skin traction (figure), 146
 - indications for, 144
 - mechanisms of injury associated with, 144
 - nutrition needs, 450, 452
 - principles of, 144–145
 - technique for, 145–147
- Amyl nitrite, blood agent exposure treatment, 467
- Anal disorders and conditions. *See* Rectal and anal disorders and conditions
- Anal fissures
- causes, 226
 - symptoms, 225
 - treatment, 226
- Anaphylaxis
- bee and wasp stings and, 457
 - causes, 286
 - description, 44, 284
 - evaluation, 286
 - organ system involvement, 285–286
 - symptoms, 284
 - treatment, 286–287
- Anemia
- aplastic, 394
 - bone marrow infiltration, 394–395
 - dyserythropoiesis/myelodysplastic syndromes, 395
 - glomerular filtration rate and, 407
 - hemolytic, 399–400
 - ionizing radiation exposure and, 475
 - liver disease and, 395
 - macrocytic, 393–395
 - microcytic, 391–392
 - normal red blood cell values (table), 391
 - normocytic, 392–393
 - sickle cell disease, 395–400
 - thrombocytopenia, 400–402
- Anesthesia
- airway formulas, 15
 - anatomical considerations (table), 13
 - blood therapy and, 18
 - burns and, 18–19
 - fluid resuscitation and, 17
 - hypotension and, 14–15
 - hypothermia and, 16–17
 - hypoventilation and, 14
 - initial ventilator settings, 16
 - intubation, 15
 - maintenance fluid requirements (table), 17
 - normal vital signs by age group (table), 14
 - pediatric equipment sizing, 16
 - pediatric trauma resuscitation, 15–18
 - physiological considerations, 13–15
 - postoperative pain management, 19–21
 - preoperative sedation, 19

- regional, 21–22
- respiratory acidosis and, 14
- surgical airway, 15
- Angiography
 - arteriovenous malformations, 169
 - hemobilia, 228
 - traumatic vascular injuries, 171
- Anisometropia, description, 106
- Annular pancreas, symptoms, diagnosis, and treatment, 231
- Anorchia
 - description, 256
 - diagnosis, 258
 - treatment, 256, 258
 - “vanishing testis” syndrome, 260
- Anorectal malformations, constipation and, 333
- Antacids, gastroesophageal reflux disease treatment, 334
- Anterior uveitis, description and treatment, 103
- Anthrax
 - description, 427–428
 - figures describing, 442–443
 - inhalational, 468–469
 - symptoms, 427
 - treatment, 428
- Anti-D immunoglobulin, idiopathic thrombocytopenic purpura treatment, 240, 401
- Antibiotic eye drops
 - conjunctivitis treatment, 99, 102
 - corneal abrasion treatment, 112
 - ophthalmia neonatorum treatment, 102
 - periorbital cellulitis treatment, 103
- Antibiotic ointments
 - corneal abrasion treatment, 112
 - lid laceration treatment, 118
- Antibiotics. *See also specific drugs*
 - abscessed tooth treatment, 124
 - acute chest syndrome treatment, 397
 - appendicitis during pregnancy treatment, 219–220
 - bacterial meningitis treatment, 354
 - bladder injuries and, 250
 - branchial cleft cyst treatment, 138
 - bullous staphylococcal impetigo treatment, 420
 - burn treatment, 71, 72
 - cellulitis treatment, 343
 - cervical lymphadenitis treatment, 136
 - chest trauma treatment, 155
 - children with cancer and, 404–405
 - cholera treatment, 352
 - common intramuscular antimicrobial medications used in children (table), 492
 - common oral liquid antimicrobial medications used in children (table), 488–489
 - contact dermatitis treatment, 423
 - corrosive esophageal injury treatment, 193
 - duodenal obstruction treatment, 202
 - dysentery treatment, 352
 - empyema treatment, 159, 160
 - enterocolitis treatment, 225
 - epiglottitis treatment, 130, 140, 291
 - esophageal atresia treatment, 191
 - esophageal perforation treatment, 194
 - gastric perforation treatment, 201
 - gastroschisis treatment, 179
 - infections in newborn infants and, 313
 - infective endocarditis prophylaxis, 324–325
 - intussusception treatment, 213
 - ionizing radiation exposure treatment, 476
 - lung abscess treatment, 159
 - lymphadenitis treatment, 344
 - mastoiditis treatment, 366
 - meconium ileus treatment, 215
 - omphalocele treatment, 179
 - orbital floor (blowout) fracture treatment, 117
 - osteomyelitis treatment, 143
 - pancreatitis treatment, 234
 - parapharyngeal abscess treatment, 342–343

- penetrating spinal injury treatment, 91
- peritoneal adhesion treatment, 186
- pneumatocele treatment, 158–159
- pneumonia treatment, 346–347
- pulmonary infection treatment, 365–366
- renal injuries and, 247
- septic shock treatment, 47
- spleen abscess treatment, 238
- splenectomy and, 241
- thyroglossal duct cyst treatment, 137
- tracheoesophageal fistula treatment, 191
- traumatic injuries to teeth and, 123
- urethral injuries treatment, 252
- vaginitis treatment, 263
- Antidiuretic hormone. *See also* Syndrome of inappropriate antidiuretic hormone
- changes in due to critical illness, 267
- Antifungal therapy. *See also specific drugs*
- children with cancer and, 405
- Antiviral drugs. *See also specific drugs*
- herpetic gingivostomatitis treatment, 123
- Aortic injuries, description, diagnosis, and treatment, 157
- Aortograms, renal artery stenosis, 170
- Apgar scores, evaluation of newborn infants (table), 305
- Aphthous ulcers, description and treatment, 124
- Aplastic anemia, description and treatment, 394
- Appendectomy
- appendicitis during pregnancy and, 220
- intussusception and, 213
- Appendiceal rupture
- complications, 221
- diagnosis, 221
- differential diagnosis, 221
- mortality secondary to complications, 220–221
- symptoms, 221
- treatment, 221
- Appendicitis
- acute, 216–219
- anatomical locations, 217–218
- description, 216–217
- gynecological disorders and, 222
- laboratory findings, 218–219
- during pregnancy, 219–220
- sequence of events, 216–217
- symptoms, 217–218
- Arrhythmias
- atrial fibrillation, 321
- atrial flutter, 320–321
- bradycardia, 319
- cardiac syncope and, 326
- infantile hypertrophic pyloric stenosis and, 199
- tachycardia, 319–320
- ventricular dysrhythmias, 321
- ventricular fibrillation, 321
- ventricular tachycardia, 321
- Arterial disorders. *See also* Venous disorders
- description, diagnosis, and treatment, 169
- Arterial hemangiomas, description and treatment, 166
- Arterial lines
- pediatric central and arterial venous line sizes (table), 30
- uses for, 29
- Arteriography, arteriovenous malformations, 168
- Arteriovenous malformations
- description, complications, diagnosis, and treatment, 168–169
- types, 169
- Artesunate, malaria treatment, 362
- Arthritis. *See* Septic arthritis
- Ascites
- biliary, 229
- description and treatment, 186
- Aspirin
- Kawasaki disease treatment, 324, 418
- Reye's syndrome and, 425

- rheumatic fever treatment, 356
 - Asplenia
 - description, 235–236
 - diagnosis and treatment, 236
 - Assessment considerations. *See also specific disorders*
 - disability, 9
 - kidney function in children, 407–408
 - life-threatening conditions, 5
 - primary survey, 5–9, 64
 - secondary survey, 9–11, 64
 - triage for children, 3
 - Asthma
 - acute asthma severity (table), 281
 - acute asthma treatment for mild to moderate attacks (table), 282
 - acute asthma treatment for severe attacks (table), 283
 - asthma inpatient management plan (table), 284
 - asthma medication toxicity profile (table), 285
 - atopic dermatitis and, 423
 - chronic asthma severity and suggested treatment (table), 285
 - status asthmaticus, 290–292
 - Astigmatism, description, 106
 - Astrovirus, viral gastroenteritis cause, 329
 - Atenolol, hyperthyroidism treatment, 375
 - Atopic dermatitis
 - description and causes, 423–424
 - treatment, 424
 - Atovaquone/proguanil, malaria treatment, 363
 - Atresia. *See also specific types of atresia*
 - treatment, 128
 - Atrial fibrillation, causes and treatment, 321
 - Atrial flutter, causes and treatment, 320–321
 - Atropine
 - anesthesia for infants and, 13
 - bradycardia treatment, 319
 - endotracheal route for administering, 496
 - nerve agent exposure treatment, 465
 - Autoimmune disorders
 - adrenal disorders and, 375–376
 - hemolytic anemia and, 399
 - immune (idiopathic) thrombocytopenic purpura and, 401
 - AV malformations. *See* Arteriovenous malformations
 - AVMs. *See* Arteriovenous malformations
 - Azithromycin
 - diarrhea treatment, 352
 - neonatal conjunctivitis treatment, 339
 - trachoma treatment, 340
 - whooping cough treatment, 348
- B**
- Bacterial keratitis, description and treatment, 113
 - Bacterial tracheitis, symptoms, diagnosis, and treatment, 291
 - Basic approach to pediatric trauma
 - anatomical and physiological considerations, 3–5
 - assessment considerations, 5–11
 - general differences between children and adults, 3–5
 - incidence of pediatric trauma, xiii
 - principal pediatric traumatic diagnosis by theater (table), xv
 - triage for children, 3
 - Basic fluid and electrolytes. *See also* Emergency nutrition
 - administering maintenance fluid, 268–270
 - adrenal disorders and, 376
 - aldosterone and, 267
 - antidiuretic hormone and, 267–268
 - burns and, 18, 64, 69–70
 - changes in fluid composition and distribution during critical illness, 267–268
 - differentiating sources of sodium disturbances (table), 269
 - electrolyte management, 270–272
 - fluid resuscitation, 17
 - general considerations, 4

- hyperkalemia and, 270–271
- hypernatremia and, 272
- hypoglycemia and, 17
- hypokalemia and, 270
- hyponatremia, 271–272
- maintenance fluid requirements (table), 17
- pediatric daily electrolyte requirements (table), 269
- pediatric daily fluid requirements (table), 268
- renal injuries and, 409
- sodium balance and, 268
- total body water variation with age, 267
- transfusions and, 41
- vulnerability of infants and young children to alterations in fluid and electrolyte imbalances, 267
- Beckwith-Wiedemann syndrome, macroglossia and, 127
- Bee and wasp stings, description and treatment, 457
- Benzathine penicillin G, rheumatic heart disease treatment, 323
- Benzodiazepines. *See also specific drugs*
 - burn treatment, 74
 - nerve agent exposure treatment, 465
- Beta-blockers. *See also specific drugs*
 - atrial flutter treatment, 320–321
 - bradycardia and, 319
 - hyperthyroidism treatment, 375
 - premature ventricular contraction treatment, 321
- Bethanechol, gastroesophageal reflux disease treatment, 196
- Bezoars, types, diagnosis, and treatment, 201
- Biliary ascites, diagnosis and treatment, 229
- Biliary atresia
 - description, 228
 - diagnosis treatment, 229
 - physical examination, 228–229
 - polysplenia and, 236
- Biliary hypoplasia, description and treatment, 229
- Biliary tract
 - biliary ascites, 229
 - biliary atresia, 228–229
 - biliary hypoplasia, 229
 - gallbladder disease, 229–230, 398
 - inspissated bile syndrome, 229
 - trauma, 228
- Biological agent casualties
 - background, 468
 - botulism, 471–472
 - category A agents, 468–473
 - inhalational anthrax, 468–469
 - plague, 469, 471
 - recommended therapy and prophylaxis for diseases caused by category A biothreat agents (table), 470–471
 - smallpox, 472
 - tularemia, 471
 - viral hemorrhagic fevers, 473
- Biopsies
 - bone marrow, 394, 395
 - enterocolitis and, 224
 - liver, 229
- Bisphosphonates, hypercalcemia treatment, 377
- Bites and stings
 - bees and wasps, 457
 - black widow spiders, 453–454
 - brown recluse spiders, 454–455
 - fire ants, 457
 - mortality rates, 453
 - patient history and, 453
 - physical examination, 453
 - scorpions, 455–457
 - snakes, 458
 - specific sources, 453–458
 - tarantulas, 455
- Black widow spider bites
 - description, 453
 - signs and symptoms, 454
 - treatment, 454
- Bladder injuries
 - repair of bladder neck injuries, 250–251
 - surgical repair indications, 249
 - transvesical approach to bladder neck injuries, 250
 - treatment, 249–251

- urethral catheter size estimation (table), 249
- Blepharitis, description and treatment, 98
- Blister agents
 - description, 465
 - signs and symptoms of exposure, 465–466
 - treatment, 466
- Blood agents
 - description, 467
 - signs and symptoms of exposure, 467
 - treatment, 467
- Blood glucose, increased intracranial pressure and, 50
- Blood pressure. *See* Hypotension
- Blowout fractures. *See* Orbital floor fractures
- Body surface area
 - burns and, 18, 19, 66–72, 74–75
 - drug dosages and, 485
 - fluid resuscitation and, 18
 - Mosteller formula, 19
 - Parkland formula, 18
 - Web-based calculator for, 19
- Bone infections. *See* Skin, soft tissue, bone, and joint infections
- Bone marrow biopsies
 - aplastic anemia and, 394
 - bone marrow infiltration, 395
- Bone marrow infiltration, description and treatment, 394–395
- Botulism
 - infection control, 472
 - signs and symptoms, 471–472
 - treatment and prophylaxis, 472
- Bradycardia, causes and treatment, 319
- Branchial cleft cysts, description and treatment, 137–138
- Breast-feeding
 - allergic colitis and, 330
 - emergency nutrition and, 449–450
 - medication safety and, 315
 - for newborn infants, 314–315
 - newborn prophylaxis, 315
 - ricketts and, 378, 379
- Bronchial injuries, symptoms, diagnosis, and treatment, 156–157
- Bronchiolitis
 - causes, 287–288
 - description, 287
 - evaluation, 288
 - treatment, 288–289
- Bronchoscopy
 - bronchial injuries, 157
 - hemoptysis, 164
 - lung abscesses, 159
 - procuring an emergency airway and, 131
 - traumatic diaphragmatic hernias, 157
- Broselow Pediatric Measuring Tape emergency medication dosing, 4 equipment size determination, 16 reversal-agent dosing, 79
- Brown recluse spider bites
 - description, 454
 - signs and symptoms, 454
 - treatment, 454–455
- Brown's syndrome, strabismus and, 108
- Buccal cellulitis, symptoms, diagnosis, and treatment, 342
- Bullae, erosions, and desquamation atopic dermatitis, 423–424 bullous staphylococcal impetigo, 420 contact dermatitis, 423 drug-induced, 422–423, 436–439 erythema multiforme, 423, 438–439 neonatal herpes simplex virus, 421–422, 436–437 purpura, 425–426 smallpox, 424–425, 440–441, 472 staphylococcal scalded skin syndrome, 420–421
- Bullous staphylococcal impetigo, description, diagnosis, and treatment, 420
- Burns. *See also* Chemical agent casualties; Corrosive esophageal injuries acalculous cholecystitis and, 230 anesthesia considerations, 18–19 body surface area considerations, 18, 19, 66–72, 74–75

- bowel regimen and, 74
 - burn depth determination, 65–66
 - chemical, 64, 69, 74
 - circumferential burns of extremities, 71–72
 - circumferential chest wall burns, 72
 - compression garments and, 75
 - Curreri formula for daily caloric requirements, 74–75
 - debridement, 71
 - differences in treatment for children, 63
 - dressings, 71
 - electrical, 64, 69, 73–74
 - first aid steps, 63–64
 - fluid resuscitation, 18, 64, 69–70
 - fourth degree, 66
 - general considerations, 63
 - hospitalization or transfer guidelines, 69
 - hypothermia and, 64
 - inhalation injuries, 66–67, 69
 - initial treatment, 64–65
 - metabolic responses, 63
 - minor burns, 70–71
 - modified Lund and Bowder chart for estimating burn severity in infants and children (figures), 66–68
 - mortality rate, 63, xiv
 - nutrition issues, 74–75, 450
 - occupational and physical therapy and, 75
 - pain management, 74
 - pathophysiological considerations, 63
 - primary survey, 64
 - protein requirements, 74
 - rehabilitation issues, 75
 - rule of nines modification, 66
 - second degree (partial thickness), 65, 69
 - secondary survey, 64
 - surgical treatment, 72–73
 - tetanus immunization and, 65, 70
 - thermal burns of the cornea, 112
 - third degree (full thickness), 66, 69
 - wound care, 71–72
- C**
- Calcitriol, rickets treatment, 379
 - Calcium disorders
 - hypercalcemia, 319, 377
 - hypocalcemia, 18, 40–41, 234, 377
 - hypomagnesemia, 377–378
 - Calicivirus, viral gastroenteritis cause, 329
 - Cancer. *See* Oncology; *specific types of cancer and tumors*
 - Candidiasis. *See* Cutaneous candidiasis
 - Carbamazepine
 - dosage and adverse reactions, 299
 - epilepsy treatment, 298
 - Carbon monoxide toxicity, inhalation injuries and, 67, 69
 - Cardiac anomalies
 - asplenia and, 236
 - polysplenia and, 236
 - Cardiac syncope
 - causes, 325–326
 - red flags during evaluation, 326
 - Cardiogenic shock, description, 44
 - Cardiology
 - acquired heart disease, 323–324
 - arrhythmias, 319–321
 - cardiac syncope, 325–326
 - chest pain, 326–327
 - congenital heart disease, 318, 320, 322
 - congestive heart failure, 236, 321–323
 - cyanotic newborns, infants, and children, 317–319
 - drugs used during pediatric cardiopulmonary arrests (table), 494–496
 - examination, 317
 - FAST assessment, 10
 - infective endocarditis prophylaxis, 324–325
 - maximum heart rates for infants and children, 320
 - myocardial infarction, 327
 - patient history and, 317

