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The purpose of this handbook is to provide the clinician with a quick reference to the differential diagnosis, etiology, and classification of clinical disorders, signs, and symptoms. These various differential diagnoses are readily available in general medical texts, but the information is often scattered and difficult to find. The second edition of this manual has been significantly expanded and now contains the differential diagnosis of over 1500 signs, symptoms, and clinical disorders, yet its small size easily fits in a lab coat pocket. To facilitate its use, each condition is listed alphabetically. Differential diagnoses are listed in order of decreasing frequency.

This book differs from other differential diagnosis books because it lists not only the differential diagnosis of signs, symptoms, and laboratory abnormalities but also the differential diagnosis of more than 600 clinical disorders. For example, its user can rapidly locate the differential diagnosis of “Calcifications on Chest X-ray” and further identify the differential diagnosis of “Silicosis,” “Tuberculosis,” and other diseases that can cause calcifications on chest x-ray, thus narrowing down the correct diagnosis.

This book is intended for use by medical students, physicians, and allied health professionals in need of a practical rapid reference covering nearly every possible sign, symptom, and clinical disorder that will be encountered in the daily practice of both in-patient and out-patient medicine.

Fred F. Ferri, MD, FACP
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COMMENTS

Comments from readers regarding this manual are always welcome and can be forwarded to Dr. Ferri at Fred_Ferri@brown.edu.
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Abdominal Distention

NONMECHANICAL OBSTRUCTION

• Excessive intraluminal gas
• Intra-abdominal infection
• Trauma
• Retroperitoneal irritation (renal colic, neoplasms, infections, hemorrhage)
• Vascular insufficiency (thrombosis, embolism)
• Mechanical ventilation
• Extra-abdominal infection (sepsis, pneumonia, empyema, osteomyelitis of spine)
• Metabolic/toxic abnormalities (hypokalemia, uremia, lead poisoning)
• Chemical irritation (perforated ulcer, bile, pancreatitis)
• Peritoneal inflammation
• Severe pain
• Pain medications

MECHANICAL OBSTRUCTION

• Neoplasm (intraluminal, extraluminal)
• Adhesions, endometriosis
• Infection (intra-abdominal abscess, diverticulitis)
• Gallstones
• Foreign body, bezoars
• Pregnancy
• Hernias
• Volvulus
• Stenosis at surgical anastomosis, radiation stenosis
• Fecaliths
• Inflammatory bowel disease (IBD)
• Gastric outlet obstruction
• Hematoma
• Other: parasites, superior mesenteric artery (SMA) syndrome, pneumatosis intestinalis, annular pancreas, Hirschsprung’s disease, intussusception, meconium
Abdominal Pain, Adolescence

- Irritable bowel syndrome
- Acute gastroenteritis
- Appendicitis
- Inflammatory bowel disease (IBD)
- Peptic ulcer disease
- Cholecystitis
- Neoplasm
- Other: functional abdominal pain, pelvic inflammatory disease, pregnancy, pyelonephritis, renal stone, trauma, anxiety

Abdominal Pain, Childhood

- Acute gastroenteritis
- Appendicitis
- Constipation
- Anxiety
- Cholecystitis, acute
- Intestinal obstruction
- Pancreatitis
- Neoplasm
- Inflammatory bowel disease (IBD)
- Other: functional abdominal pain, pyelonephritis, pneumonia, diabetic ketoacidosis (DKA), heavy metal poisoning, sickle cell crisis, trauma

Abdominal Pain, Chronic Lower

**ORGANIC DISORDERS**

*Common*

- Gynecologic disease
- Lactase deficiency
- Diverticulitis
- Crohn’s disease
- Intestinal obstruction

*Uncommon*

- Chronic intestinal pseudo-obstruction
- Mesenteric ischemia
- Malignant neoplasm (e.g., ovarian carcinoma)
• Abdominal wall pain  
• Spinal disease  
• Testicular disease  
• Metabolic diseases (e.g., diabetes mellitus [DM], familial Mediterranean fever, C1 esterase deficiency [angioneurotic edema], porphyria, lead poisoning, tabes dorsalis, renal failure)

**FUNCTIONAL DISORDERS**

*Common*  
• Irritable bowel syndrome  
• Functional abdominal bloating

*Uncommon*  
• Functional abdominal pain

### Abdominal Pain, Diffuse

• Early appendicitis  
• Aortic aneurysm  
• Gastroenteritis  
• Intestinal obstruction  
• Diverticulitis  
• Peritonitis  
• Mesenteric insufficiency or infarction  
• Pancreatitis  
• Inflammatory bowel disease (IBD)  
• Irritable bowel  
• Mesenteric adenitis  
• Metabolic: toxins, lead poisoning, uremia, drug overdose, diabetic ketoacidosis (DKA), heavy metal poisoning  
• Sickle cell crisis  
• Pneumonia (rare)  
• Trauma  
• Urinary tract infection, pelvic inflammatory disease (PID)  
• Other: acute intermittent porphyria, tabes dorsalis, periarteritis nodosa, Henoch-Schönlein purpura, adrenal insufficiency

### Abdominal Pain, Epigastric

• Gastric: peptic ulcer disease (PUD), gastric outlet obstruction, gastric ulcer  
• Duodenal: PUD, duodenitis
• Biliary: cholecystitis, cholangitis
• Hepatic: hepatitis
• Pancreatic: pancreatitis
• Intestinal: high small bowel obstruction, early appendicitis
• Cardiac: angina, myocardial infarction (MI), pericarditis
• Pulmonary: pneumonia, pleurisy, pneumothorax
• Subphrenic abscess
• Vascular: dissecting aneurysm, mesenteric ischemia
• Other: gastroenteritis, anxiety

Abdominal Pain, Infancy

• Acute gastroenteritis
• Appendicitis
• Intussusception
• Volvulus
• Meckel’s diverticulum
• Other: colic, trauma

Abdominal Pain, Left Lower Quadrant

• Intestinal: diverticulitis, intestinal obstruction, perforated ulcer, inflammatory bowel disease (IBD), perforated descending colon, inguinal hernia, neoplasm, appendicitis, adhesions
• Reproductive: ectopic pregnancy, ovarian cyst, torsion of ovarian cyst, tubo-ovarian abscess, mittelschmerz, endometriosis, seminal vesiculitis
• Renal: renal or ureteral calculi, pyelonephritis, neoplasm
• Vascular: leaking aortic aneurysm
• Psoas abscess
• Trauma

Abdominal Pain, Left Upper Quadrant

• Gastric: peptic ulcer disease (PUD), gastritis, pyloric stenosis, hiatal hernia
• Pancreatic: pancreatitis, neoplasm, stone in pancreatic duct or ampulla
• Cardiac: myocardial infarction (MI), angina pectoris
• Splenic: splenomegaly, ruptured spleen, splenic abscess, splenic infarction
• Renal: calculi, pyelonephritis, neoplasm
• Pulmonary: pneumonia, empyema, pulmonary infarction
• Vascular: ruptured aortic aneurysm
• Cutaneous: herpes zoster
• Trauma
• Intestinal: high fecal impaction, perforated colon, diverticulitis

Abdominal Pain, Nonsurgical Causes

• Irritable bowel syndrome
• Urinary tract infection, pyelonephritis, salpingitis, pelvic inflammatory disease (PID)
• Gastroenteritis, gastritis, peptic ulcer
• Diverticular spasm
• Hepatitis, mononucleosis
• Pancreatitis
• Inferior wall myocardial infarction
• Basilar pneumonia, pulmonary embolism
• Diabetic ketoacidosis (DKA)
• Strain or hematoma of rectus muscle
• Ruptured graafian follicle
• Herpes zoster
• Nerve root compression
• Sickle cell crisis
• Acute adrenal insufficiency
• Other: acute porphyria, familial Mediterranean fever, tabes dorsalis

Abdominal Pain, Periumbilical

• Intestinal: small bowel obstruction or gangrene, early appendicitis
• Vascular: mesenteric thrombosis, dissecting aortic aneurysm
• Pancreatic: pancreatitis
• Metabolic: uremia, diabetic ketoacidosis (DKA)
• Trauma
• Irritable bowel, anxiety
Abdominal Pain, Poorly Localized

EXTRA-ABDOMINAL
- Metabolic: diabetic ketoacidosis (DKA), acute intermittent porphyria, hyperthyroidism, hypothyroidism, hypercalcemia, hypokalemia, uremia, hyperlipidemia, hyperparathyroidism
- Hematologic: sickle cell crisis, leukemia or lymphoma, Henoch-Schönlein purpura
- Infectious: infectious mononucleosis, Rocky Mountain spotted fever, acquired immunodeficiency syndrome (AIDS), streptococcal pharyngitis (in children), herpes zoster
- Drugs and toxins: heavy metal poisoning, black widow spider bites, withdrawal syndromes, mushroom ingestion
- Referred pain:
  - Pulmonary: pneumonia, pulmonary embolism, pneumothorax
  - Cardiac: angina, myocardial infarction, pericarditis, myocarditis
  - Genitourinary: prostatitis, epididymitis, orchitis, testicular torsion
  - Musculoskeletal: rectus sheath hematoma
- Somatization disorder, malingering, hypochondriasis, Munchausen’s syndrome, functional