- pediatric advanced life support (PALS) rapid cardiopulmonary assessment, 5
- Cardiomegaly, congestive heart failure and, 322
- Cardiomyopathy
 - congestive heart failure and, 322
 - myocardial infarction and, 327
- Carditis, rheumatic fever and, 356
- Care of the newborn. *See also* Neonates and young infants
 - abdominal wall defects, 312
 - Apgar evaluation of newborn infants (table), 305
 - bathing, 315
 - dressing issues, 315
 - expected newborn weight by gestational age (table), 311
 - feeding recommendations, 314–315
 - infant endotracheal tube sizes (table), 310
 - infants who are large or small for gestational age, 314
 - infants who do not appear normal, 311–313
 - jaundice assessment, 316
 - meconium-stained amniotic fluid, 309
 - neural tube defects, 312
 - normal infant vital signs (table), 311
 - preterm infants, 309–311
 - routine care, 314–316
 - routine resuscitation, 303–305
 - special circumstances requiring advanced resuscitation, 305–314
 - tension pneumothorax and, 308–309
 - term infants who appear ill, 313–314
 - term infants who are not vigorous, 305–307
 - term infants who need to be intubated, 307–308
 - upper airway anomalies, 312–313
 - usual hospital stay, 316
 - voiding issues, 315–316
- Carnitine, valproic acid and, 302
- Cataracts
 - acute traumatic cataract (figure), 104
 - amblyopia and, 104
 - glaucoma and, 104, 105
 - intrauterine infection and, 109
 - leukocoria and, 103–105
- Category A agents. *See* Biological agent casualties
- Caudal regression syndrome, constipation and, 333
- Cavernous hemangiomas, description and treatment, 166
- CBRNE injuries. *See* Chemical, biological, radiological, nuclear, and explosive injuries
- CCATs. *See* Critical Care Air Transport Teams
- Cefazolin
 - bacterial tracheitis treatment, 291
 - epiglottitis treatment, 291
 - staphylococcal scalded skin syndrome treatment, 421
- Cefotaxime
 - epiglottitis treatment, 130
 - neonatal conjunctivitis treatment, 339
 - pneumonia treatment, 346
- Ceftriaxone
 - epiglottitis treatment, 130
 - meningitis treatment, 354
 - meningococemia treatment, 417
 - neonatal conjunctivitis treatment, 339
 - parapharyngeal abscess treatment, 343
 - parotitis treatment, 343
 - pneumonia treatment, 346
 - septic arthritis treatment, 345
 - sialadenitis treatment, 343
- Cefuroxime, bacterial tracheitis treatment, 291
- Celiac disease
 - acute abdominal pain and, 336
 - description and treatment, 330
 - folic acid deficiency and, 394
- Cellulitis. *See also* Buccal cellulitis; Orbital cellulitis; Periorbital cellulitis symptoms, diagnosis, and treat-

- ment, 343
- Center for Army Strategic Studies, pediatric patients as a percent of CSH admissions, xiii
- Cephalosporin
 - buccal cellulitis treatment, 342
 - burn treatment, 72
 - cellulitis treatment, 343
 - epiglottitis treatment, 291
 - osteomyelitis treatment, 345
 - periorbital cellulitis treatment, 340
 - septic arthritis treatment, 344–345
 - urinary tract infection treatment, 357
- Cerebral edema, diabetic ketoacidosis and, 370
- Cerebral perfusion pressure, maintenance of, 49–50
- Cerebral salt wasting
 - hyponatremia and, 271, 272
 - management, 272
- Cerebrospinal fluid
 - fistula management, 91–92
 - leaks of, 134
- Cervical lymphadenitis, description and treatment, 136
- Chemical, biological, radiological, nuclear, and explosive injuries
 - availability of pediatric dosing forms for drugs and antidotes, 464
 - background, 463
 - biological casualties, 468–473
 - chemical casualties, 464–468
 - developmental considerations, 464
 - nuclear and radiological casualties, 473–479
 - prophylactic considerations, 464
 - smallpox, 463
 - toxicology consultation, 479
 - treatment difficulties, 464
 - unique considerations in the pediatric victim, 463–464
 - Venezuelan equine encephalitis, 463
- Chemical agent casualties
 - background, 464
 - blister agents (vesicants), 465–466
 - blood agents, 467
 - military-grade agents, 465–468
 - nerve agents, 465
 - pulmonary agents, 466–467
 - riot control agents, 467–468
- Chemical burns
 - first aid steps, 64
 - hospitalization or transfer guidelines, 69
- Chemical conjunctivitis, description and causes, 99
- Chemical injuries of the cornea
 - severe acid or alkali injuries, 111–112
 - treatment, 111
- Chemotherapy
 - hemangioma treatment, 167
 - pancreatitis and, 234
- Chest. *See* Thoracic cavity
- Chest pain
 - cardiac causes, 327
 - causes, 326
 - red flags for underlying cardiovascular disease, 326
- Chest trauma
 - aortic injuries, 157
 - bronchial injuries, 156–157
 - diagnosis, 155
 - diaphragmatic rupture, 158
 - hemothorax, 155–156
 - incidence, 155
 - myocardial contusions, 158
 - pericardial tamponade, 157–158
 - posterior flail, 156
 - tension pneumothorax, 155–156, 308–309
 - traumatic diaphragmatic hernias, 156–157
 - treatment, 155
 - types, 155
- CHF. *See* Congestive heart failure
- Chickenpox, description, 425
- Child abuse
 - increased intracranial pressure and, 49
 - nonaccidental trauma (shaken baby syndrome), 49, 105–106
 - vaginitis and, 263

- Children. *See* Adolescents; Neonates and young infants; Older children; Toddlers; Young children
- Chlamydia trachomatis*
neonatal conjunctivitis and, 339
pelvic inflammatory disease and, 263
- Chloramphenicol
meningitis treatment, 354
typhoid fever treatment, 222
- Chlorine gas. *See* Pulmonary agents
- Chloroquine phosphate, malaria treatment, 362
- Choanal atresia, description, diagnosis, and treatment, 127
- Cholecystectomy
acalculous cholecystitis, 230
biliary tract trauma treatment, 228
hemolytic cholelithiasis, 230
hereditary spherocytosis, 238
pancreatitis and, 234
- Cholecystitis, acute abdominal pain and, 337
- Cholecystostomy, biliary ascites, 229
- Choledocholithiasis, description and treatment, 230
- Choledochostomy, biliary tract trauma treatment, 228
- Cholelithiasis, acute abdominal pain and, 337
- Cholera, WHO case definitions, 351
- Choleretics
biliary hypoplasia treatment, 229
inспissated bile syndrome treatment, 229
- Chromosomal analysis, hypotonia in infants, 387
- Chronic abdominal pain
intussusception, 335–336
warning signs of organic disease, 335
- Chronic asthma
asthma education, 283
chronic asthma severity and suggested treatment (table), 285
controlling precipitating factors, 283
long-term management, 282–284
severity classification, 282–283
written plan for managing, 283–284
- Chylothorax
description, 162
diagnosis, 162–163
symptoms, 162
treatment, 163
- Cineesophagrams
corrosive esophageal injuries, 193
gastroesophageal reflux disease, 195
- Ciprofloxacin
anthrax treatment, 428
diarrhea treatment, 352
meningitis treatment, 354
urinary tract infection treatment, 357
- Circumcision
complications, 255
hypospadias and, 254
phimosis and, 254
surgical indications for, 255
techniques, 255
- Clarithromycin
gastroesophageal reflux disease treatment, 334
whooping cough treatment, 348
- Cleft lip, feeding issues, 313
- Cleft palate, feeding issues, 313
- Clefts, description, diagnosis, and treatment, 128
- Clindamycin
cellulitis treatment, 343
epiglottitis treatment, 291
infective endocarditis prophylaxis, 325
malaria treatment, 363
osteomyelitis treatment, 345
parapharyngeal abscess treatment, 343
pneumonia treatment, 347
septic arthritis treatment, 345
toxic shock syndrome treatment, 419
- Clonazepam, dosage and adverse reactions, 299
- Clostridium difficile*, wound infection cause, 143
- Clostridium perfringens*, wound infec-

- tion cause, 143
- Coagulopathies
 - hemophilia, 402–403
 - Von Willebrand's disease, 403–404
- Cold weather injuries
 - frostbite, 460
 - hypothermia, 459–460
 - mechanism of injury, 459
- Colitis
 - acute abdominal pain and, 336
 - allergic, 330
 - bacterial gastroenteritis and, 329
- Combat support hospitals
 - length of hospital stay, xiv
 - mechanisms of injuries, xiii–xiv
 - mission and role, xiii
 - mortality rate for pediatric patients, xiv
 - number of invasive surgical procedures, xiv
 - pediatric patients as a percent of CSH admissions, xiii
 - reasons for pediatric admissions, xiii
- Comitant strabismus, description, 107
- Communication
 - nursing tips, 276–277
- Compartment syndrome
 - abdominal, 184–185
 - electrical burns and, 73
 - intraosseous needle placement complication, 29
 - vascular injuries and, 173
- Computed tomography
 - ankle fractures, 152–153
 - anterior and posterior basal cisterns on a normal computed tomography scan of the head (figure), 81
 - appendicitis, 219
 - chest trauma, 155
 - convulsive status epilepticus, 293, 295
 - cysts of the spleen, 236
 - empyema, 347
 - head injury triage decisions and, 80
 - hemobilia, 228
 - hemothorax, 162
 - intraabdominal masses and tumors, 336
 - liver trauma, 227
 - lung abscesses, 159, 347
 - Meckel's diverticulum, 207
 - nonfebrile seizures, 296
 - omental and mesenteric cysts, 187
 - omental cysts, 336
 - open globe ruptures and lacerations, 110
 - orbital cellulitis, 342
 - orbital floor (blowout) fractures, 117
 - pancreatic trauma, 232
 - pelvic fractures, 153
 - pneumatoceles, 158
 - pneumomediastinum, 161
 - pseudocysts, 235
 - pupillary defects, 96
 - renal injuries, 246
 - spleen abscesses, 238
 - spontaneous pneumothorax, 161
 - stroke, 397
 - traumatic vascular injuries, 171
 - ureteropelvic junction disruption, 247
- Congenital anomalies of central veins, description, diagnosis, and treatment, 169
- Congenital arteriovenous fistulas, description and treatment, 166
- Congenital diaphragmatic hernias
 - defects associated with, 187
 - diagnosis, 187–188
 - general information, 186–187
 - incidence, 187
 - pathophysiology, 188
 - physical appearance, 188
 - postoperative care, 190
 - results, 190
 - surgical repair, 189–190
 - treatment, 187–189
- Congenital esotropia, description and treatment, 107
- Congenital heart disease
 - congestive heart failure and, 322
 - cyanosis and, 318
 - myocardial infarction and, 327

- tachycardia and, 320
- Congenital wryneck, description and treatment, 139–140
- Congestive heart failure
 - asplenia and, 236
 - causes, 321–322
 - diagnosis, 322
 - management, 322–323
- Conjunctival and corneal foreign bodies
 - diagnosis, 113–114
 - treatment, 114
- Conjunctivitis
 - description and causes, 99, 339
 - neonatal, 339
 - treatment, 99, 339
- Connective tissue disorders
 - Kawasaki disease, 170, 418
 - Marfan syndrome, 169–170
 - occlusive disorders, 170
 - thrombi and emboli, 170
- Consecutive strabismus, description and treatment, 108
- Constipation
 - anatomical defects and, 333
 - description, 331
 - encopresis, 331–333
 - Hirschsprung disease and, 332
 - meconium plug syndrome, 332–333
 - organic disorders, 332–333
 - treatment, 223
- Contact dermatitis, description and treatment, 423
- Continuous positive airway pressure, posterior flail treatment, 156
- Convulsive status epilepticus
 - complications, 293
 - description, 293
 - emergency management (table), 294
 - evaluation, 293, 295
 - mortality rate, 293
- Coordination, pediatric neurological examination for, 382
- Corneal abrasions, description and treatment, 112
- Corneal ulcers, description and treatment, 113
- Corrosive esophageal injuries
 - causes, 192
 - complications, 193–194
 - diagnosis, 192–193
 - symptoms, 192
- Corticosteroids. *See also* Steroids
 - atopic dermatitis treatment, 424
 - contact dermatitis treatment, 423
 - Henoch-Schönlein purpura treatment, 426
 - pulmonary agent exposure treatment, 467
 - Stevens-Johnson syndrome treatment, 423
 - toxic epidermal necrolysis treatment, 423
- CPAP. *See* Continuous positive airway pressure
- CPP. *See* Cerebral perfusion pressure
- Crackles/rales, description, 280
- Cricothyroidotomy, for surgical airway, 15, 131
- Critical care. *See* Resuscitation and critical care
- Critical Care Air Transport Teams, aeromedical evacuation and, 53, 56
- Crotalidae polyvalent immune fragment antigen, snake bite treatment, 458
- Croup
 - causes, 289
 - description, 130, 289
 - diagnosis, 130, 189
 - treatment, 130, 289–290
- Cryoprecipitate, routine transfusions, 38
- Cryptorchidism, description, 256
- CSHs. *See* Combat support hospitals
- CT scans. *See* Computed tomography
- Cushing disease, hypotonia in infants and, 388
- Cutaneous candidiasis, symptoms, diagnosis, and treatment, 343–344
- Cyanide. *See* Blood agents
- Cyanosis
 - causes, 318
 - evaluation, 318
 - hypoxemia and, 317
 - treatment, 318–319

- Cyclophosphamide, hemangioma treatment, 167
- Cystic fibrosis
 acute abdominal pain and, 337
 inspissated bile syndrome and, 229
 intussusception and, 211
 malabsorption disorders and, 330
 meconium peritonitis and, 185
 pancreatitis and, 234
 rectal prolapse and, 225
- Cystic hygromas
 complications, 139
 description, 138–139
 diagnosis, 139
 etiology, 138
 treatment, 139
- Cystogastrostomy, pseudocysts, 235
- Cystograms, bladder injuries, 249
- Cystoscopy
 repair of bladder neck injuries and, 250–251
 urethral injuries, 251
- Cysts
 branchial cleft, 137–138
 cystic hygroma (lymphangioma), 138–139
 echinococcal, 236
 epidermoid, 236
 laryngoceles, 129
 omental, 336
 omental and mesenteric, 186
 orbital dermoid, 97–98
 pseudocysts, 234–235
 thyroglossal duct, 137
 urachal, 180
- Cytomegalovirus, chorioretinitis and, 109
- D**
- Decontamination
 blister agent treatment, 466
 radiological contamination, 476
- Dengue and dengue hemorrhagic fever
 diagnosis, 358
 symptoms, 357–358
 treatment, 358
- Dentistry
 abscessed teeth, 124
 aphthous ulcers, 124
 common oral pathology, 123–124
 early childhood caries, 121
 first dental visit recommendation, 121
 fluoride supplementation, 124–125
 herpetic gingivostomatitis, 123–124
 risk factors in developing tooth decay, 122
 tooth eruption (figure), 121
 traumatic injuries, 122–123
- Dermatitis. *See* Atopic dermatitis; Contact dermatitis
- Dermatology. *See also* Skin, soft tissue, bone, and joint infections
 anthrax, 427–428, 442–443
 bullae, erosions, and desquamation in neonates and young children, 420–426
 disseminated intravascular coagulation, 427
 febrile child with rash, 416–420
 Kawasaki disease, 418
 leptospirosis, 419–420
 measles, 417, 430–433
 meningococcemia, 416–417, 430–431
 necrosis in children, 426–427
 rickettsial diseases, 416
 scarlet fever, 417–418, 432–433
 teledermatology consultation, 413–416
 toxic shock syndrome, 418–419
- Desmopressin
 hemophilia treatment, 403
 Von Willebrand's disease treatment, 404
- Dexamethasone, croup treatment, 289–290
- Diabetes mellitus
 adrenal disorders and, 375–376
 assessing dehydration in the pediatric patient with diabetes (table), 368
 description, 367
 diabetic ketoacidosis, 368–370