INTRA-ABDOMINAL
- Early appendicitis, gastroenteritis, peritonitis, pancreatitis, abdominal aortic aneurysm, mesenteric insufficiency or infarction, intestinal obstruction, volvulus, ulcerative colitis

Abdominal Pain, Pregnancy

GYNECOLOGIC (GESTATIONAL AGE IN PARENTHESES)
- Miscarriage (<20 wk; 80% <12 wk)
- Septic abortion (<20 wk)
- Ectopic pregnancy (<14 wk)
- Corpus luteum cyst rupture (<12 wk)
- Ovarian torsion (especially <24 wk)
- Pelvic inflammatory disease (<12 wk)
- Chorioamnionitis (>16 wk)
- Abruptio placentae (>16 wk)
**NONGYNECOLOGIC**

- Appendicitis (throughout)
- Cholecystitis (throughout)
- Hepatitis (throughout)
- Pyelonephritis (throughout)
- Preeclampsia (>20 wk)

### Abdominal Pain, Right Lower Quadrant

- Intestinal: acute appendicitis, regional enteritis, incarcerated hernia, cecal diverticulitis, intestinal obstruction, perforated ulcer, perforated cecum, Meckel’s diverticulitis
- Reproductive: ectopic pregnancy, ovarian cyst, torsion of ovarian cyst, salpingitis, tubo-ovarian abscess, mittelschmerz, endometriosis, seminal vesiculitis
- Renal: renal and ureteral calculi, neoplasms, pyelonephritis
- Vascular: leaking aortic aneurysm
- Psoas abscess
- Trauma
- Cholecystitis

### Abdominal Pain, Right Upper Quadrant

- Biliary: calculi, infection, inflammation, neoplasm
- Hepatic: hepatitis, abscess, hepatic congestion, neoplasm, trauma
- Gastric: peptic ulcer disease (PUD), pyloric stenosis, neoplasm, alcoholic gastritis, hiatal hernia
- Pancreatic: pancreatitis, neoplasm, stone in pancreatic duct or ampulla
- Renal: calculi, infection, inflammation, neoplasm, rupture of kidney
- Pulmonary: pneumonia, pulmonary infarction, right-sided pleurisy
- Intestinal: retrocecal appendicitis, intestinal obstruction, high fecal impaction, diverticulitis
- Cardiac: myocardial ischemia (particularly involving the inferior wall), pericarditis
- Cutaneous: herpes zoster
- Trauma
- Fitz-Hugh–Curtis syndrome (perihepatitis)
Abdominal Pain, Suprapubic

- Intestinal: colon obstruction or gangrene, diverticulitis, appendicitis
- Reproductive system: ectopic pregnancy, mittelschmerz, torsion of ovarian cyst, pelvic inflammatory disease (PID), salpingitis, endometriosis, rupture of endometrioma
- Cystitis, rupture of urinary bladder

Abdominal Wall Masses

LUMPS ARISING IN THE SKIN AND SUBCUTANEOUS FAT (THAT COULD OCCUR ANYWHERE ON THE BODY)
- Lipoma
- Sebaceous cyst

LUMPS ARISING IN THE SKIN AND SUBCUTANEOUS FAT (SPECIFIC TO THE ANTERIOR ABDOMINAL WALL)
- Tumor nodule of the umbilicus (secondary to intraperitoneal malignant neoplasm, also called Sister Mary Joseph nodule)

LUMPS ARISING IN THE FASCIA AND MUSCLE
- Rectus sheath hematoma (usually painful)
- Desmoid tumor (associated with Gardner’s syndrome)

HERNIA
- Incisional: It has an overlying scar. The sac may be very much larger than the neck of the hernia.
- Umbilical: The hernia is through the umbilical scar. Those presenting at birth commonly resolve in the first years of life.
- Paraumbilical: The neck is just lateral to the umbilical scar. Patients usually present later in life.
- Epigastric: It occurs in the midline between the xiphoid process and the umbilicus. They are usually small (<2 cm). They result when a knuckle of extraperitoneal fat extrudes through a small defect in the linea alba. Commonly irreducible and without an expansile cough impulse.
- Spigelian: A rare hernia found along the linea semilunaris at the lateral edge of the rectus sheath, most commonly a third of the way between the umbilicus and the pubis.
DIVARICATION OF THE RECTI
• Supraumbilical elliptical swelling of attenuated linea alba (no cough impulse)

Abortion, Recurrent
• Congenital anatomic abnormalities
• Adhesions (uterine synechiae)
• Uterine fibroids
• Endometriosis
• Endocrine abnormalities (luteal phase insufficiency, hypothyroidism, uncontrolled diabetes mellitus [DM])
• Parental chromosome abnormalities
• Maternal infections (cervical *Mycoplasma, Ureaplasma, Chlamydia* infection)
• Diethylstilbestrol (DES) exposure, heavy metal exposure
• Thrombocytosis
• Allogenic immunity, autoimmunity, lupus anticoagulant