- management of, 370–372
 - symptoms, 367
 - type 2 symptoms, 367–368
 - weight loss and, 367
- Diabetic ketoacidosis
- diagnosis, 368–369
 - laboratory tests, 369
 - treatment, 369–370
- Diaphragm. *See* Abdominal wall, peritoneum, and diaphragm
- Diaphragmatic rupture, symptoms, diagnosis, and treatment, 158
- Diarrhea
- acute watery type, 351
 - amebiasis, 352–353
 - diagnosis, 351
 - dysentery, 351
 - etiology, 350–351
 - humanitarian-assistance settings and, 350–353
 - humanitarian issues, 365
 - osmotic, 329
 - protein-losing enteropathy and, 331
 - symptoms, 350
- Diazepam
- convulsive status epilepticus treatment, 295
 - dosage and adverse reactions, 299
 - heatstroke treatment, 461
 - nerve agent exposure treatment, 465
- Diclofenac, corneal abrasion treatment, 112
- Diet. *See also* Nutrition
- diabetes mellitus management, 370–371
- Diethylene-triaminepentaacetic acid, radiological contamination treatment, 479
- Digoxin
- atrial flutter treatment, 320
 - bradycardia and, 319
 - rheumatic heart disease treatment, 323
- Diloxanide furoate, dysentery treatment, 353
- Dimercaprol, radiological contamination treatment, 479
- Dimercaptosuccinic acid, lead poisoning treatment, 392
- Diphenhydramine
- anaphylaxis treatment, 287
 - bee and wasp sting treatment, 457
 - burn treatment, 74
- Diphtheria
- diagnosis and treatment, 359
 - etiology, 359
 - symptoms, 358–359
- Disseminated intravascular coagulation
- description and treatment, 402
 - symptoms and treatment, 427
- Distal pancreatectomy
- pancreatic trauma, 233
 - pseudocysts, 235
- Distribution of drugs in the body
- blood–brain barrier and, 483
 - developmental changes in body composition and, 482–483
 - plasma protein binding and, 483
 - solubility in lipids *versus* water and, 483
- Distributive shock, description, 44
- Diuretics
- congestive heart failure treatment, 323
 - rheumatic heart disease treatment, 323
- DKA. *See* Diabetic ketoacidosis
- DMSA. *See* Dimercaptosuccinic acid
- Dopamine
- increased intracranial pressure and, 50
 - septic shock treatment, 47
- Down syndrome, duodenal obstructions and, 201–202
- Doxycycline
- anthrax treatment, 428
 - cholera treatment, 352
 - leptospirosis treatment, 420
 - malaria treatment, 363
 - rickettsial disease treatment, 416
- Drug-induced dermatological conditions
- description, 422–423
 - figures describing, 436–439
- Duane syndrome, strabismus and,

- 108
- Duodenal obstruction, surgical treatment, 202–203
- Duodenal obstructions
- associated anomalies, 201–202
 - diagnosis, 202
 - etiology, 201
 - preoperative preparation, 202
 - symptoms, 202
- Duodenojejunostomy, annular pancreas, 231
- Duodenojejunostomy, annular pancreas, 231
- Dysentery
- bacterial gastroenteritis and, 329
 - description, 351
 - treatment, 352, 353
- Dyserythropoiesis/myelodysplastic syndromes, description and treatment, 395
- E**
- EA. *See* Esophageal atresia
- ECG. *See* Electrocardiogram
- Echinococcal, description, diagnosis, and treatment, 236
- Echocardiograms
- esophageal atresia, 192
 - myocardial contusions (*See* Electrocardiogram)
 - tracheoesophageal fistula, 192
- Econazole, cutaneous candidiasis treatment, 343
- Ectopic pancreatic tissue, description, symptoms, and treatment, 231
- Ectopic testis, description, 256
- Eczema. *See* Atopic dermatitis
- Edetate CALCIUM disodium, radiological contamination treatment, 479
- EEGs. *See* Electroencephalograms
- Electrical burns
- compartment syndrome and, 73
 - first aid steps, 64
 - fourth degree, 66
 - hospitalization or transfer guidelines, 69
 - myoglobinuria and, 73–74
 - sources of injuries, 73
- Electrocardiogram, myocardial contusions, 158
- Electrocardiograms
- cyanosis evaluation, 318
 - hyperkalemia and, 271
 - hypokalemia and, 270
 - for newborns, 317
- Electroencephalograms
- convulsive status epilepticus, 295
 - nonfebrile seizures, 296
 - recurrent headaches, 389–390
- Electrolytes. *See* Basic fluid and electrolytes
- Electromyograms, hypotonia in infants, 387
- Elliptocytosis, description and treatment, 238
- Emboli, description and treatment, 170
- Embolization
- arteriovenous malformations, 169
 - hemangiomas, 167
 - hemobilia, 228
 - Kasabach-Merritt syndrome treatment, 166
- Emergency nutrition. *See also* Feeding issues
- average weights and heights for age and gender (table), 445
 - breast-feeding, 449–450
 - calorie needs, 446–447
 - effects of activity factors and stress factors on energy requirements in children (table), 447
 - enteral and oral nutritional needs (nonspecific range) in infants and children (table), 445
 - goal of, 445
 - guidelines for initiating and advancing continuous enteral feeding (table), 449
 - metabolic disturbances and symptoms associated with refeeding syndrome (table), 448
 - nutrient needs in specific conditions, 450, 452
 - overfeeding, 448–449
 - parenteral electrolyte needs (table), 450

- parenteral nutritional needs (non-specific range) of infants and children (table), 446
- protein needs, 446–447
- refeeding syndrome, 447–448
- signs of specific nutrient deficiencies (table), 451
- total parenteral nutrition, 452
- tube feedings, 449
- World Health Organization's equations for estimating resting energy expenditures (table), 446
- Emergency pediatric drug therapy
 - drugs used during pediatric cardiopulmonary arrests (table), 494–495
 - guidelines, 493–496
- Empyema
 - pathogenesis, 159–160
 - patient history, diagnosis, and treatment, 159
 - pneumonia and, 347
- Encephalitis, increased intracranial pressure and, 49
- Encopresis
 - description, 331
 - treatment, 331–332
- Endocarditis
 - antibiotic prophylaxis, 324–325
 - retinal hemorrhages and, 109
- Endocrinology
 - adrenal disorders, 375–376
 - calcium disorders, 377
 - diabetes management, 370–372
 - diabetes mellitus, 367–368
 - diabetic ketoacidosis, 368–370
 - hormone dosing formula, 367
 - hyperparathyroidism, 407
 - hypoglycemia, 372–373
 - thyroid disorders, 373–375
 - vitamin D disorders, 377–379
- Endoscopic retrograde cholangiopancreatography, choledocholithiasis, 230
- Endoscopic retrograde cholangiopancreatography
 - pancreatic trauma, 232
 - pancreatitis, 233
- Enemas
 - constipation treatment, 223
 - encopresis treatment, 331–332
 - Hirschsprung disease diagnosis, 332
 - meconium plug syndrome treatment, 216, 333
- Enterocolitis. *See also* Necrotizing enterocolitis
 - diagnosis, 224
 - nonsurgical treatment, 224–225
 - surgical treatment, 225
 - symptoms, 224
- Enucleation
 - surgical considerations, 119
 - sympathetic ophthalmia and, 119
- Epidemic keratoconjunctivitis, description and treatment, 99, 102
- Epidermoid cysts, description, diagnosis, and treatment, 236
- Epididymitis, description, diagnosis, and treatment, 261–262
- Epigastric hernias, description and treatment, 181
- Epiglottitis
 - acute, 129–130
 - causes, 290
 - diagnosis, 140, 290
 - symptoms, 129, 140, 290
 - treatment, 130, 140, 291
- Epilepsy
 - description, 298
 - seizure types, 298–299
 - treatment, 298–302
- Epinephrine
 - anaphylaxis treatment, 286–287, 457
 - bradycardia treatment, 319
 - bronchiolitis treatment, 288
 - croup treatment, 289
 - endotracheal route for administering, 496
 - increased intracranial pressure and, 50
 - septic shock treatment, 47
- Epispadias, description, 254
- Epistaxis, description and treatment, 140
- Epoetin alfa, anemia treatment, 407
- Equine diphtheria antitoxin, diphthe-

- ria treatment, 359
- ERCP. *See* Endoscopic retrograde cholangiopancreatography
- Ergocalciferol, rickets treatment, 378
- Erythema multiforme
 - description, 423
 - figures describing, 438–439
- Erythromycin
 - gastroesophageal reflux disease treatment, 196
 - infective endocarditis prophylaxis, 325
 - pneumococcal sepsis treatment, 396
 - whooping cough treatment, 348
- Erythromycin ophthalmic drops, trachoma treatment, 340
- Erythromycin ophthalmic ointment
 - neonatal conjunctivitis treatment, 339
 - for newborn prophylaxis, 315
- Esophageal atresia
 - diagnosis, 191
 - symptoms, 191
 - treatment, 191–192
 - vertebral, anorectal, cardiac, tracheoesophageal fistula, renal, and radial limb anomalies and, 191
- Esophageal conditions
 - corrosive injuries, 192–194
 - esophageal atresia, 191–192
 - gastroesophageal reflux, 194–196
 - perforation of the esophagus, 194
 - strictures, 196–197
 - tracheoesophageal fistulas, 191–192
- Esophageal injuries
 - corrosive, 192–194
 - symptoms, diagnosis, and treatment, 136, 191–194
- Esophageal perforation, symptoms, diagnosis, and treatment, 194
- Esophagitis
 - acute abdominal pain and, 336
 - gastroesophageal reflux disease and, 195
 - gastrointestinal bleeding and, 335
- Esophagrams, pneumomediastinum, 161
- Ethambutol
 - dosage recommendations, 350
 - tuberculosis treatment, 349
- Eventration of the diaphragm, symptoms, diagnosis, and treatment, 190
- Excretion of drugs, issues in, 484
- External genital injuries, description and management, 252
- External jugular vein cannulation
 - complications, 26
 - description, 25
 - technique, 26
- Extubation
 - mechanical ventilation issues, 36
 - predictors for extubation failure (table), 36
- Eye diseases
 - measles and, 364–365
 - neonatal conjunctivitis, 339
 - nonstrabismic conditions, 97–107
 - ocular manifestations of systemic disease, 108–109
 - orbital cellulitis, 340–341
 - periorbital cellulitis, 340
 - strabismus, 107–108
 - trachoma, 340
- Eye examinations
 - binocularity, 95
 - cycloplegic refraction, 97
 - external examination, 96–97
 - extraocular motility, 96
 - eye injuries, 109
 - intraocular pressure, 95
 - muscle balance, 96
 - patient history, 93–94
 - physical examination, 94–97
 - pupil examination, 96
- Eye injuries
 - bacterial keratitis, 113
 - chemical injuries of the cornea, 111–112
 - conjunctival and corneal foreign bodies, 113–114
 - corneal abrasions, 112
 - corneal ulcers, 113
 - enucleation, 119
 - general guidance, 109
 - hyphema, 114–115
 - laser-induced injuries, 113

- lid lacerations, 117–119
 - maxillofacial fractures and, 133
 - orbital floor (blowout) fractures, 117
 - retrobulbar (orbital) hemorrhage, 115–117
 - ruptures and lacerations, open globe, 109–114
 - subconjunctival hemorrhages, 110–111
 - thermal burns of the cornea, 112
 - Eyelid lacerations
 - treatment for lacerations not involving the lid margin, 117–118
 - treatment for lid lacerations involving the lid margin, 118–119
- F**
- Face and neck disorders and injuries.
See also Head injuries
- airway issues, 5–6, 15, 127–132
 - base of the skull fractures, 133–134
 - branchial cleft cysts, 137–138
 - buccal cellulitis, 341
 - cervical lymphadenitis, 136
 - congenital wryneck (torticollis), 139–140
 - cystic hygroma (lymphangioma), 138–139
 - epiglottitis, 140
 - epistaxis, 140
 - esophageal injury, 136
 - facial bone fractures, 132–133
 - laryngeal trauma, 134
 - lymphoma, 136–137
 - masses, 136–139
 - nasal fractures, 133
 - parapharyngeal abscesses, 342–343
 - parotitis, sialadenitis, and mumps, 341–342
 - penetrating neck trauma, 134–136
 - surgical procedures for procuring an emergency airway, 131
 - temporal bone fractures, 133–134
 - thyroglossal duct cysts, 137
 - trauma, 131–136
 - upper airway disorders, 127–131
- Factor VIIa, massive transfusions and, 40
 - Fentanyl, postoperative pain management, 20
 - FAST. *See* Focused assessment with sonography for trauma
 - Febrile seizures
 - complex, 297
 - evaluation, 297
 - recurrences, 297
 - simple, 296–297
 - treatment, 297–298
 - Feeding issues. *See also* Nutrition gastrointestinal disorders, 337 infantile hypertrophic pyloric stenosis, 199 newborn infants, 314–315 osmotic diarrhea, 329
 - Fentanyl
 - increased intracranial pressure and, 50
 - ventilated patients, 36
 - Ferric ferrocyanide, radiological contamination treatment, 478
 - Fertility
 - orchitis and, 262
 - torsion of the scrotum and, 261
 - undescended testes and, 257–258
 - FFP. *See* Fresh frozen plasma
 - Filgrastim, ionizing radiation exposure treatment, 476
 - Fire ants, description, 457–458
 - First degree burns, description, 65
 - FISH. *See* Fluorescence in situ hybridization
 - Fistulas-in-ano, description and treatment, 226
 - Flesh-eating bacteria. *See* Necrotizing fasciitis
 - Fludrocortisone, adrenal disorder treatment, 376–377
 - Flumazenil, reversal-agent regimen, 79
 - Fluorescence in situ hybridization, hypotonia in infants, 387
 - Fluoride supplementation
 - lethal dose of fluoride, 124
 - over-the-counter toothpaste and, 124–125

- professional applications, 125
 - recommended fluoride dosages
 - according to fluoride ion level in drinking water (table), 124
 - Fluoroscopy, eventration of the diaphragm, 190
 - Focused assessment with sonography for trauma
 - description and goals, 10
 - liver trauma, 227
 - pancreatic trauma, 232
 - pelvic, 11
 - pericardial, 10
 - perihepatic, 10–11
 - perisplenic, 11
 - renal injuries, 246
 - Folic acid
 - macrocytic anemia and, 394
 - thalassemia treatment, 392
 - Foreign bodies
 - conjunctival and corneal foreign bodies, 113–114
 - hemoptysis and, 163
 - laryngeal, 128–129
 - most common sites, 130
 - stridor and, 280
 - symptoms, diagnosis, and treatment, 130
 - vaginitis and, 263
 - Fort Bragg fever. *See* Leptospirosis
 - Fosphenytoin
 - dosage and adverse reactions, 300
 - posttraumatic seizure treatment, 295
 - Fourth degree burns, description, 66
 - Fractures. *See also* Orthopaedics
 - base of the skull, 133–134
 - evaluation of, 147
 - facial bone, 131–133
 - general considerations, 4
 - intraosseous needle placement complication, 28
 - Le Fort, 132–133
 - long bone, 148–153
 - mandible, 131–132
 - maxillofacial, 132–133
 - nasal, 133
 - open, 147–148
 - orbital floor (blowout) fractures, 117
 - pelvic, 153
 - renal injuries and, 245
 - subcondylar, 131–132
 - temporal bone, 133–134
 - thoracolumbar fracture management, 91
 - vascular injuries and, 172
 - Fresh frozen plasma
 - disseminated intravascular coagulation and, 402
 - massive transfusions and, 39
 - routine transfusions, 38, 40, 41
 - Fresh warm whole blood, massive transfusions and, 39–40
 - Frostbite, description and treatment, 460
 - Full thickness burns. *See* Third degree burns
 - Furosemide
 - hypercalcemia treatment, 377
 - increased intracranial pressure and, 51
 - nephrotic syndrome treatment, 410
 - FWWB. *See* Fresh warm whole blood
- ## G
- Gabapentin, dosage and adverse reactions, 299–300
 - Gait
 - pediatric neurological examination for, 384
 - Gallbladder disease
 - acalculous cholecystitis, 230
 - choledocholithiasis, 230
 - hemolytic cholelithiasis, 230
 - hydrops, 229–230
 - sickle cell disease and, 398
 - Gallbladder injuries, description and treatment, 228
 - Gammaglobulin, idiopathic thrombocytopenic purpura treatment, 240
 - Gastric antral webs
 - description, 199–200
 - diagnosis, 200
 - symptoms, 200
 - treatment, 200
 - Gastric perforation

- posttraumatic, 201
- spontaneous neonatal, 200–201
- Gastric volvulus, description, symptoms, diagnosis, and treatment, 200
- Gastritis, gastrointestinal bleeding and, 335
- Gastroenteritis. *See also* Intestinal infections
 - bacterial, 222
 - viral, 222
- Gastroenterology. *See also* Gastrointestinal tract
 - acute abdominal pain, 336–337
 - allergic colitis, 330
 - chronic abdominal pain, 335–336
 - constipation, 223, 331–333
 - gastroesophageal reflux disease, 333–334
 - gastrointestinal bleeding, 334–335
 - intestinal infection, 329
 - malabsorption disorders, 330–331
 - osmotic diarrhea, 329
 - tube feedings, 337
 - vomiting, 333–334
- Gastroesophageal reflux disease
 - antireflux barriers, 194–195
 - description, 194–195, 333
 - diagnosis, 195–196, 333–334
 - etiology, 195
 - postoperative complications, 196
 - surgical treatment, 196
 - treatment, 196, 334
- Gastrointestinal bleeding
 - causes, 335
 - diagnosis, 334–335
- Gastrointestinal tract. *See also* Gastroenterology
 - esophageal conditions, 191–197
 - large intestine disorders and conditions, 216–225
 - rectal and anal disorders and conditions, 225–226
 - small intestine disorders and conditions, 203–216
 - stomach and duodenal disorders and conditions, 197–203
- Gastroschisis
 - associated conditions, 175–176
 - complications of excessively tight closure, 177–178
 - diagnosis, 176
 - incidence, 175
 - intestinal atresia and, 178
 - long-term complications, 179
 - postoperative considerations, 178–179
 - treatment, 176–178, 312
- GCS. *See* Glasgow Coma Scale
- Gender factors
 - congenital diaphragmatic hernias, 187
 - hemophilia, 402
 - hyperthyroidism, 375
 - idiopathic thrombocytopenic purpura, 240
 - infantile hypertrophic pyloric stenosis, 197
 - inguinal hernias, 182
 - urethral injuries, 251–252
 - urinary tract infections, 253
 - wandering (ectopic) spleen, 241
- Genitourinary tract
 - bladder injuries, 249–251
 - conditions of, 252–254
 - external genital injuries, 252
 - FAST assessment, 11
 - penile conditions, 254–255
 - priapism, 398
 - renal injuries, 245–247
 - testicular and scrotal conditions, 255–262
 - trauma, 245–252
 - tumors, 262–263
 - ureteral injuries, 248–249
 - ureteropelvic junction disruption, 247–248
 - urethral injuries, 251–252
 - urinary tract infections, 222, 252–254, 356–357
 - vaginal conditions, 263
- Gentamicin
 - gastroenteritis treatment, 222
 - gastroschisis, 176
 - infective endocarditis prophylaxis, 325
 - omphaloceles, 176
 - pneumonia treatment, 346
- GFR. *See* Glomerular filtration rate

- Glasgow Coma Scale
 assessment considerations, 9
 explanatory table, 78
 Infant Face Scale modifications (table), 79
 intracranial pressure monitoring and, 81–85
 neurological outcome and, 78–80
 score as a predictor of mortality, 3
- Glaucoma
 cataracts and, 104, 105
 optic nerve abnormalities and, 106
- Global Patient Movement Requirements Center, contact information, 59
- Glomerular filtration rate
 acidosis and, 407–408
 acute kidney injuries and, 408
 disorders associated with low values, 407–408
 drug dosages and, 407
 kidney function assessment, 407
- Glucose. *See also* Blood glucose; Diabetes mellitus
 hyperkalemia treatment, 271
 hypoglycemia and, 373
- Glycogen storage, hypotonia in infants and, 388
- Glycopyrrolate
 preoperative sedation, 19
 reversal-agent regimen, 79
- G6PD deficiency, hemolytic anemia and, 399
- Granulomas, description, 179
- Grunting, description and causes, 280
- Guillain-Barré syndrome, hypotonia in infants and, 387
- H**
- Haemophilus influenzae
 bacterial tracheitis cause, 291
 empyema cause, 159
 epiglottitis and, 290
 spleen trauma and, 237
- Head injuries. *See also* Face and neck disorders and injuries; Neurosurgery
 arterial lines and, 29
 base of the skull fractures, 133–134
 convulsive status epilepticus and, 293
 differences between adult and pediatric patients, 77–78
 Glasgow Coma Scale and, 3, 9, 77–85
 hyponatremia and, 271
 increased intracranial pressure and, 49
 Infant Face Scale and, 77–80
 intubation and, 15
 medical management, 80–87
 mortality rate, xiv
 orbital floor (blowout) fractures and, 117
 scalp anatomy and blood supply (figure), 86
 subcutaneous abdominal placement of cranial bone flap (figure), 88
 temporal bone fractures, 133–134
 triage decisions, 77–78
- Headaches in children
 acute headaches, 388
 acute recurrent, 388–389
 chronic nonprogressive, 389
 chronic progressive, 389
 differential diagnosis, 389
 evaluation of children and adolescents with recurrent headaches, 389–390
 migraines, 388–390
- Heat and cold injuries
 cold weather injuries, 459–460
 warm weather injuries, 460–461
- Heat cramps, description and treatment, 460
- Heat exhaustion, description and treatment, 460
- Heatstroke
 complications, 461
 mortality from, 461
 symptoms, 461
 treatment, 461
- Heimlich maneuver, foreign body removal, 129, 130
- Helicobacter pylori*

- antibiotic treatment, 334
- chronic abdominal pain and, 335
- chronic vomiting cause, 333
- Hemangiomas
 - cavernous, 166
 - classification, 165–166
 - compared with lymphangiomas, 168
 - complications, 166–167
 - description, 129, 165
 - diagnosis, 129, 166
 - internal organ involvement, 167
 - intussusception and, 211
 - treatment, 129, 167
- Hematology. *See also* Transfusion medicine
 - anemia, 391–402
 - coagulopathies, 402–404
 - normal red blood cell values (table), 391
- Hemobilia, symptoms, diagnosis, and treatment, 228
- Hemodynamics and shock
 - assessment, 43
 - cardiogenic, 44
 - conditions that can cause shock, 44
 - distinguishing features of clinical shock states (table), 43
 - distributive, 44
 - hypotension and, 44
 - hypovolemic, 44, 45
 - increased intracranial pressure and, 49
 - massive transfusion for severe hemorrhagic shock, 39–40
 - pediatric vital signs and, 43
 - signs and symptoms, 43–44
 - treatment issues, 45–47
 - types of shock, 44
 - vasoactive support (table), 46
- Hemolytic anemia
 - causes, 399–400
 - description, 392–393, 399
 - hemolytic cholelithiasis and, 230
- Hemolytic cholelithiasis, description and treatment, 230
- Hemolytic uremic syndrome
 - causes, 401
 - description, 401
 - differential diagnosis, 401–402
 - symptoms, 223
- Hemophilia
 - description, 402
 - diagnosis, 403
 - factor replacement (table), 403
 - symptoms, 402–403
 - treatment, 403
- Hemoptysis, etiology and treatment, 163–164
- Hemorrhagic fevers. *See* Viral hemorrhagic fevers
- Hemothorax
 - diagnosis, etiology, and sources of bleeding, 162
 - symptoms, 155–156
 - treatment, 156, 162
- Henoch-Schönlein purpura
 - description, 223, 425–426
 - diagnosis and treatment, 223, 426
 - figures describing, 440–441
 - intussusception and, 211–212
- Heparin
 - congenital anomalies of central veins, 169
 - thrombi and emboli treatment, 170
- Hepatitis, biliary hypoplasia and, 229
- Hepatobiliary tract
 - biliary tract, 228–230
 - FAST assessment, 10–11
 - liver trauma, 227–228
- Hepatojejunostomy, biliary tract trauma treatment, 228
- Hereditary spherocytosis, hemolytic cholelithiasis and, 230
- Hereditary spherocytosis, symptoms, diagnosis, and treatment, 238
- Hernias
 - congenital diaphragmatic, 186–190
 - epigastric, 181
 - inguinal, 182–183
 - spigelian, 181
 - traumatic diaphragmatic, 156–157
 - umbilical, 180–181
- Herpes simplex virus
 - diagnosis, 422

- erythema multiforme and, 423
- figures describing, 436–437
- neonatal conjunctivitis and, 339
- symptoms, 421–422
- treatment, 422
- Herpetic gingivostomatitis
 - description and symptoms, 123
 - treatment, 123–124
- Heterotaxia. *See* Asplenia
- Hirschsprung disease
 - description, diagnosis, and treatment, 223–224, 332
 - differential diagnosis, 224
 - pathology, 223
- Histoplasmosis, chorioretinitis and, 109
- HIV. *See* Human immunodeficiency virus
- HPS. *See* Infantile hypertrophic pyloric stenosis
- HSV. *See* Herpes simplex virus
- Human immunodeficiency virus
 - adrenal disorders and, 376
 - diagnosis and treatment, 360
 - hypotonia in infants and, 388
 - immune (idiopathic) thrombocytopenic purpura and, 401
 - symptoms, 359–360
- Human meta pneumovirus, bronchiolitis and, 287
- Humanitarian issues. *See also* Military humanitarianism
 - infectious diseases and, 365–366
- Humanitarian transport requests, processing and coordination issues, 57
- HUS. *See* Hemolytic uremic syndrome
- Hydroceles
 - description, diagnosis, and treatment, 182
 - symptoms, 183
- Hydrocortisone hemisuccinate
 - adrenal disorder treatment, 376
 - hypercalcemia treatment, 377
- Hydronephrosis, acute abdominal pain and, 337
- Hydrops
 - description and etiology, 229–230
 - treatment, 230
- Hypercalcemia
 - bradycardia and, 319
 - description, 377
 - treatment, 377
- Hypercarbia, increased intracranial pressure and, 50
- Hyperglycemia, pancreatitis and, 234
- Hyperkalemia
 - bradycardia and, 319
 - common signs, 271
 - ECG findings, 271
 - etiologies, 270
 - management, 271
 - transfusions and, 40
- Hyponatremia
 - calculating the sodium deficit, 272
 - causes and management, 272
- Hyperopia
 - accommodative esotropia and, 107
 - description and treatment, 106–107
- Hyperoxitest, cyanosis evaluation, 318
- Hyperparathyroidism, glomerular filtration rate and, 407
- Hypersplenism, description and treatment, 240–241
- Hypertension
 - criteria, 408–409
 - renal injuries and, 408–409
- Hyperthermia
 - increased intracranial pressure and, 50
 - transfusions and, 41
- Hyperthyroidism
 - symptoms, 374–375
 - treatment, 375
- Hypertonic saline, increased intracranial pressure and, 51
- Hyphema
 - blood aqueous level (figure), 115
 - description and treatment, 114–115
- Hypocalcemia
 - hypomagnesemia and, 377
 - pancreatitis and, 234
 - symptoms, 377
 - transfusions and, 18, 40–41

- treatment, 377
- Hypoglycemia
 - definition, 373
 - differential diagnosis, 373
 - fluid resuscitation and, 17
 - signs and symptoms, 372–373
 - treatment, 373
- Hypokalemia
 - cardiac dysrhythmias and, 270
 - causes, 270
 - electrocardiogram findings, 270
 - management, 270
- Hypomagnesemia
 - description, 377
 - hypocalcemia and, 377
 - treatment, 377–378
- Hyponatremia
 - cerebral salt wasting and, 271, 272
 - common causes, 271
 - nephrotic syndrome and, 410
 - nonfebrile seizures and, 296
 - syndrome of inappropriate antidiuretic hormone and, 271, 272
- Hypophosphatemia, hypotonia in infants and, 388
- Hypospadias, description, 254
- Hypotension
 - anesthesia and, 14–15
 - blood agent exposure treatment and, 467
 - management of in head injuries, 80
 - shock and, 44
- Hypothermia
 - bradycardia and, 319
 - burns and, 64
 - effects on the body, 459
 - general considerations, 3–4
 - intracranial pressure and, 84
 - trauma resuscitation and, 16–17
 - treatment, 459–460
- Hypothyroidism
 - acquired, 374
 - bradycardia and, 319
 - description, 373–374, 395
 - hypotonia in infants and, 388
 - signs and symptoms, 374
 - treatment, 374
- Hypotonia
 - anterior horn cell and, 387
 - brain and, 387
 - distinguishing examination features of the hypotonic infant (table), 385
 - evaluating in infants, 384–388
 - horizontal suspension, 386
 - ligaments and, 388
 - localization, 387–388
 - muscles and, 387–388
 - nerves and, 387
 - neuromuscular junctions and, 387
 - patient history and, 386–387
 - scarf sign, 384
 - spinal cord and, 387
 - traction response, 386
 - vertical suspension, 384, 386
- Hypoventilation, anesthesia and, 14
- Hypovolemic shock
 - assessing the severity of (table), 44
 - description, 44
 - treatment, 45
- Hypoxemia
 - bronchiolitis and, 288
 - cyanosis and, 317
 - mechanical ventilation and, 34
- Hypoxia
 - aeromedical evacuation and, 53–54
 - croup and, 289
 - management of in head injuries, 80

I

- Ibuprofen, herpetic gingivostomatitis treatment, 123
- ICP. *See* Intracranial pressure
- Idiopathic thrombocytopenic purpura.
See also Purpura in children
 - description, 239, 400
 - diagnosis, 400
 - symptoms, 240
 - treatment, 240, 400–401
- Iminodiacetate scans, biliary atresia, 229
- Immune thrombocytopenic purpura.
See Idiopathic thrombocytopenic purpura

- Immunoglobulin G. *See also* IV immunoglobulin
 idiopathic thrombocytopenic purpura treatment, 240
- Imperforate anus, description and treatment, 226
- Impetigo. *See* Bullous staphylococcal impetigo
- Infant Face Scale
 correlation with neurological outcome, 78–80
 description, 77
 modifications to Glasgow Coma Scale (table), 79
- Infantile hypertrophic pyloric stenosis
 postoperative feeding, 199
 symptoms and diagnosis, 197–198
 treatment, 198–199
 treatment complications, 199
 vomiting and, 333
- Infants. *See* Care of the newborn; Neonates and young infants
- Infections. *See also* Infectious diseases
 acute inflammatory splenomegaly, 237
 cancer and susceptibility to, 404–405
 cataracts and, 109
 intestinal, 329
 of the lung and pleura, 158–164, 345–346
 mortality rate, xiv
 musculoskeletal, 142
 in newborn infants, 313–314
 osteomyelitis, 28, 143, 345
 septic joints, 143
 spleen abscesses, 237–238
 splenectomy and, 242–243
 stridor and, 280
 wounds, 143
- Infectious diseases. *See also* Infections; *specific diseases*
 acquired immunodeficiency syndrome, 359–360
 acute rheumatic fever, 354, 356
 aplastic crisis of sickle cell disease and, 397
 diarrhea in a humanitarian-assistance setting, 350–353
 diphtheria, 358–359
 of the face and neck, 341–343
 human immunodeficiency virus, 359–360
 humanitarian issues, 350–353, 365–366
 mastoiditis, 366
 measles, 289, 364–365, 417
 meningitis, 353–355
 ocular, 339–341
 polio, 360
 pulmonary, 345–350
 sepsis, 353–355
 of the skin, soft tissue, bones, and joints, 343–345
 systemic conditions, 353–357
 tropical diseases, 357–365
- Inflammatory bowel disease, description, 330–331
- Inguinal disorders
 anatomy, 181–182
 complications, 183–184
 general principles of treatment, 183
 hernias, 182–183
 hydroceles, 182
 incarceration and, 183, 184
 incidence of inguinal hernias, 182
 recurrence, 184
 treatment, 184
- Inguinal hernias, description, 182–183
- Inhalant drugs. *See also specific drugs*
 guidelines on administering, 491, 493
- Inhalation injuries
 carbon monoxide toxicity and, 67, 69
 hospitalization or transfer guidelines, 69
 intubation and, 67
 physical findings, 66–67
- Inhalational anthrax
 infection control, 469
 signs and symptoms of exposure, 468–469
 treatment and prophylaxis, 469
- Inspissated bile syndrome, description

- and treatment, 229
- Insulin
 - case study: insulin dosing using neutral protamine hagedorn and regular insulin (exhibit), 372
 - diabetes mellitus management, 371–372
 - diabetic ketoacidosis and, 369–370
 - hyperkalemia treatment, 271
 - types and action times (table), 371
- Interferon
 - hemangioma treatment, 167
 - Kasabach-Merritt syndrome treatment, 166
- Intermittent exotropia, description and treatment, 107–108
- Intestinal atresias
 - complications, 206
 - description and types, 204–205
 - diagnosis, 205
 - treatment, 205–206
- Intestinal infections, acute, viral, bacterial, and protozoal types, 329
- Intracranial pressure
 - assessment considerations, 9
 - barbiturate coma and, 84–85
 - bradycardia and, 319
 - convulsive status epilepticus and, 293
 - craniotomy and, 85–87
 - etiologies of increased intracranial pressure, 49
 - ICP and cerebral perfusion pressure thresholds, 84
 - infants with a patent fontanelle and, 81–82
 - monitoring in head injuries, 81–85
 - posttraumatic seizures and, 295
 - propofol infusion and, 84
 - schematic of ventriculostomy setup (figure), 83
 - signs of increased pressure, 49
 - surgical management, 85–87
 - treatment issues, 49–51
 - ventriculostomy catheters and, 82–84
- Intramuscular administration of drugs
 - guidelines on, 490–491
 - usual maximum volume for, 496
- Intraoral neoplasms, description and treatment, 128
- Intraoral obstructions
 - macroglossia, 127–128
 - mandibular hypoplasia, 127
- Intraosseous needle placement
 - complications, 28–29
 - preferred sites for (figure), 27
 - technique, 26, 28
 - uses for, 26
- Intravenous administration of drugs, guidelines on, 490
- Intubation. *See also* Extubation
 - anesthesia and, 15
 - bacterial tracheitis and, 291
 - burns and, 18
 - congenital diaphragmatic hernias and, 188
 - differences between the neonatal and adult airways, 307
 - epiglottitis and, 130, 291
 - eventration of the diaphragm, 190
 - formulas to estimate endotracheal tube size, 15
 - head-injured or comatose patients, 15
 - indications, 15
 - induction agents (table), 7
 - infant endotracheal tube sizes (table), 310
 - inhalation injuries and, 67
 - malnourished children, 15
 - newborn infants, 307–308, 310
 - nursing tips, 277–278
 - oro-tracheal, 15
 - posterior flail and, 156
 - postintubation subglottic tracheal stenosis, 130
 - rapid sequence, 6, 131
- Intussusception
 - common sites, 212
 - diagnosis, 336
 - lead points, 211–212
 - Meckel's diverticulum and, 208, 211
 - pathophysiology, 212
 - physical findings, 212
 - presentation, 335–336
 - recurrence, 213–214