Abruptio Placentae
• Placenta previa
• Cervical or vaginal trauma
• Labor
• Cervical cancer
• Rupture of membranes

Abscess, Brain
• Other parameningeal infections: subdural empyema, epidural abscess, thrombophlebitis of the major dural venous sinuses and cortical veins
• Embolic strokes in patients with bacterial endocarditis
• Mycotic aneurysms with leakage
• Viral encephalitis (usually resulting from herpes simplex)
• Acute hemorrhagic leukoencephalitis
• Parasitic infections: toxoplasmosis, echinococcosis, cysticercosis
• Metastatic or primary brain tumors
• Cerebral infarction
• Central nervous system (CNS) vasculitis
• Chronic subdural hematoma

Abscess, Breast

• Sebaceous cyst with infection
• Inflammatory carcinoma
• Advanced carcinoma with erythema, edema, or ulceration
• Hidradenitis of breast skin
• Tuberculous abscess (rare)

Abscess, Liver

• Cholangitis
• Cholecystitis
• Diverticulitis
• Appendicitis
• Perforated viscus
• Mesentery ischemia
• Pulmonary embolism
• Pancreatitis

Abscess, Lung

• Bacterial (anaerobic, aerobic, infected bulla, empyema, actinomycosis, tuberculosis)
• Fungal (histoplasmosis, coccidioidomycosis, blastomycosis, aspergillosis, cryptococcosis)
• Parasitic (amebiasis, echinococcosis)
• Malignant neoplasm (primary lung carcinoma, metastatic lung disease, lymphoma, Hodgkin’s disease)
• Wegener’s granulomatosis, sarcoidosis, endocarditis, septic pulmonary emboli

Abscess, Pelvic

• Pelvic neoplasms, such as ovarian tumors and leiomyomas
• Inflammatory masses involving adjacent bowel or omentum, such as ruptured appendicitis or diverticulitis
• Pelvic hematomas, as may occur after cesarean section or hysterectomy

Abscess, Perirectal

• Pilonidal disease
• Crohn’s disease (inflammatory bowel disease [IBD])
• Hidradenitis suppurativa
• Tuberculosis or actinomycosis; Chagas’ disease
• Cancerous lesions
• Chronic anal fistula
• Rectovaginal fistula
• Proctitis—often STD associated—including syphilis, gonococcal, chlamydial, chancroid, condylomata acuminata
• AIDS associated: Kaposi’s sarcoma, lymphoma, cytomegalovirus (CMV)
• Neutropenic enterocolitis

Abuse, Child

In all categories, accidental injury is the most common entity to be distinguished from abuse. Accidental injuries are most common over bone prominences: forehead, elbows, knees, shins; soft, fleshy areas are more common for inflicted injury: buttocks, thighs, upper arms.

Bruising

• Bleeding disorder (idiopathic thrombocytopenic purpura, hemophilia, leukemia, hemorrhagic disease of the newborn, von Willebrand disease)
• Connective tissue disorder (Ehlers-Danlos syndrome, vasculitis)
• Pigments (mongolian spots)
• Dermatitis (phytophotodermatitis, nickel allergy)
• Folk treatment (coining, cupping)

Burns

• Chemical burn
• Impetigo
• Folk treatment (moxibustion)
• Dermatitis (phytophotodermatitis)
INTRACRANIAL HEMORRHAGE
- Bleeding disorder
- Perinatal trauma (should resolve by 4 wk)
- Arteriovenous malformation rupture
- Glutaric aciduria

FRACTURES
- Osteogenesis imperfecta
- Rickets
- Congenital syphilis
- Very low birth weight (osteopenia of prematurity)

SEXUAL ABUSE
- Normal variants
- Lichen sclerosus et atrophicus
- Congenital abnormalities
- Urethral prolapse
- Hemangioma
- Non–sexually acquired infection (group A streptococcus, Shigella)

Abuse, Elder
- Advancing dementia
- Depression or other psychiatric disorder
- Malnutrition from intrinsic causes
- Conscious nonadherence
- Financial hardship
- Falling

Acanthosis Nigricans
- Seborrheic keratosis
- Hyperpigmented nevus (Becker’s nevus), linear epidermal nevus
- Pemphigus vegetans
- Lichen simplex chronicus
- Confluent and reticulated papillomatosis