- symptoms, 212
 treatment, 212–213
- IO needle placement. *See* Intraosseous
 needle placement
- Iodoquinol
 dysentery treatment, 353
- Ionizing radiation exposure
 signs and symptoms, 475
 treatment, 475–476
- Ipratropium bromide, riot control
 agent exposure treatment, 468
- Ipratropium inhalation, side effects,
 282
- Iraq. *See* Operation Iraqi Freedom
- Iron deficiency anemia, description
 and treatment, 391
- Ischemic or necrotic small bowel, treat-
 ment, 204
- Isoflurane, convulsive status epilepti-
 cus treatment, 295
- Isoniazid
 dosage recommendations, 349
 tuberculosis treatment, 349, 350
- Isotonic fluids, dengue and dengue
 hemorrhagic fever treatment, 358
- ITP. *See* Idiopathic thrombocytopenic
 purpura
- IV immunoglobulin. *See also* Immu-
 noglobulin G
 Henoch-Schönlein purpura treat-
 ment, 426
 immune (idiopathic) thrombocy-
 topenic purpura treatment, 401
 Kawasaki disease treatment, 324,
 418
 Stevens-Johnson syndrome treat-
 ment, 423
 toxic epidermal necrolysis treat-
 ment, 423
- Ivemark syndrome. *See* Asplenia
- J**
- Japan, military humanitarianism
 and, xx
- Japanese encephalitis
 diagnosis, 361
 etiology, 361
 prophylaxis and control, 361
 symptoms, 360–361
- treatment, 361
- Jaundice
 intestinal atresias and, 205
 in newborn infants, 316
- Jefferson, Pres. Thomas, Lewis and
 Clark expedition and, xx
- Joint infections. *See* Skin, soft tissue,
 bone, and joint infections
- Jones Criteria, rheumatic heart disease
 and, 323
- Juvenile hemangiomas, description
 and treatment, 166
- K**
- Kasabach-Merritt syndrome, descrip-
 tion and treatment, 166
- Kawasaki disease
 acalculous cholecystitis and, 230
 causes, 324
 complications, 324, 418
 description, 170, 323–324, 418
 diagnosis, 324, 418
 hydrops and, 229–230
 myocardial infarction and, 327
 treatment, 324, 418
- Keratitis. *See* Bacterial keratitis
- Ketamine
 convulsive status epilepticus treat-
 ment, 295
 preoperative sedation, 19
- Ketorolac, postoperative pain manage-
 ment, 20
- Kidney, ureter, and bladder radio-
 graphs, intussusception, 336
- Kidneys. *See* Genitourinary tract;
 Nephrology; Renal injuries; Renal
 stones
- Klebsiella pneumoniae*, wound infection
 cause, 143
- KUB radiographs. *See* Kidney, ureter,
 and bladder radiographs
- Kugelberg-Welander disease, hypoto-
 nia in infants and, 387
- L**
- Labial fusion, description, diagnosis,
 and treatment, 263
- Lactulose
 constipation treatment, 333

- encopresis treatment, 332
- Laparoscopy
 - anorchism, 256
 - choledocholithiasis, 230
 - splenectomy, 241–242
 - varicoceles, 262
- Laparotomy
 - intussusception and, 213
 - liver trauma, 227–228
 - meconium peritonitis, 186
 - peritoneal adhesions, 186
- Large intestine disorders and conditions
 - acute appendicitis, 216–219
 - acute gastroenteritis, 222
 - appendiceal rupture, 220–221
 - appendicitis during pregnancy, 219–220
 - constipation, 223
 - diverticulitis, 223
 - enterocolitis, 224–225
 - gynecological disorders and, 222
 - hemolytic uremic syndrome, 223
 - Henoch-Schönlein purpura, 223
 - Hirschsprung disease, 223–224
 - perforating carcinoma of the cecum, 223
 - pneumonia and, 223
 - primary peritonitis, 223
 - typhlitis, 223
 - ureteral stones, 222
 - urinary tract infections, 222
- Laryngeal obstructions, malformations, 128–129
- Laryngeal trauma, symptoms and treatment, 134
- Laryngoceles, description, diagnosis, and treatment, 129
- Laryngomalacia, description, diagnosis, and treatment, 128
- Laryngoscopy, procuring an emergency airway and, 131
- Laser-induced eye injuries, description and treatment, 113
- Lasers
 - hemangioma treatment, 167
 - salmon patch treatment, 165
- Lead poisoning
 - microcytic anemia and, 392
 - treatment, 392
- Leptospirosis
 - description and diagnosis, 419–420
 - treatment, 420
- Leukemia, splenomegaly and, 239
- Leukocoria
 - cataracts and, 103–105
 - retinoblastoma and, 103, 109
 - toxocara granuloma and, 105
- Leukocyte-reduced blood products, description and uses, 41
- Levobunolol, hyphema treatment, 114–115
- Levothyroxine, hypothyroidism treatment, 374
- Lewis and Clark expedition, humanitarian care and, xx
- Lewisite. *See* Blister agents
- Lidocaine
 - endotracheal route for administering, 496
 - herpetic gingivostomatitis treatment, 123
 - labial fusion and, 263
 - premature ventricular contraction treatment, 321
- Liver. *See also* Hepatobiliary tract
 - hemangiomas and, 167
 - metabolism of drugs and, 483–484
- Liver biopsies, biliary hypoplasia, 229
- Liver disease, anemia and, 395
- Liver trauma
 - diagnosis, 227
 - hemobilia, 228
 - treatment, 227–228
- Long-bone fractures
 - ankle, 152–153
 - femur, 151–152
 - general considerations, 148–149
 - guidelines for acceptable reduction in femur fractures (table), 151
 - humerus, 149–150
 - lower extremity, 151–153
 - medial epicondyle, 150–151
 - Salter-Harris classification (figure), 149
 - supracondylar humerus, 150

- tibia, 152
 - upper extremity, 149
 - Long QT syndrome, bradycardia and, 319
 - Lorazepam
 - dosage and adverse reactions, 300
 - nerve agent exposure treatment, 465
 - ventilated patients and, 35–36
 - Lumbar puncture
 - convulsive status epilepticus, 295
 - febrile seizures and, 297
 - meningitis, 353–354
 - nonfebrile seizures, 296
 - periorbital cellulitis, 340
 - recurrent headaches, 389–390
 - Lung abscesses, symptoms, diagnosis, and treatment, 159, 347
 - Lungs. *See also* Pulmonary infections; Respiratory emergencies; Thoracic cavity
 - hemangiomas and, 167
 - Lymphadenitis, symptoms, etiology, diagnosis, and treatment, 344
 - Lymphangiomas
 - chylothorax and, 162
 - compared with hemangiomas, 168
 - description, 129, 167–168
 - diagnosis, 168
 - treatment, 129, 168
 - types, 168
 - Lymphangitis, symptoms, diagnosis, and treatment, 343
 - Lymphoma
 - chylothorax and, 162
 - description and treatment, 136–137
 - intussusception and, 211
- M**
- Macrocytic anemia
 - folic acid deficiency and, 394
 - vitamin B₁₂ and, 393–394
 - Macroglossia, description and treatment, 127–128
 - Mafenide cream, burn treatment, 71
 - Magnesium sulfate, hypomagnesemia treatment, 377–378

- Magnetic resonance imaging
 - arteriovenous malformations, 169
 - hypotonia in infants, 387
 - lymphangiomas, 168
 - nonfebrile seizures, 296
 - pancreatic trauma, 232
 - pancreatitis, 233
 - pupillary defects, 96
- Malabsorption disorders
 - causes, 330–331
 - necrotizing enterocolitis and, 211
 - protein-losing enteropathy, 331
- Malaria
 - control recommendations, 363–364
 - diagnosis, 362
 - Plasmodium falciparum*, 361–362
 - Plasmodium vivax*, 362
 - prophylaxis, 363–364
 - symptoms, 361–362
 - treatment, 362–363
- Malarone, malaria treatment, 363
- Malignancies. *See* Oncology; *specific type of malignancy*
- Malnourished children, intubation and, 15
- Malrotation with volvulus
 - diagnosis, 203–204
 - ischemic or necrotic small bowel, 204
 - midgut volvulus, 203–204
 - symptoms, 203
 - treatment, 204
- Mandibular hypoplasia, description and treatment, 127
- Mannitol
 - hyphema treatment, 115
 - increased intracranial pressure and, 51
- Marfan syndrome, description, 169–170
- Mastoiditis, treatment, 366
- Measles
 - complications, 364–365, 417
 - croup and, 289
 - description, 364, 417
 - figures describing, 430–433
 - symptoms, 364, 417
 - treatment, 364, 417

- Mechanical ventilation
 - artificial airways (table), 31
 - bag-valve mask sizes (table), 31
 - bradycardia treatment, 319
 - bronchiolitis treatment, 288–289
 - chest trauma treatment, 155
 - epiglottitis and, 291
 - equipment, 31
 - extubation issues, 36
 - high peak pressures and, 34–35
 - initial settings, 32–33
 - medical long-term ventilation, 35
 - medical short-term ventilation, 35
 - medications for sedation, 35–36
 - moderate to severe hypoxemia and, 34
 - nutrition needs, 450
 - patient deterioration and, 33–34
 - plateau pressure and, 34–35
 - positive end-expiratory pressure and, 32, 33
 - posterior flair treatment, 156
 - postoperative long-term ventilation, 35
 - postoperative short-term ventilation, 35
 - predictors for extubation failure (table), 36
 - pressure support, 33
 - pressure ventilation mode, 33
 - problem solving, 33–35
 - safety issues, 31–32
 - sedation strategies, 35
 - shock and, 45
 - term infants who are not vigorous, 306
 - tidal volume and, 32
 - volume ventilation mode settings, 32–33
- Meckel's diverticulum
 - anatomy, 207
 - complications, 207–208
 - gastrointestinal bleeding and, 335
 - intussusception and, 208, 211
 - symptoms, 207
 - treatment, 208
- Meconium ileus
 - description, 214
 - diagnosis, 214–215
 - differential diagnosis, 214
 - nonoperative treatment, 215
 - surgical treatment, 215
- Meconium ileus equivalent, description, 216
- Meconium peritonitis
 - diagnosis, 185–186
 - etiology, 185
 - symptoms, 185
 - treatment, 186
 - types, 185
- Meconium plug syndrome
 - description, 216, 332–333
 - differential diagnosis, 216
 - treatment, 216, 333
- Meconium-stained amniotic fluid, care of newborns, 309
- Mediastinal masses, descriptions, 160–161
- Medicine
 - basic fluid and electrolytes, 267–272
 - bites and stings, 453–458
 - cardiology, 317–327
 - care of the newborn, 303–316
 - chemical, biological, radiological, nuclear, and explosive injuries, 463–479
 - common neurological problems, 381–390
 - dermatology, 413–443
 - emergency nutrition, 445–452
 - endocrinology, 367–379
 - gastroenterology, 329–337
 - heat and cold injuries, 459–461
 - hematology, 391–404
 - infectious diseases, 339–366
 - nephrology, 407–411
 - nursing assessment, 273–278
 - oncology, 404–405
 - pharmacotherapeutics, 481–497
 - respiratory emergencies, 6–9, 279–291
 - status epilepticus and epilepsy, 293–302
- Mediterranean spotted fever. *See* Rickettsial diseases
- Mefloquine, malaria treatment, 363
- Meningitis

- empiric therapy for bacterial meningitis and sepsis in developing countries (table), 355
- hyponatremia and, 271
- increased intracranial pressure and, 49
- symptoms, etiology, and diagnosis, 353–354
- treatment, 354
- Meningococemia
 - diagnosis and treatment, 416–417
 - figure describing, 430–431
 - symptoms, 416
- Mentzer index, iron deficiency anemia and thalassemia differentiation, 392
- Mesenteric cysts, description, diagnosis, and treatment, 186
- Metabolism of drugs in the body
 - concurrent drug use and, 484
 - enzymatic function maturity and, 484
 - liver's role, 483–484
- Methimazole, radiological contamination treatment, 479
- Methohexital, preoperative sedation, 19
- Methylprednisolone
 - bee and wasp sting treatment, 457
 - immune (idiopathic) thrombocytopenic purpura treatment, 400–401
- Metoclopramide, gastroesophageal reflux disease treatment, 196, 334
- Metronidazole
 - amebiasis treatment, 353
 - gastroesophageal reflux disease treatment, 334
- Michihiko, Dr. Hachiya, military humanitarianism and, xx
- Miconazole, cutaneous candidiasis treatment, 344
- Microcolon, constipation and, 333
- Microcytic anemia
 - chronic inflammation and, 392
 - chronic lead poisoning and, 392
 - description, 391
 - iron deficiency and, 391–392
 - Mentzer index and, 392
 - thalassemia and, 392
 - treatment, 391–392
- Micrognathia, description and treatment, 127–128
- Midazolam
 - convulsive status epilepticus treatment, 295
 - increased intracranial pressure and, 50
 - inguinal disorders and, 184
 - preoperative sedation, 19
 - ventilated patients, 35
- Midgut volvulus
 - diagnosis, 203–204
 - symptoms, 203
 - treatment, 204
- Migraine headaches
 - chronic daily (transformed migraines), 389
 - presentation and management, 390
 - symptoms, 388–389
- Military humanitarianism. *See also* Humanitarian issues
 - impact of, xx–xxii
 - information-decision-action cycle and, xix
 - National Military Strategy component, xix
- Milk of magnesia
 - constipation treatment, 333
 - encopresis treatment, 332
- Mineral oil, encopresis treatment, 332
- Monocular elevation deficiency, strabismus and, 108
- Morphine
 - burn treatment, 74
 - postoperative pain management, 20
 - rheumatic heart disease treatment, 323
 - vasoocclusive crisis of sickle cell disease treatment, 399
 - ventilated patients and, 36
- Mumps, symptoms, diagnosis, and treatment, 342–343
- Muscle strength and tone
 - pediatric neurological examination for, 382–383
- Mustard gas. *See* Blister agents

- Mycoplasma*, bronchiolitis and, 287
Myelodysplastic syndrome. *See* Dyserythropoiesis / myelodysplastic syndromes
Myocardial contusions, diagnosis and treatment, 158
Myocardial infarction, causes, diagnosis, and treatment, 327
Myocarditis
 bronchiolitis and, 288
 congestive heart failure and, 322
Myoglobinuria, electrical burns and, 73–74
Myopia, description and treatment, 106
- N**
- Nafcillin
 bacterial tracheitis treatment, 291
 epiglottitis treatment, 291
Naproxen, rheumatic fever treatment, 356
Nasogastric tube administration of drugs, guidelines, 487
Nasolacrimal duct obstruction
 description, 98
 duct probing and irrigation (figure), 100–101
 treatment, 99
Necrosis in children
 necrotizing enterocolitis, 208–211
 necrotizing fasciitis, 426–427
Necrotizing enterocolitis
 description, 208
 diagnosis, 208–209
 laboratory studies, 209
 medical treatment, 210
 physical examination, 209
 postoperative complications, 211
 surgical treatment, 210–211
Necrotizing fasciitis
 description, 426–427
 toxic shock syndrome and, 419
 treatment, 427
Needle aspiration
 cystic hygromas, 139
 laryngoceles, 129
 pneumopericardium, 161
 tension pneumothorax and he-
 mothorax treatment, 156
 thyroglossal duct cysts, 137
Neisseria gonorrhoeae
 neonatal conjunctivitis and, 339
 pelvic inflammatory disease and, 263
Neonatal staining, description, 165
Neonates and young infants. *See also* Care of the newborn
 administering drugs to, 487
 adrenal disorder treatment, 376
 aeromedical evacuation and, 56
 anesthesia considerations, 13
 asthma and, 282
 atopic dermatitis and, 424
 biliary hypoplasia and, 229
 bronchiolitis and, 287–288
 bullae, erosions, and desquamation in, 420–426
 cataracts and, 103–104
 cyanosis and, 317–319
 diabetes mellitus management, 371
 drug distribution and, 482–483
 evaluating hypotonia in, 384–388
 eye examinations, 93, 94
 femur fractures and, 151–152
 fosphenytoin and, 300
 gastroschisis and, 175–179
 general considerations, 5
 glomerular filtration rate and, 407
 growth and development, 273
 hemangiomas and, 165
 hyperthyroidism and, 374–375
 hypoglycemia treatment, 373
 hypothyroidism and, 374
 inguinal hernias and, 182, 183
 intracranial pressure monitoring, 81–83
 intussusception and, 211, 336
 laryngoscopy and, 131
 metabolism of drugs and, 483–484
 modified Lund and Bowder chart for estimating burn severity in infants and children (figures), 67
 nasolacrimal duct obstruction and, 98–101
 neonatal conjunctivitis and, 339
 omphaloceles and, 175–179

- ophthalmia neonatorum and, 102
- oral drug pharmacokinetics, 482
- parenteral drug absorption issues, 482
- pediatric neurological examination, 381–384
- phenobarbital and, 300
- retinopathy of prematurity and, 93
- rickets and, 378
- sickle cell disease and, 396
- thrombi and emboli and, 170
- torsion of the scrotum and, 259–261
- undescended testes and, 257
- urinary tract infections and, 252
- whooping cough and, 347
- Neostigmine, reversal-agent regimen, 79
- Nephrolithiasis, acute abdominal pain and, 337
- Nephrology
 - acute kidney injuries, 408–409
 - assessing kidney function in children, 407–408
 - chronic renal disease, 393
 - nephrotic syndrome, 409–410
 - renal stones, 410–411
- Nephrostomy, ureteropelvic junction disruption, 248
- Nephrotic syndrome
 - description, 409–410
 - treatment, 410
- Nerve agents
 - symptoms of exposure, 465
 - treatment, 465
- Nerve blocks. *See* Regional anesthesia
- Nesseria meningitidis*, spleen trauma and, 237
- Neural tube defects
 - description, 312
 - treatment, 312
- Neurological problems. *See also* Neurosurgery
 - evaluating for hypotonia in infants, 384–388
 - evaluation of children and adolescents with recurrent headaches, 389–390
 - headaches in children, 388–389
 - pediatric neurological examination, 381–384
- Neurosurgery. *See also* Neurological problems
 - head injuries, 3, 9, 77–87
 - levels of intervention in neurological injury (figure), 82
 - mission clarification, 77
 - need for intensive resources, 77
 - schematic of ventriculostomy setup (figure), 83
 - spinal injuries, 87–92
 - subcutaneous abdominal placement of cranial bone flap (figure), 88
- Nevus flammeus, description and treatment, 165
- Newborn babies. *See* Care of the newborn; Neonates and young infants
- Nitric oxide, congenital diaphragmatic hernia and, 189
- Noncomitant strabismus, description and treatment, 108
- Nonfebrile seizures, description and evaluation, 296
- Nonstrabismic eye conditions
 - anterior uveitis, 103
 - blepharitis, 98
 - conjunctivitis, 99, 102, 339
 - leukocoria, 103–105
 - nasolacrimal duct obstruction, 98–101
 - nonaccidental trauma (shaken baby syndrome), 105–106
 - ophthalmia neonatorum, 102
 - optic nerve abnormalities, 106
 - orbital dermoid cysts, 97–98
 - periocular cellulitis, 102–103
 - prominent epicanthal folds, 98
 - ptosis, 98
 - refractive errors, 106–107
 - retinal disorders, 105–106
 - retinopathy of prematurity, 93, 105–106
- Norepinephrine
 - increased intracranial pressure and, 50
 - septic shock treatment, 47

- Normocytic anemia
acute blood loss and, 393
chronic renal disease and, 393
hemolytic, 392–393
splenic sequestration and, 393
transient erythroblastopenia of
childhood, 393
- Norovirus, viral gastroenteritis cause,
329
- Nuclear and radiological casualties
background, 473–474
blast injuries, 474
ionizing radiation exposure, 475–
476
medical effects of nuclear detona-
tion, 474–475
radiological contamination, 476–
479
thermal injuries, 474–475
- Nursing assessment
adolescents (ages 12–18), 276
arm boards, 277
blood samples, 277
catheters, 277
communicating with children,
276–277
growth and development, 273–
276
infants, 273
intubation, 277–278
IV access, 277
medications, 277
nasal samples, 278
nursing tips, 277–278
older children (ages 6–12), 275–
276
temperature measurement, 278
toddlers, 273–274
young children (ages 3–6), 274–
275
- Nutrition. *See also* Diet; Feeding is-
sues
burns and, 74–75
Curreri formula for daily caloric
requirements, 74–75
emergency nutrition, 445–452
folic acid deficiency and, 394
nursing tips, 277
protein requirements, 74
vitamin B₁₂ deficiency and, 393
Nystatin, cutaneous candidiasis treat-
ment, 343
- O**
- Octreotide, necrotizing enterocolitis
treatment, 211
- Ocular infections. *See* Eye diseases
- OEF. *See* Operation Enduring Free-
dom
- OIF. *See* Operation Iraqi Freedom
- Older children
adrenal disorder treatment, 376
atopic dermatitis and, 424
diabetes mellitus management,
371
gastrointestinal bleeding and, 335
growth and development, 275–
276
hyperthyroidism and, 374–375
hypoglycemia treatment, 373
hypothyroidism and, 374
immune (idiopathic) thrombocy-
topenic purpura and, 400–401
intussusception and, 336
malabsorption disorders, 330–331
pediatric neurological examination,
381–384
rectal administration of drugs
and, 487
recurrent headaches and, 389–390
rickets and, 378
sickle cell disease and, 397
snake bites and, 458
- Omental cysts, description, diagnosis,
and treatment, 186, 336
- Omeprazole, gastroesophageal reflux
disease treatment, 196, 334
- Omphaloceles
associated anomalies, 176
complications of excessively tight
closure, 177–178
diagnosis, 176
incidence, 175
intestinal atresia and, 178
long-term complications, 179
postoperative considerations,
178–179
treatment, 176–178, 312

- Oncology. *See also* Hematology; *specific types of cancer and tumors*
infection susceptibility and, 404–405
most common malignancies of childhood, 404
- Open fractures
description and treatment, 147–148
- Open globe ruptures and lacerations
corneal abrasions and, 112
description, 109
foreign bodies and, 113
hyphema and, 114
signs and symptoms, 109–110
treatment, 110
warning signs, 111
- Operation Enduring Freedom. *See also* Afghanistan
causes of pediatric injury (table), xiv
incidence of pediatric trauma, xiii
principal pediatric traumatic diagnosis (table), xv
- Operation Iraqi Freedom
causes of pediatric injury (table), xiv
incidence of pediatric trauma, xiii
principal pediatric traumatic diagnosis (table), xv
- Ophthalmia neonatorum
description and treatment, 102
explanatory figure, 102
- Ophthalmology
eye diseases, 97–109, 339–341
eye examinations, 93–97
eye injuries, 109–119
normal visual acuity by age (table), 94
- Opioids. *See also specific drugs*
intravenous narcotics: continuous infusion (table), 20
postoperative pain management, 19
- Optic nerve abnormalities
description and treatment, 106
large cup-to-disc ratio and, 106
- Optic nerve coloboma, optic nerve abnormalities and, 106
- Oral administration of drugs, guidelines on, 486–487
- Oral rehydration solution, diarrhea treatment, 351–352
- Orbital cellulitis
diagnosis and treatment, 341
etiology, 340–341
symptoms, 340
- Orbital dermoid cysts
location, 97–98
signs and symptoms, 97–98
treatment, 98
- Orbital floor fractures, description and treatment, 117
- Orchidectomy, torsion of the scrotum and, 260
- Orchidopexy
ectopic testis, 256
torsion of the scrotum treatment, 260
undescended testes, 257
- Orchiectomy
testicular tumors, 263
torsion of the scrotum treatment, 261
undescended testes, 257–258
- Orchitis, description and treatment, 262
- Organophosphates. *See* Nerve agents
- ORS. *See* Oral rehydration solution
- Orthopaedics. *See also* Fractures
amputations, 144–147
congenital malformations/reconstruction, 142
differences in levels of trauma, 143–144
epidemiology, 142–144
general considerations, 4
leading causes of pediatric trauma, 142
musculoskeletal infections, 142
osteomyelitis, 143
outcomes in the combat setting, 142
resource constraints in the combat setting, 141–142
septic joints, 143
triage, 141–142
types of orthopaedic care, 142–143

- wound infections, 143
 - Osmotic diarrhea, description and treatment, 329
 - Osteogenesis imperfecta, blue sclera and, 108
 - Osteomyelitis
 - causes and treatment, 143, 345
 - chronic, 345
 - intraosseous needle placement complication, 28
 - Otitis media, bronchiolitis and, 288
 - Overdrive pacing, atrial flutter treatment, 320
 - Oxacillin, epiglottitis treatment, 291
 - Oxycodone, postoperative pain management, 21
- P**
- Packed red blood cells
 - equation to determine the volume of PRBCs to transfuse, 37
 - massive transfusions and, 39
 - routine transfusions, 37–38, 40
 - septic shock and, 47
 - sickle cell disease treatment, 239
 - Pain management. *See also* Postoperative pain management; *specific drugs* burns, 74
 - PALS assessment. *See* Pediatric advanced life support rapid cardiopulmonary assessment
 - Pancreas
 - annular pancreas, 231
 - congenital variations, 231
 - ectopic pancreatic tissue, 231
 - pancreatitis, 233–234
 - pseudocysts, 234–235
 - trauma to, 232–233
 - Pancreatic trauma
 - diagnosis, 232
 - nonoperative management, 232
 - operative management, 232–233
 - Pancreatitis
 - choledocholithiasis and, 230
 - diagnosis, 233
 - etiology, 233–234
 - pathophysiology, 233
 - symptoms, 233
 - treatment, 234
 - Papilledema, optic nerve abnormalities and, 106
 - Papillomas, description and treatment, 129
 - Parainfluenza
 - bronchiolitis and, 287
 - croup and, 289
 - Parapharyngeal abscesses
 - diagnosis, 342
 - etiology, 342
 - symptoms, 342
 - treatment, 342–343
 - Paraphimosis, description and treatment, 255
 - Paromomycin, dysentery treatment, 353
 - Parotitis, symptoms, diagnosis, and treatment, 342–343
 - Partial thickness burns. *See* Second degree burns
 - Patent omphalomesenteric sinus, description, diagnosis, and treatment, 180
 - Patient-controlled analgesia
 - dosing (table), 20
 - postoperative pain management, 19–20
 - Patient movement requirement centers
 - aeromedical evacuation and, 57
 - contact information, 59
 - PCA. *See* Patient-controlled analgesia
 - Pediatric advanced life support rapid cardiopulmonary assessment, primary survey, 5
 - Pediatric injuries. *See also* Basic approach to pediatric trauma; *specific injuries and procedures*
 - causes of pediatric injury by theater (table), xiv
 - distribution of injuries by anatomic region (figure), xvi
 - length of hospital stay, xiv
 - mortality rates, xiv
 - most common causes, 3, xiii
 - predictors of mortality, 3
 - primary mechanisms of injury, xiii
 - principal pediatric traumatic diag-

- nosis by theater (table), xv
 - psychological impact, 4–5
 - trauma resuscitation, 16–18
- Pediatric neurological examination
 - coordination, 382
 - cranial nerves, 381–382
 - gait, 384
 - hypertonia, 382
 - hypotonia, 382
 - mental status, 381
 - motor development, 382–383
 - muscle tone, 382–383
 - reflexes, 383
 - sensory development, 383–384
 - strength, 382
- PEEP. *See* Positive end-expiratory pressure
- Pelvic fractures, urethral injuries and, 251
- Pelvic inflammatory disease, causes, 263
- Penetrating neck trauma
 - description, 134–135
 - zone 1, 2, and 3 injury symptoms and treatment, 135–136
- Penicillamine, radiological contamination treatment, 479
- Penicillin
 - diphtheria treatment, 359
 - leptospirosis treatment, 420
 - meningococcemia treatment, 416–417
 - osteomyelitis treatment, 345
 - pneumococcal sepsis treatment, 396
 - pneumonia treatment, 346
 - rheumatic fever treatment, 356
 - scarlet fever treatment, 418
 - septic arthritis treatment, 344–345
 - splenectomy and, 241
- Penile conditions
 - circumcision, 254, 255
 - epispadias, 254
 - foreskin retractility, 254
 - hypospadias, 254
 - paraphimosis, 255
 - phimosis, 254
- Pentobarbital, convulsive status epilepticus treatment, 295
- Peptic ulcer disease
 - acute abdominal pain and, 336
 - gastrointestinal bleeding and, 335
 - vomiting and, 333
- Percutaneous central venous lines
 - pediatric central and arterial venous line sizes (table), 30
 - preferred sites, 29
 - risks, 29
 - uses for, 29
- Perianal and perirectal abscesses, symptoms and treatment, 226
- Pericardial tamponade
 - symptoms and diagnosis, 157
 - treatment, 157–158
- Periorbital cellulitis
 - description and treatment, 102–103
 - symptoms, etiology, diagnosis, and treatment, 340
- Perirectal abscesses. *See* Perianal and perirectal abscesses
- Peritoneal adhesions, description, diagnosis, and treatment, 186
- Peritoneal and peritoneal cavity disorders
 - abdominal compartment syndrome, 184–185
 - ascites, 186
 - meconium peritonitis, 185–186
 - omental and mesenteric cysts, 186
 - peritoneal adhesions, 186
- Peritoneum. *See* Abdominal wall, peritoneum, and diaphragm
- Peritonitis. *See also* Meconium peritonitis
 - intussusception and, 213
 - primary, 223
- Pertussis. *See* Whooping cough
- Pharmacotherapeutics
 - absorption issues, 481–482
 - administering drugs to children, 484–493
 - common intramuscular antimicrobial medications used in children (table), 492
 - common oral liquid antimicrobial medications used in children (table), 488–489

- developmental changes in body composition and, 482–483
 - drug distribution issues, 482–483
 - drugs used during pediatric cardiopulmonary arrests (table), 494–496
 - emergency pediatric drug therapy, 493–496
 - excretion of drugs, 484
 - factors affecting pharmacokinetics, 481–484
 - general considerations, 4
 - metabolism of drugs, 483–484
 - oral drug absorption issues, 481–482
 - parenteral drug absorption issues, 482
 - topical drug absorption issues, 482
- Phenobarbital
- dosage and adverse reactions, 300
 - epilepsy treatment, 298
 - febrile seizure treatment, 298
 - seizure treatment, 81
- Phenytoin
- dosage and adverse reactions, 300–301
 - drug-induced dermatological complications, 436–437
 - posttraumatic seizure treatment, 295
- Philippines, military humanitarianism and, xx–xxi
- Phimosis, description and treatment, 254
- Phosgene. *See* Pulmonary agents
- Pierre Robin syndrome, mandibular hypoplasia and, 127
- Plague
- infection control, 471
 - lymphadenitis and, 344
 - signs and symptoms, 469
 - treatment and prophylaxis, 469
- Plasmapheresis, thrombotic thrombocytopenic purpura treatment, 402
- Platelets
- massive transfusions and, 39
 - routine transfusions, 38
- Pneumatocoles, diagnosis and treatment, 158–159
- Pneumococcal sepsis, sickle cell disease and, 396
- Pneumococcal vaccine
- spleen trauma and, 237
 - splenectomy and, 241, 243
- Pneumomediastinum, symptoms, diagnosis, and treatment, 161
- Pneumonia
- bacterial, 158–160, 346
 - complications, 158–159, 347
 - hemoptysis and, 163
 - parasitic/fungal, 346
 - risk factors, 346
 - symptoms, diagnosis, and treatment, 346–347
 - viral, 346
- Pneumopericardium, description and treatment, 161
- Polio
- hypotonia in infants and, 387
 - symptoms, etiology, diagnosis, treatment, prophylaxis, and control, 360
- Polyethylene glycol, encopresis treatment, 332
- Polyorchism, description, 256
- Polyps, description and treatment, 179–180
- Polysplenia, description, 236
- Pompe's disease, hypotonia in infants and, 388
- Port-wine stains, description and treatment, 165
- Positive end-expiratory pressure
- grunting and, 280
 - mechanical ventilation and, 32–34
 - posterior flail treatment, 156
- Posterior flail, description and treatment, 156
- Postintubation subglottic tracheal stenosis, description and prevention, 130
- Postoperative pain management
- intravenous narcotics: continuous infusion (table), 20
 - opioids, 19
 - patient-controlled analgesia, 19–20

- patient-controlled analgesia dosing (table), 20
 Posttraumatic seizures, description and treatment, 295–296
 Potassium chloride, hypokalemia treatment, 270
 Potassium iodide, radiological contamination treatment, 478–479
 Pralidoxime chloride, nerve agent exposure treatment, 465
 PRBCs. *See* Packed red blood cells
 Prednisolone
 anaphylaxis treatment, 287
 croup treatment, 290
 Prednisolone eye drops, hyphema treatment, 114
 Prednisone
 anaphylaxis treatment, 287
 croup treatment, 290
 immune (idiopathic) thrombocytopenic purpura treatment, 400
 nephrotic syndrome treatment, 410
 rheumatic heart disease treatment, 323
 Premature ventricular contraction, description, causes, and treatment, 321
 Preterm infants
 basics of care, 310–311
 description, 309
 Pretibial fever. *See* Leptospirosis
 Priapism, sickle cell disease and, 398
 Prism tests, description, 95–96
 Procidencia. *See* Rectal prolapse
 Prominent epicanthal folds, description, 98
 Propofol, intracranial pressure and, 84
 Propranolol, hyperthyroidism treatment, 375
 Propylthiouracil
 hyperthyroidism treatment, 375
 radiological contamination treatment, 479
 Prostaglandin E₁, cyanosis treatment, 319
 Protein-losing enteropathy, description and treatment, 331
 Proton pump inhibitors
 gastroesophageal reflux disease treatment, 196, 334
 Pseudocysts
 description and diagnosis, 234–235
 treatment, 235
Pseudomonas aeruginosa
 lung abscess cause, 159
 wound infection cause, 143
 Ptosis, description and treatment, 98
 Pulmonary agents
 description, 466
 signs and symptoms of exposure, 466
 treatment, 466–467
 Pulmonary diseases
 acute chest syndrome, 397–398
 tuberculosis, 348–350
 Pulmonary infections
 danger signs, 366
 humanitarian issues, 365–366
 pneumonia, 158–160, 346–347
 whooping cough, 347–348
 Pulse oximetry
 cyanosis evaluation, 318
 respiratory emergencies and, 280
 Purpura fulminans
 description and treatment, 426
 figures describing, 442–443
 Purpura in children. *See also* Idiopathic thrombocytopenic purpura
 figures describing, 440–441
 Henoch-Schönlein purpura, 223, 425–426, 440–441
 purpura fulminans, 426, 442–443
 PVC. *See* Premature ventricular contraction
 Pyloric stenosis. *See* Infantile hypertrophic pyloric stenosis
 Pyrazinamide
 dosage recommendations, 350
 tuberculosis treatment, 349
 Pyrimethamine/sulfadoxine, malaria treatment, 363
Q
 Quinidine gluconate, malaria treatment, 362, 363