Achalasia
- Angina
- Bulimia
• Anorexia nervosa
• Gastritis
• Peptic ulcer disease
• Postvagotomy dysmotility
• Esophageal disease: gastroesophageal reflux disease (GERD), sarcoidosis, amyloidosis, esophageal stricture, esophageal webs and rings, scleroderma, Barrett’s esophagus, Chagas’ disease, esophagitis
• Diffuse esophageal spasm
• Malignant neoplasm: esophageal cancer, infiltrating gastric cancer, lung cancer, lymphoma
• Gastric bezoar

Achilles Tendon Rupture
• Incomplete (partial) tendo Achillis rupture
• Partial rupture of gastrocnemius muscle, often medial head (previously thought to be “plantaris tendon rupture”)

Aches and Pains, Diffuse
• Postviral arthralgias/myalgias
• Bilateral soft tissue rheumatism
• Overuse syndromes
• Fibrositis
• Hypothyroidism
• Metabolic bone disease
• Paraneoplastic syndrome
• Myopathy (polymyositis, dermatomyositis)
• Rheumatoid arthritis (RA)
• Sjögren’s syndrome
• Polymyalgia rheumatica
• Hypermobility
• Benign arthralgias/myalgias
• Chronic fatigue syndrome
• Hypophosphatemia
Acidosis, Lactic

TISSUE HYPOXIA
- Shock (hypovolemic, cardiogenic, endotoxic)
- Respiratory failure (asphyxia)
- Severe congestive heart failure (CHF)
- Severe anemia
- Carbon monoxide (CO) or cyanide poisoning

ASSOCIATED WITH SYSTEMIC DISORDERS
- Neoplastic diseases (e.g., leukemia, lymphoma)
- Liver or renal failure
- Sepsis
- Diabetes mellitus (DM)
- Seizure activity
- Abnormal intestinal flora
- Alkalosis
- HIV infection

SECONDARY TO DRUGS OR TOXINS
- Salicylates
- Ethanol, methanol, ethylene glycol
- Fructose or sorbitol
- Biguanides (phenformin, metformin [usually occurring in patients with renal insufficiency])
- Isoniazid
- Streptozocin
- Nucleoside reverse transcriptase inhibitors (e.g., zidovudine, didanosine, stavudine)

HEREDITARY DISORDERS
- Glucose-6-phosphate dehydrogenase (G6PD) deficiency and others

Acidosis, Metabolic

METABOLIC ACIDOSIS WITH INCREASED ANION GAP (ANION GAP ACIDOSIS)
- Lactic acidosis
- Ketoacidosis (diabetes mellitus [DM], alcoholic ketoacidosis)
• Uremia (chronic renal failure)
• Ingestion of toxins (paraldehyde, methanol, salicylate, ethylene glycol)
• High-fat diet (mild acidosis)

**METABOLIC ACIDOSIS WITH NORMAL ANION GAP (HYPERCHLOREMIC ACIDOSIS)**

• Renal tubular acidosis (including acidosis of aldosterone deficiency)
• Intestinal loss of HCO₃⁻ (diarrhea, pancreatic fistula)
• Carbonic anhydrase inhibitors (e.g., acetazolamide)
• Dilutional acidosis (as a result of rapid infusion of bicarbonate-free isotonic saline)
• Ingestion of exogenous acids (ammonium chloride, methionine, cystine, calcium chloride)
• Ileostomy
• Ureterosigmoidostomy
• Drugs: amiloride, triamterene, spironolactone, β-blockers

**Acidosis, Respiratory**

• Pulmonary disease (chronic obstructive pulmonary disease [COPD], severe pneumonia, pulmonary edema, interstitial fibrosis)
• Airway obstruction (foreign body, severe bronchospasm, laryngospasm)
• Thoracic cage disorders (pneumothorax, flail chest, kyphoscoliosis)
• Defects in muscles of respiration (myasthenia gravis, hypokalemia, muscular dystrophy)
• Defects in peripheral nervous system (amyotrophic lateral sclerosis, poliomyelitis, Guillain-Barré syndrome, botulism, tetanus, organophosphate poisoning, spinal cord injury)
• Depression of respiratory center (anesthesia, narcotics, sedatives, vertebral artery embolism or thrombosis, increased intracranial pressure)
• Failure of mechanical ventilator
Acne Keloidalis

- Folliculitis
- Simple ingrowing hairs (pili incarnati)
- Nevus sebaceus
- Traumatic causes of keloid
- Acne vulgaris
- Pseudofolliculitis
- Pediculosis capitis

Acne Vulgaris

- Gram-negative folliculitis
- Staphylococcal pyoderma
- Acne rosacea
- Drug eruption
- Sebaceous hyperplasia
- Angiofibromas, basal cell carcinomas, osteoma cutis
- Occupational exposures to oils or grease
- Steroid acne
- Flat warts