Quinine sulfate, malaria treatment, 362–363
Quinolone eye drops, corneal ulcer and bacterial keratitis treatment, 113

R

Radiation dermatitis, description, 475
Radiography. *See also* Kidney, ureter, and bladder radiographs
 annular pancreas, 231
 aortic injuries, 157
 bronchial injuries, 156
 chest trauma, 155
 chylothorax, 162–163
 congenital diaphragmatic hernias, 187
 congestive heart failure, 322
 corrosive esophageal injuries, 193
 croup, 130, 289
 cyanosis evaluation, 318
 duodenal obstructions, 202
 empyema, 160
 epiglottitis, 290
 esophageal atresia, 191–192
 esophageal perforation, 194
 eventration of the diaphragm, 190
 hemothorax, 162
 Hirschsprung disease, 332
 intestinal atresias, 205
 intussusception, 212
 lung abscesses, 159
 meconium ileus, 214–215
 meconium peritonitis, 186
 meconium plug syndrome, 216
 midgut volvulus, 203
 neck obstructions, 129
 necrotizing enterocolitis, 208–209
 osteomyelitis, 345
 pelvic fractures, 153
 pneumatoceles, 158
 pneumomediastinum, 161
 pneumonia, 223
 rickets, 378
 testicular tumors, 262
 tracheoesophageal fistulas, 191–192
 traumatic diaphragmatic hernias, 156
 tuberculosis, 349

Radiological casualties. *See* Nuclear and radiological casualties
Radiological contamination
 external, 476
 internal, 476–478
 signs and symptoms, 476–478
 treatment and prophylaxis, 478
Rales. *See* Crackles/rales
Randot test, description, 95
Ranitidine
 anaphylaxis treatment, 287
 gastroesophageal reflux disease treatment, 196, 334
Rapid sequence intubation, description, 6, 131
Rashes. *See* Dermatology
Reagan, Pres. Ronald, military humanitarianism effects, xxi–xxii
Rectal administration of drugs, guidelines on, 487, 490
Rectal and anal disorders and conditions
 anal fissure, 225–226
 fistula-in-ano, 226
 imperforate anus, 226
 perineal and perirectal abscesses, 226
 preoperative mechanical bowel preparation, 226
 rectal prolapse, 225
Rectal injuries, urethral injuries and, 252
Rectal prolapse, description and treatment, 225
Red blood cells. *See* Hematology; Packed red blood cells
Refeeding syndrome
 description, 447–448
 metabolic disturbances and symptoms associated with (table), 448
 treatment, 448
Reflexes, pediatric neurological examination for, 383
Regional anesthesia
 contraindications, 21
 drug dosing for pediatric single-injection peripheral nerve block (table), 22
 pediatric drug dosing for caudal or

- epidural blocks (table), 21
- pediatric spinal dosing (table), 22
- Renal artery stenosis, description, diagnosis, and treatment, 170
- Renal disease, normocytic anemia and, 393
- Renal injuries
 - abdominal trauma and, 245
 - acute injuries, 408–409
 - associated injuries, 245–246
 - causes, 408
 - description, 245
 - diagnosis, 245–246
 - glomerular filtration rate and, 408
 - hypertension and, 408–409
 - management, 246–247
 - treatment, 409
- Renal stones
 - description, 410
 - diagnosis, 411
 - symptoms, 410–411
 - treatment, 411
- Respiratory acidosis, anesthesia and, 14
- Respiratory emergencies
 - acute chest syndrome, 397–398
 - airway assessment, 5–6
 - anaphylaxis, 284–287
 - appropriate tidal volume, 279–280
 - bacterial tracheitis, 291
 - breathing assessment, 6–8
 - bronchiolitis, 287–289
 - chronic asthma management, 282–284
 - circulation assessment, 8–9
 - crackles/rales and, 280
 - croup, 289–290, 345–346
 - epiglottitis, 290–291
 - evidence of increased work of breathing, 279
 - grunting and, 280
 - intubation, 6
 - pediatric respiratory rates (table), 279
 - pulse oximetry, 280
 - status asthmaticus, 280–282
 - stridor and, 279–280
 - wheezing and, 280
- Respiratory infections. *See* Pulmonary infections
- Respiratory syncytial virus
 - bronchiolitis and, 287
 - croup and, 289
- Resuscitation and critical care
 - aeromedical evacuation, 53–59
 - anesthesia, 13–22
 - basic approach to pediatric trauma, 3–11
 - care of the newborn, 303–314
 - hemodynamics and shock, 43–47
 - intracranial pressure management, 49–51
 - mechanical ventilation, 31–36
 - transfusion medicine, 37–41
 - vascular access, 25–30
- Retinoblastoma, leukocoria and, 103, 109
- Retinopathy of prematurity
 - assessment, 93
 - description and treatment, 105
- Retractile testis, description, 255–256
- Retrobulbar (orbital) hemorrhages
 - lateral canthotomy and cantholysis procedure, 116–117
 - symptoms, 115
 - treatment, 115–117
- Retrograde pyelograms, ureteropelvic junction disruption, 248
- Retrograde urethrograms
 - repair of bladder neck injuries and, 250–251
 - urethral injuries, 251
- Rheumatic carditis, congestive heart failure and, 322
- Rheumatic fever
 - diagnosis, 356
 - etiology, 354, 356
 - scarlet fever and, 418
 - symptoms, 354
 - treatment, 356
- Rheumatic heart disease
 - cause, 323
 - diagnosis and treatment, 323
 - recurrence prevention, 323
- Rickets
 - risk factors, 378
 - signs and symptoms, 378
 - treatment, 378–379

- vitamin D deficiency and, 378
- Rickettsial diseases
 - figure describing, 430–431
 - symptoms, diagnosis, and treatment, 416
- Rifampin
 - dosage recommendations, 349
 - meningitis treatment, 354
 - meningococemia treatment, 417
 - tuberculosis treatment, 349, 350
- Riot control agents
 - description, 467–468
 - signs and symptoms of exposure, 468
 - treatment, 468
- Rocky Mountain spotted fever. *See* Rickettsial diseases
- ROP. *See* Retinopathy of prematurity
- Rotavirus
 - diarrhea and, 351
 - viral gastroenteritis cause, 329
- Roux-en-Y procedure
 - pancreatic trauma, 233
 - pseudocysts, 235
- RSV. *See* Respiratory syncytial virus
- Rubeola. *See* Measles
- S**
- Salmon patches, description and treatment, 165
- Salmonella typhi*, wound infection cause, 143
- Sarcoidosis, anterior uveitis and, 103
- Sargramostim, ionizing radiation exposure treatment, 476
- Scalded skin syndrome. *See* Staphylococcal scalded skin syndrome
- Scarlet fever
 - complications, 418
 - diagnosis, 418
 - figures describing, 432–433
 - symptoms, 417–418
 - treatment, 418
- SCHs. *See* Subconjunctival hemorrhages
- Schwartz formula, glomerular filtration rate in children, 407
- Scopolamine
 - corneal abrasion treatment, 112
 - corneal ulcer and bacterial keratitis treatment, 113
 - hyphema treatment, 114
- Scorpion bites
 - description, 455
 - scorpion species in the Arabian Peninsula/Iraq, 456
 - signs and symptoms, 455–457
 - treatment, 456, 457
- Scrotal conditions. *See* Testicular and scrotal conditions
- Second degree burns
 - description, 65
 - hospitalization or transfer guidelines, 69
- Sedation considerations. *See also specific drugs*
 - mechanical ventilation, 35–36
 - preoperative sedation, 19
- Seizures
 - epilepsy, 298–302
 - evaluation of first-time, nonfebrile seizures in children, 296
 - febrile, 296–298
 - increased intracranial pressure and, 50
 - nerve agent exposure and, 465
 - posttraumatic, 295–296
 - prophylaxis in head injuries, 80–81
 - rickets and, 378
 - status epilepticus, 293–295
- Sensory development, pediatric neurological examination for, 383–384
- Sepsis
 - appendiceal rupture and, 220–221
 - disseminated intravascular coagulation and, 402
 - empiric therapy for bacterial meningitis and sepsis in developing countries (table), 355
 - intestinal atresias and, 205
 - ionizing radiation exposure and, 476
 - midgut volvulus and, 203
 - nutrition needs, 450
 - pneumococcal, 396
 - symptoms, etiology, and diagnosis, 353–354

- treatment, 354
- Septic arthritis
 - diagnosis, 344
 - etiology, 344
 - symptoms, 344
 - treatment, 344–345
- Septic shock
 - description, 44
 - therapeutic goals, 47
 - treatment, 45, 47
- Shaken baby syndrome
 - description, 105
 - increased intracranial pressure and, 49
 - notification of authorities, 105–106
- Shock. *See also* Toxic shock syndrome
 - cardiogenic shock, 44
 - hemodynamics and, 43–47
 - midgut volvulus and, 203
 - septic, 44, 45, 47
 - snake bites and, 458
- SIADH. *See* Syndrome of inappropriate antidiuretic hormone
- Sialadenitis, symptoms, diagnosis, and treatment, 342–343
- Sickle cell disease
 - acute abdominal pain and, 337
 - aplastic crisis, 397
 - choledocholithiasis and, 230
 - complications, 396
 - description, 170, 238–239, 395
 - diagnosis, 239, 395
 - hemolytic cholelithiasis and, 230
 - hypersplenism and, 241
 - osteomyelitis and, 345
 - treatment, 239
 - vasoocclusive crisis, 239, 396, 398–399
- Silver nitrate eye drops, for newborn prophylaxis, 315, 339
- Situs inversus
 - asplenia and, 236
 - polysplenia and, 236
- SJS. *See* Stevens-Johnson syndrome
- Skin, soft tissue, bone, and joint infections. *See also* Dermatology
 - cellulitis, 343
 - cutaneous candidiasis (yeast infections), 343–344
 - lymphadenitis, 344
 - lymphangitis, 343
 - osteomyelitis, 345
 - septic arthritis, 344–345
- Skin tests, tuberculosis, 348–349
- Small intestine disorders and conditions
 - intestinal atresias, 204–206
 - intussusception, 211–214
 - malrotation with volvulus, 203–204
 - Meckel’s diverticulum, 207–208, 335
 - meconium ileus, 214–216
 - meconium plug syndrome, 215–216, 332–333
 - midgut volvulus, 203–204
 - necrotizing enterocolitis, 208–211
- Smallpox
 - description, 424–425, 472
 - diagnosis, 415, 472
 - differences in effects of the disease on children and on adults, 463
 - figures describing, 440–441
 - infection control, 472
 - signs and symptoms, 472
 - treatment and prophylaxis, 472
- Snake bites
 - treatment, 458
 - venom-to-size ratio in children, 458
- Sodium nitrite, blood agent exposure treatment, 467
- Sodium polystyrene sulfonate, hyperkalemia treatment, 271
- Sodium thiosulfate, blood agent exposure treatment, 467
- Soft tissue infections. *See* Skin, soft tissue, bone, and joint infections
- Sonography. *See* Focused assessment with sonography for trauma; Ultrasound
- Soy formula
 - allergic colitis and, 330
 - osmotic diarrhea and, 330
- Spermatogenesis
 - cryptorchidism and, 256
 - torsion of the scrotum and, 261

- undescended testes and, 257
- Sphincterotomy, choledocholithiasis, 230
- Spider angiomas, description, 165
- Spigelian hernias, description, diagnosis, and treatment, 181
- Spinal injuries
 - anatomical and biomechanical differences between pediatric and adult spines, 87–88
 - cerebrospinal fluid fistula and, 91–92
 - cervical collars and splints and, 90
 - closed injuries, 89–91
 - halo vests and, 90–91
 - improper and proper positioning of a child to maintain a patent airway (figure), 90
 - maxillofacial fractures and, 133
 - medical and surgical management, 89–92
 - orbital floor (blowout) fractures and, 117
 - pathophysiological differences between pediatric and adult spines, 88–89
 - penetrating injuries, 91–92
 - radiographic differences between pediatric and adult spines, 89
 - thoracolumbar fractures, 91
 - transporting patients and, 89
- Spleen. *See also* Splenectomy
 - accessory spleen, 236
 - acute inflammatory splenomegaly, 237
 - congenital anomalies, 235–236
 - cysts, 236
 - elliptocytosis, 238
 - hematologic disorders, 238–241
 - hereditary spherocytosis, 238
 - hypersplenism, 240–241
 - idiopathic thrombocytopenic purpura, 239–240
 - inflammation of, 237–238
 - leukemia and, 239
 - physiology, 235
 - polysplenia, 236
 - red blood cell disorders, 238–239
 - sickle cell anemia, 238–239
 - splenic sequestration, 393
 - wandering (ectopic) spleen, 241
 - white blood cell disorders, 239–240
- Spleen abscesses
 - causes, 237–238
 - diagnosis and treatment, 238
- Spleen trauma
 - diagnosis, 237
 - nonoperative management, 237
 - operative management, 237
- Splenectomy
 - accessory spleen, 236
 - hereditary spherocytosis, 238
 - idiopathic thrombocytopenic purpura and, 240, 241, 401
 - operative procedures, 241–242
 - postoperative considerations, 242–243
 - preoperative preparation, 241
 - spleen abscesses, 238
 - spleen trauma, 237
- Splenic sequestration
 - normocytic anemia and, 393
 - sickle cell disease and, 396
- Splenopexy, wandering (ectopic) spleen, 241
- Splenorrhaphy, spleen trauma, 237
- Spontaneous pneumothorax. *See also* Tension pneumothorax
 - description, diagnosis, and treatment, 161
- Staphylococcal scalded skin syndrome
 - diagnosis, 421
 - figures describing, 434–435
 - symptoms, 420–421
 - treatment, 421
- Staphylococcal toxic shock syndrome, description, diagnosis, and treatment, 419
- Staphylococcus aureus*
 - bacterial tracheitis cause, 291
 - empyema cause, 159
 - epiglottitis cause, 290
 - lung abscess cause, 159
 - musculoskeletal infection cause, 143
 - toxic shock syndrome cause, 419

- Status asthmaticus
 description, 280
 hospitalization for, 281
 medication side effects, 281–282
 treatment plan, 280–281
- Status epilepticus
 convulsive, 293, 295
 description, 293
 increased intracranial pressure and, 49
- Stereo vision testing, description, 95
- Steroids. *See also* Corticosteroids; *specific drugs*
 hemangioma treatment, 129, 167
 idiopathic thrombocytopenic purpura treatment, 240
 Kasabach-Merritt syndrome treatment, 166
 pancreatitis and, 234
 riot control agent exposure treatment, 468
 spinal injuries and, 91
 splenectomy and, 241
- Stevens-Johnson syndrome, description and treatment, 422–423
- Stings. *See* Bites and stings
- Stomach and duodenal disorders and conditions
 bezoars, 201
 duodenal obstructions, 201–203
 gastric antral webs, 199–200
 gastric perforation, 200–201
 infantile hypertrophic pyloric stenosis, 197–199
- Strabismus
 conditions associated with, 108
 description and treatment, 107–108
- Strawberry (capillary) hemangiomas, description and complications, 166
- Streptococcal toxic shock syndrome, description, diagnosis, and treatment, 419
- Streptococcus pneumoniae*, empyema cause, 159
- Streptomycin
 dosage recommendations, 350
 tuberculosis treatment, 349
- Strictures
 corrosive esophageal injuries and, 193
 etiology, 197
 treatment, 197
- Stridor
 causes, 280
 croup and, 289
 description, 279
 epiglottitis and, 290
- Stroke, sickle cell disease and, 396–397
- Sturge-Weber syndrome, salmon patches and, 165
- Subconjunctival hemorrhages
 description and treatment, 110–111
 warning signs for an open globe injury, 111
- Subcutaneous injection of drugs, guidelines, 491
- Succinylcholine, burns and, 74
- Sulbactam
 bacterial tracheitis treatment, 291
 buccal cellulitis treatment, 342
 orbital cellulitis treatment, 342
 parotitis treatment, 343
 sialadenitis treatment, 343
- Superior oblique, or trochlear, palsy, description and treatment, 108
- Surgery
 abdominal wall, peritoneum, and diaphragm, 175–190
 average number of invasive surgical procedures undergone by pediatric patients, xiv
 burns, 63–75
 counseling parents or guardians about risks and benefits of procedures, xvii
 dentistry, 121–125
 face and neck, 127–140
 gastrointestinal tract, 191–226
 genitourinary tract, 245–263
 hepatobiliary tract, 227–230
 neurosurgery, 77–92
 operative procedure risks, xvi
 ophthalmologic, 93–119
 orthopaedics, 141–153
 pancreas, 231–235