Acoustic Neuroma

- Benign positional vertigo
- Meniere’s disease
- Trigeminal neuralgia
- Cerebellar disease
- Normal-pressure hydrocephalus
- Presbycusis
- Glomus tumors
- Vertebrobasilar insufficiency
- Ototoxicity from medications
- Other tumors: meningioma, glioma, facial nerve schwannoma, cavernous hemangioma, metastatic tumors

Acquired Immunodeficiency Syndrome (AIDS)

- Other wasting illnesses mimicking the nonspecific features of AIDS
ACTINOMYCOSIS

- TB
- Neoplasms
- Disseminated fungal infection
- Malabsorption syndromes
- Depression
- Other disorders associated with dementia or demyelination producing encephalopathy, myelopathy, or neuropathy

**Acrochordon**

- Wart
- Seborrheic keratosis
- Melanocytic nevus
- Dermatosis papulosa nigra
- Neurofibroma
- Melanoma

**Acromegaly**

- Pituitary neoplasm
- Ectopic production of growth hormone–releasing hormone (GHRH) from carcinoid, other neuroendocrine tumor

**Actinic Keratosis**

- Heavily pigmented variants may be clinically mistaken for lentigo maligna.
- Basal cell or squamous cell carcinoma
- Seborrheic keratosis
- Eczema
- Bowen’s disease (intraepithelial carcinoma)
- Wart
- Lichenoid keratosis
- Cutaneous lupus

**Actinomycosis**

- Nocardiosi
- Botryomycosis
- Chromomycosis
• Intestinal tuberculosis
• Ameboma
• Crohn’s disease
• Colon cancer
• Other causes of acute, subacute, or chronic infections of the lung, abdomen, hepatic, gastrointestinal (GI), genitourinary (GU), musculoskeletal, and CNS systems

Acute Bronchitis

• Pneumonia
• Asthma
• Sinusitis
• Bronchiolitis
• Aspiration
• Cystic fibrosis
• Pharyngitis
• Cough secondary to medications
• Neoplasm (elderly patients)
• Influenza
• Allergic aspergillosis
• Gastroesophageal reflux disease (GERD)
• Congestive heart failure (CHF) (in elderly patients)
• Bronchogenic neoplasm

Acute Respiratory Distress Syndrome (ARDS)

• Cardiogenic pulmonary edema
• Viral pneumonitis
• Lymphangitic carcinomatosis

Acute Scrotum

• Testicular torsion
• Epididymitis
• Testicular neoplasm
• Orchitis
• Other: referred pain, hernia, urolithiasis
Addison’s Disease (Primary Adrenocortical Insufficiency)

- Sepsis
- Hypovolemic shock
- Acute abdomen
- Apathetic hyperthyroidism in the elderly
- Myopathies
- GI malignant neoplasm
- Major depression
- Anorexia nervosa
- Hemochromatosis
- Salt-losing nephritis
- Chronic infection

Adnexal Mass

- Ovary (neoplasm, endometriosis, functional cyst)
- Fallopian tube (ectopic pregnancy, neoplasm, tubo-ovarian abscess, hydrosalpinx, paratubal cyst)
- Uterus (fibroid, neoplasm)
- Retroperitoneum (neoplasm, abdominal wall hematoma or abscess)
- Urinary tract (pelvic kidney, distended bladder, urachal cyst)
- Inflammatory bowel disease (IBD)
- GI tract neoplasm
- Diverticular disease
- Appendicitis
- Bowel loop with feces

Adrenal Masses

UNILATERAL ADRENAL MASS

- Functional lesions: adrenal adenoma; adrenal carcinoma; pheochromocytoma; primary aldosteronism, adenomatous type
- Nonfunctional lesions: incidentaloma of adrenal, ganglieneuroma, myelolipoma, hematoma, adenolipoma, metastasis
ADYNAMIC ILEUS

BILATERAL ADRENAL MASS

- Functional lesions: adrenocorticotropic hormone (ACTH)–dependent Cushing’s syndrome; congenital adrenal hyperplasia; pheochromocytoma; Conn’s syndrome, hyperplastic variety; micronodular adrenal disease; idiopathic bilateral adrenal hypertrophy
- Nonfunctional lesions: infection (tuberculosis, fungi), infiltration (leukemia, lymphoma), replacement (amyloidosis), hemorrhage, bilateral metastases

Adynamic Ileus

- Abdominal trauma
- Infection (retroperitoneal, pelvic, intrathoracic)
- Laparotomy
- Metabolic disease (hypokalemia)
- Renal colic
- Skeletal injury (rib fracture, vertebral fracture)
- Medications (e.g., narcotics)

Aerophagia (Belching, Eructation)