- postoperative ventilation sedation, 35–36
- preoperative sedation, 19
- spleen, 235–243
- thoracic cavity, 155–164
- vascular, 165–173
- Sydenham chorea, rheumatic fever and, 356
- Sympathetic ophthalmia, enucleation and, 119
- Synchronized cardioversion, atrial flutter treatment, 320
- Syndrome of inappropriate antidiuretic hormone
 - bronchiolitis and, 288
 - hyponatremia and, 271
 - management, 272
- Syphilis, chorioretinitis and, 109
- T**
- Tachycardia
 - causes, 319–320
 - management, 320
 - supraventricular, 320
- Tarantula bites
 - description, 455
 - secondary infection and, 455
- TEFs. *See* Tracheoesophageal fistulas
- Teledermatology consultation
 - dermatological history and, 413
 - descriptors for, 415
 - family/social history and, 414
 - laboratory results and, 414
 - past medical history and, 413–414
 - photographs and, 413
 - physical examination description, 414–415
 - requesting, 413
 - response time, 415–416
- Telemedicine. *See* Teledermatology consultation
- TEN. *See* Toxic epidermal necrolysis
- Tension pneumothorax. *See also* Spontaneous pneumothorax
 - newborn infants, 308–309
 - symptoms, 155–156
 - treatment, 156, 308–309
- Terbinafine, cutaneous candidiasis treatment, 343
- Terbutaline, side effects, 282
- Testicular and scrotal conditions
 - acute conditions, 258–262
 - appendix testis torsion, 261
 - epididymitis, 261–262
 - orchitis, 262
 - torsion, 258–261
 - undescended testes, 255–258
 - varicocele, 262
- Testicular tumors, description, diagnosis, and treatment, 262–263
- Tetanus immunization, burns and, 65, 70
- Tetanus prophylaxis, black widow spider bites, 454
- Tetracycline
 - malaria treatment, 363
 - traumatic injuries to teeth and, 123
- Tetracycline ophthalmic drops, trachoma treatment, 340
- Tetracycline ophthalmic ointment
 - for newborn prophylaxis, 315
 - neonatal conjunctivitis treatment, 339
- Thalassemia
 - description and treatment, 392
 - hemolytic cholelithiasis and, 230
- Theater Patient Movement Requirements Center—Europe
 - contact information, 59
- Theater Patient Movement Requirements Center—Pacific
 - contact information, 59
- Thermal burns of the cornea, description and treatment, 112
- Thiopental
 - convulsive status epilepticus treatment, 295
 - increased intracranial pressure and, 51
- Third degree burns
 - description, 66
 - hospitalization or transfer guidelines, 69
- Thoracentesis
 - chylothorax, 163
 - empyema, 160
 - hemothorax, 162

- Thoracic cavity. *See also* Respiratory emergencies
 chest trauma, 155–158
 infections of the lung and pleura, 158–164
 mediastinal masses, 160–161
- Thoracostomy
 chylothorax, 163
 empyema, 160
 hemothorax, 156, 162
 tension pneumothorax, 156
- Thoracotomy
 bronchial injuries, 157
 chylothorax, 162, 163
 pericardial tamponade, 158
 traumatic diaphragmatic hernias, 157
- Thrombectomy, traumatic vascular injuries, 171
- Thrombi, description and treatment, 170
- Thrombocytopenia
 description, 400
 disseminated intravascular coagulation, 402
 hemolytic uremic syndrome, 223, 401–402
 immune (idiopathic) thrombocytopenic purpura, 400–401
 ionizing radiation exposure and, 475
 thrombotic thrombocytopenic purpura, 401–402
- Thrombocytosis, splenectomy and, 242
- Thromboplastin, congenital anomalies of central veins, 169
- Thrombotic thrombocytopenic purpura
 causes, 401
 description, 401
 differential diagnosis, 401–402
 treatment, 402
- Thyroglossal duct cysts, symptoms, diagnosis, and treatment, 137
- Thyroid disorders
 adrenal disorders and, 375–376
 hyperparathyroidism, 407
 hyperthyroidism, 374–375
 hypothyroidism, 373–374, 395
- Ticks. *See* Rickettsial diseases
- Tidal volume
 appropriate tidal volume, 279–280
 mechanical ventilation and, 32–33
- Timolol, hyphema treatment, 114–115
- Titmus test, description, 95
- TMP/SMX. *See* Trimethoprim/sulfamethoxazole
- Toddlers
 adrenal disorder treatment, 376
 atopic dermatitis and, 424
 diabetes mellitus management, 371
 drug distribution and, 482–483
 gastrointestinal bleeding and, 335
 growth and development, 273–274
 hyperthyroidism and, 374–375
 hypoglycemia treatment, 373
 hypothyroidism and, 374
 immune (idiopathic) thrombocytopenic purpura and, 400–401
 oral drug pharmacokinetics, 482
 parenteral drug absorption issues, 482
 pediatric neurological examination, 381–384
 rectal administration of drugs and, 487
 rickets and, 378
 sickle cell disease and, 396
- Tolazoline, congenital diaphragmatic hernia and, 189
- Topical anesthetics
 corneal ulcer and bacterial keratitis treatment, 113
 intravenous administration of drugs and, 490
- Topiramate
 dosage and adverse reactions, 301
 epilepsy treatment, 298
- Torsion of the appendix testis, description and treatment, 261
- Torsion of the scrotum
 bell clapper deformity and, 260
 description, 258–259
 neonatal, 259–261
 symptoms, 259

- types, 259
- Torticollis, description and treatment, 139–140
- Total parenteral nutrition, recommendations for, 452
- Toxic epidermal necrolysis, description and treatment, 422–423
- Toxic shock syndrome
 - description, 418–419
 - staphylococcal, 419
 - streptococcal, 419
 - symptoms and treatment, 419
- Toxocara granuloma, leukocoria and, 105
- Toxoplasmosis
 - chorioretinitis and, 109
 - lymphadenitis and, 344
- Tracheitis. *See* Bacterial tracheitis
- Tracheoesophageal fistulas
 - diagnosis, 191
 - symptoms, 191
 - treatment, 191–192
 - vertebral, anorectal, cardiac, tracheoesophageal fistula, renal, and radial limb anomalies and, 191
- Tracheostomy, for surgical airway, 15, 131
- Trachoma, symptoms, etiology, diagnosis, and treatment, 340
- Tramadol, postoperative pain management, 21
- Transfusion medicine. *See also* Hematology
 - acute chest syndrome and, 397
 - aplastic anemia and, 394
 - bacterial and viral contamination and, 41
 - blood volume by age (table), 38
 - cryoprecipitate, 38
 - disseminated intravascular coagulation and, 402
 - factor VIIa, 40
 - fluid overload and, 41
 - fresh frozen plasma, 38–41
 - fresh warm whole blood, 39–40
 - hemolytic uremic syndrome and, 402
 - hemophilia and, 403
 - hyperkalemia and, 40
 - hypocalcemia and, 18, 40–41
 - hypothermia and, 41
 - immune (idiopathic) thrombocytopenic purpura and, 401
 - massive transfusion for severe hemorrhagic shock, 39–40
 - packed red blood cells, 37–40
 - platelets, 38, 39
 - priapism and, 398
 - risks associated with, 40–41
 - routine transfusion therapy, 37–38
 - sickle cell disease and, 396
 - small IV catheters and, 39
 - special preparations, 41
 - transient erythroblastopenia of childhood and, 393
 - trauma resuscitation and, 18
 - Von Willebrand's disease and, 404
 - weight of the patient and, 37
- Transient erythroblastopenia of childhood, description and treatment, 393
- Trauma. *See also* Basic approach to pediatric trauma; Traumatic injuries to teeth; *specific types and sites of trauma*
 - chest, 155–158
 - face and neck injuries, 131–136
 - genitourinary tract, 245–252
 - pancreatic, 232–233
 - to the spleen, 236–237
 - vascular injuries, 170–173
- Traumatic diaphragmatic hernias, symptoms, diagnosis, and treatment, 156–157
- Traumatic injuries to teeth
 - incidence, 122
 - treatment, 122–123
- Treacher Collins syndrome, mandibular hypoplasia and, 127
- Trifluridine, neonatal conjunctivitis treatment, 339
- Trimethoprim/sulfamethoxazole pneumonia treatment, 346
- whooping cough treatment, 348
- Tropical diseases
 - dengue and dengue hemorrhagic fever, 357–358
 - Japanese encephalitis, 360–361
 - malaria, 361–364

- TTP. *See* Thrombotic thrombocytopenic purpura
- Tube feedings
 gastrointestinal disorders and, 337
 goals, 449
- Tuberculosis
 adrenal disorders and, 376
 chorioretinitis and, 109
 diagnosis, 348–349
 epidemiology, 348
 symptoms, 348
 treatment, 349–350
- Tularemia
 signs and symptoms, 471
 treatment and prophylaxis, 471
- Typhlitis, symptoms, 223
- Typhoid fever, symptoms and treatment, 222
- Typhus. *See* Rickettsial diseases
- U**
- UDT. *See* Undescended testes
- UGI series. *See* Upper gastrointestinal series
- Ultrasound
 acalculous cholecystitis, 230
 annular pancreas, 231
 anorchism, 256
 appendicitis, 219
 arteriovenous malformations, 169
 asplenia, 236
 congenital anomalies of central veins, 169
 congenital diaphragmatic hernias, 187
 cysts of the spleen, 236
 empyema, 347
 epididymitis, 261
 esophageal atresia, 192
 gastroschisis, 176
 hydrops, 230
 infantile hypertrophic pyloric stenosis, 197–198
 intestinal atresias, 205
 intraabdominal masses and tumors, 336
 intussusception, 212
 Meckel's diverticulum, 207
 meconium peritonitis, 185–187
 midgut volvulus, 203
 omental and mesenteric cysts, 187
 omphaloceles, 176
 pancreatitis, 233
 patent omphalomesenteric sinus, 180
 pseudocysts, 235
 tracheoesophageal fistula, 192
 urachal cysts, 180
 varicoceles, 262
 vascular injuries, 172
 wandering (ectopic) spleen, 241
- Umbilical disorders
 epigastric hernias, 181
 granulomas, 179
 omphalitis, 179
 patent omphalomesenteric sinus, 180
 polyps, 179–180
 spigelian hernias, 181
 umbilical drainage, 179–180
 umbilical hernias, 180–181
 urachal cysts, 180
 urachal sinus, 180
- Umbilical hernias, description and treatment, 180–181
- Undescended testes
 anorchism, 256
 cryptorchidism, 256
 definitions, 255–256
 ectopic, 256
 embryology, 256
 incidence, 257
 indications for surgery, 257
 location of, 256
 pathology, 256–257
 polyorchism, 256
 retractile testis, 255–256
 spermatogenesis and, 257
 treatment, 257–258
 unilateral, 256–257
- UPJ. *See* Ureteropelvic junction
- Upper gastrointestinal series
 bezoars, 201
 gastric antral webs, 200
 gastric volvulus, 200
 gastroesophageal reflux disease, 195

- infantile hypertrophic pyloric stenosis, 198
 - midgut volvulus, 203–204
 - Urachal cysts, description, diagnosis, and treatment, 180
 - Urachal sinus, description, symptoms, diagnosis, and treatment, 180
 - Ureteral injuries
 - management, 248–249
 - mortality rate, 248
 - presentation, 248
 - Ureteral stones, description and diagnosis, 222
 - Ureteropelvic junction
 - disruption of, 247–248
 - renal injuries and, 245
 - Urethral injuries
 - bladder neck injuries and, 251
 - diagnosis, 251
 - in girls, 251–252
 - pelvic fractures and, 251
 - treatment, 252
 - Urinary tract infections
 - bacterial factors, 253–254
 - classification, 253
 - diagnosis, 252–253, 357
 - epidemiology, 253
 - etiology, 357
 - follow-up, 357
 - laboratory findings, 254
 - pathophysiology, 253–254
 - potentiating factors, 253–254
 - prophylaxis, 357
 - protective factors, 253
 - symptoms, 222, 356–357
 - treatment, 254, 357
 - vomiting and, 333
 - US Air Force Air Mobility Command, aeromedical evacuation and, 53
 - US Transportation Command, aeromedical evacuation and, 53
 - UTIs. *See* Urinary tract infections
- V**
- Vaccines
 - anthrax, 464
 - complications in children, 464
 - Japanese encephalitis, 361
 - measles, 364
 - pneumococcal, 237, 241, 243, 396
 - polio, 360
 - smallpox, 425
 - whooping cough, 348
 - VACTERRL. *See* Vertebral, anorectal, cardiac, tracheoesophageal fistula, renal, and radial limb anomalies
 - Vaginal conditions
 - labial fusion, 263
 - pelvic inflammatory disease, 263
 - vaginitis, 263
 - Vaginitis, description, diagnosis, and treatment, 263
 - Valproate, epilepsy treatment, 298
 - Valproic acid
 - dosage and adverse reactions, 301–302
 - febrile seizure treatment, 298
 - Vancomycin
 - infective endocarditis prophylaxis, 325
 - osteomyelitis treatment, 345
 - pneumonia treatment, 346–347
 - septic arthritis treatment, 345
 - Varicella. *See* Chickenpox
 - Varicoceles, description, diagnosis, and treatment, 262
 - Variola major. *See* Smallpox
 - Vascular access
 - catheter size and, 25
 - establishing, 8
 - external jugular vein cannulation, 25–26
 - intraosseous needle placement, 16–19
 - intravenous administration of drugs and, 490
 - nursing tips, 277
 - pediatric central and arterial venous line sizes (table), 30
 - percutaneous central venous lines, 29
 - pitfalls in pediatric IV placement, 25
 - routine sites, 25
 - shock and, 45
 - Vascular injuries
 - blood loss issues, 170–171
 - end-to-end anastomosis treatment,

- 171–172
 extremity fractures and, 172
 postoperative management, 173
 technical pitfalls in surgery for, 172–173
 vasospasm and, 171
- Vascular surgery
 arterial disorders, 169
 arteries to ligate *versus* arteries to reconstruct (table), 171
 connective tissue disorders, 169–170
 hemangiomas, 165–167
 lymphangiomas, 167–168
 technical pitfalls, 172–173
 traumatic vascular injuries, 170–173
 veins to ligate *versus* veins to reconstruct (table), 172
 venous disorders, 168–169
- Vasoactive support
 septic shock treatment, 47
 table, 46
- VATS. *See* Video-assisted thoracoscopic surgery
- Venous disorders. *See also* Arterial disorders
 arteriovenous malformations, 168–169
 congenital anomalies of central veins, 169
 embryology, 168
- Venous malformations, description and treatment, 166
- Ventilation. *See* Mechanical ventilation
- Ventilators, initial settings, 16
- Ventricular dysrhythmias, premature ventricular contraction, 321
- Ventricular fibrillation, description and treatment, 321
- Ventricular tachycardia, description and treatment, 321
- Ventriculostomy
 intracranial pressure monitoring and, 82–84
 schematic of ventriculostomy setup (figure), 83
- Vertebral, anorectal, cardiac, tracheoesophageal fistula, renal, and radial limb anomalies
 imperforate anus and, 226
 tracheoesophageal fistulas and, 191
- Vesicants. *See* Blister agents
- VF. *See* Ventricular fibrillation
- Vidarabine, neonatal conjunctivitis treatment, 339
- Video-assisted thoracoscopic surgery
 empyema, 160
 spontaneous pneumothorax, 161
- Viral conjunctivitis, description and treatment, 99
- Viral hemorrhagic fevers
 dengue and dengue hemorrhagic fever, 357–358
 etiologic agents, 473
 infection control, 473
 signs and symptoms, 473
 treatment and prophylaxis, 473
- Visceral aneurysms, description and treatment, 169
- Vitamin A, measles and deficiency of, 364, 417
- Vitamin B₁₂, macrocytic anemia and, 393–394
- Vitamin D
 hyperparathyroidism treatment, 407
 hypocalcemia treatment, 377
 rickets and, 378–379
- Vitamin K
 gastroschisis treatment, 176
 for newborn prophylaxis, 315
 omphaloceles treatment, 176
- Voiding cystourethrography, epididymitis, 261–262
- Vomiting
 chronic, 333–334
 diagnosis, 333–334
 feeding issues, 337
 gastroesophageal reflux disease and, 333, 334
 treatment, 334
- Von Willebrand's disease
 description, 403–404
 diagnosis and treatment, 404
- VT. *See* Tidal volume; Ventricular

tachycardia

W

Wandering (ectopic) spleen, description, diagnosis, and treatment, 241

Warm weather injuries

heat cramps, 460

heat exhaustion, 460

heatstroke, 460–461

Wasp stings. *See* Bee and wasp stings

Webs

description, diagnosis, and treatment, 128

gastric antral, 199–200

Weil's disease. *See* Leptospirosis

Werdnig-Hoffmann disease, hypotonia

in infants and, 387

Wheezing, description, 280

WHO. *See* World Health Organization

Whooping cough

diagnosis, 348

epidemiology, 347–348

prophylaxis and control, 348

symptoms, 347

treatment, 348

Wilms tumor, aniridia and, 108

Wilson disease, Kayser-Fleisher corneal ring and, 108

Wolff-Parkinson-White syndrome, tachycardia and, 320

World Health Organization

diarrhea definitions and treatment guidelines, 351–353

diphtheria case definition, 359

equations for estimating resting energy expenditures (table), 446

World War I, civilian casualties, xiii

World War II, civilian casualties, xiii

Worth 4 Dot Test, description, 95

Y

Yeast infections. *See* Cutaneous candidiasis

Young children

adrenal disorder treatment, 376

atopic dermatitis and, 424

bullae, erosions, and desquamation in, 420–426

drug distribution and, 482–483

gastrointestinal bleeding and, 335

glomerular filtration rate and, 407

growth and development, 274–275

hyperthyroidism and, 374–375

hypoglycemia treatment, 373

hypothyroidism and, 374

immune (idiopathic) thrombocytopenic purpura and, 400–401

intussusception and, 211

oral drug pharmacokinetics, 482

parenteral drug absorption issues, 482

pediatric neurological examination, 381–384

recurrent headaches and, 389–390

rickets and, 378

sickle cell disease and, 396–397

snake bites and, 458

Z

Zinc, diarrhea treatment, 352