- Anxiety disorders
- Rapid food ingestion
- Carbonated beverages
- Nursing infants (especially when nursing in horizontal position)
- Eating or drinking in supine position
- Gum chewing
- Poorly fitting dentures, orthodontic appliances
- Hiatal hernia, gastritis, nonulcer dyspepsia
- Cholelithiasis, cholecystitis
- Ingestion of legumes, onions, peppers

Agoraphobia

- Medical conditions: arrhythmias, hyperthyroidism, hyperparathyroidism, seizure disorders, respiratory diseases, pheochromocytoma
• Therapeutic (theophylline, steroids) and recreational (cocaine, amphetamine, caffeine) drugs and drug withdrawal (alcohol, barbiturates, benzodiazepines)
• Phobias (e.g., specific phobia or social phobia)
• Obsessive-compulsive disorder (cued by exposure to the object of the obsession)
• Post-traumatic stress disorder (cued by recall of a stressor)

Airway Obstruction, Pediatric Age

CONGENITAL CAUSES
• Craniofacial dysmorphism
• Hemangioma
• Laryngeal cleft/web
• Laryngoceles, cysts
• Laryngomalacia
• Macroglossia
• Tracheal stenosis
• Vascular ring
• Vocal cord paralysis

ACQUIRED INFECTIOUS CAUSES
• Acute laryngotraacheobronchitis
• Diphtheria
• Epiglottitis
• Laryngeal papillomatosis
• Membranous croup (bacterial tracheitis)
• Mononucleosis
• Retropharyngeal abscess
• Spasmodic croup

ACQUIRED NONINFECTIOUS CAUSES
• Anaphylaxis
• Angioneurotic edema
• Foreign body aspiration
• Supraglottic hypotonia
• Thermal/chemical burn
• Trauma
• Vocal cord paralysis
Akinetic/Rigid Syndrome¹

- Parkinsonism (idiopathic, drug induced)
- Catatonia (psychosis)
- Progressive supranuclear palsy
- Multisystem atrophy (Shy-Drager syndrome, olivopontocerebellar atrophy)
- Diffuse Lewy body disease
- Toxins (MPTP, manganese, carbon monoxide [CO])
- Huntington’s disease and other hereditary neurodegenerative disorders

Aldosteronism, Primary

- Diuretic use
- Hypokalemia from vomiting, diarrhea
- Renovascular hypertension
- Other endocrine neoplasm (pheochromocytoma, deoxycorticosterone-producing tumor, renin-secreting tumor)

Alkalosis, Metabolic

**CHLORIDE RESPONSIVE**

- Vomiting
- Nasogastric (NG) suction
- Diuretics
- Post hypercapnic alkalosis
- Stool losses (laxative abuse, cystic fibrosis, villous adenoma)
- Massive blood transfusion
- Exogenous alkali administration

**CHLORIDE RESISTANT**

- Hyperadrenocorticotoid states (Cushing’s syndrome, primary hyperaldosteronism, secondary mineralocorticoidism [licorice, chewing tobacco])
- Hypomagnesemia
- Hypokalemia
- Bartter’s syndrome
**Alkalosis, Respiratory**

- Hypoxemia (pneumonia, pulmonary embolism, atelectasis, high-altitude living)
- Drugs (salicylates, xanthines, progesterone, epinephrine, thyroxine, nicotine)
- CNS disorders (tumor, cerebrovascular accident [CVA], trauma, infections)
- Psychogenic hyperventilation (anxiety, hysteria)
- Hepatic encephalopathy
- Gram-negative sepsis
- Hyponatremia
- Sudden recovery from metabolic acidosis
- Assisted ventilation

**Alopecia**

**SCARRING ALOPECIA**
- Congenital (aplasia cutis)
- Tinea capitis with inflammation (kerion)
- Bacterial folliculitis
- Discoid lupus erythematosus
- Lichen planopilaris
- Folliculitis decalvans
- Neoplasm
- Trauma

**NONSCARRING ALOPECIA**
- Cosmetic treatment
- Tinea capitis
- Structural hair shaft disease
- Trichotillomania (hair pulling)
- Anagen arrest
- Telogen arrest
- Alopecia areata
- Androgenic alopecia

**Alopecia, Androgenic**

- Iron deficiency
- Malnutrition
ALOPECIA AREATA

- Hypothyroidism
- Telogen effluvium
- Trichotillomania
- Traction alopecia
- Alopecia areata
- Anagen effluvium
- Tinea capitis

Alopecia Areata

- Androgenic alopecia
- Trichotillomania
- Secondary syphilis
- Telogen effluvium
- Tinea capitis

Altitude Sickness

- Dehydration
- Carbon monoxide (CO) poisoning
- Hypothermia
- Infection
- Substance abuse
- Congestive heart failure (CHF)
- Pulmonary embolism
- Cerebrovascular accident

Alveolar Consolidation

- Infection
- Neoplasm (bronchoalveolar carcinoma, lymphoma)
- Aspiration
- Trauma
- Hemorrhage (Wegener’s granulomatosis, Goodpasture’s syndrome, bleeding diathesis)
- Acute respiratory distress syndrome (ARDS)
- Congestive heart failure (CHF)
- Renal failure
- Eosinophilic pneumonia
• Bronchiolitis obliterans
• Pulmonary alveolar proteinosis

**Alveolar Hemorrhage**

- Hematologic disorders (coagulopathies, thrombocytopenia)
- Goodpasture’s syndrome (anti–basement membrane antibody disease)
- Wegener’s vasculitis
- Immune complex–mediated vasculitis
- Idiopathic pulmonary hemosiderosis
- Drugs (penicillamine)
- Lymphangiographic contrast medium
- Mitral stenosis

**Alzheimer’s Disease (AD)**

- Normal aging memory loss
- Multi-infarct dementia
- Depression
- Cancer (brain tumor, meningeal neoplasia)
- Infection (AIDS, neurosyphilis, progressive multifocal leukoencephalopathy [PML])
- Metabolic (alcohol, hypothyroidism, vitamin B₁₂ deficiency)
- Organ failure (dialysis dementia, Wilson’s disease)
- Vascular disorder (chronic subdural hematoma [SDH])
- Normal-pressure hydrocephalus
- Lewy body dementia, Pick’s disease, Creutzfeldt-Jakob disease, Huntington’s dementia

**Amaurosis Fugax**

- Retinal migraine: In contrast to amaurosis, the onset of visual loss develops more slowly, usually during a period of 15 to 20 minutes.
- Transient visual obscurations (TVOs) occur in the setting of papilledema; intermittent rises in intracranial pressure briefly compromise optic disc perfusion and cause transient visual loss lasting 1 to 2 seconds, and the episodes may be binocular.
If the visual loss persists at the time of evaluation (i.e., vision has not yet recovered), the differential diagnosis should be broadened to include

- Anterior ischemic optic neuropathy—arteritic (classically giant cell arteritis [GCA]) or nonarteritic
- Central retinal vein occlusion

### Amblyopia

- CNS disease (brainstem)
- Optic nerve disorders
- Corneal or other eye diseases

### Amebiasis

- Ulcerative colitis
- Infectious enterocolitis syndromes, such as those caused by *Shigella, Salmonella, Campylobacter*, or invasive *Escherichia coli*
- Ischemic bowel in elderly patients

### Amenorrhea

- Pregnancy
- Early menopause
- Hypothalamic dysfunction: defective synthesis or release of luteinizing hormone–releasing hormone (LH-RH), anorexia nervosa, stress, exercise
- Pituitary dysfunction: neoplasm, postpartum hemorrhage, surgery, radiotherapy
- Ovarian dysfunction: gonadal dysgenesis, 17α-hydroxylase deficiency, premature ovarian failure, polycystic ovarian disease, gonadal stromal tumors
- Uterovaginal abnormalities
  - Congenital: imperforate hymen, imperforate cervix, imperforate or absent vagina, müllerian agenesis
  - Acquired: destruction of endometrium with curettage (Asherman’s syndrome), closure of cervix or vagina caused by traumatic injury, hysterectomy
Amyotrophic Lateral Sclerosis (ALS)

- Other: metabolic diseases (liver, kidney), malnutrition, rapid weight loss, exogenous obesity, endocrine abnormalities (Cushing’s syndrome, Graves’ disease, hypothyroidism)

Amnesia

- Degenerative diseases (e.g., Alzheimer’s disease, Huntington’s disease)
- Cerebrovascular accident (CVA) (especially when involving thalamus, basal forebrain, and hippocampus)
- Head trauma
- Postsurgical (e.g., mammillary body surgery, bilateral temporal lobectomy)
- Infections (herpes simplex encephalitis, meningitis)
- Wernicke-Korsakoff syndrome
- Cerebral hypoxia
- Hypoglycemia
- CNS neoplasms
- Creutzfeldt-Jakob disease
- Medications (e.g., midazolam and other benzodiazepines)
- Psychosis
- Malingering

Amyloidosis

Differential variable, depending on the organ involvement
- Renal involvement (toxin- or drug-induced necrosis, glomerulonephritis, renal vein thrombosis)
- Interstitial lung disease (sarcoidosis, connective tissue disease, infectious etiologies)
- Restrictive cardiac (endomyocardial fibrosis, viral myocarditis)
- Carpal tunnel (rheumatoid arthritis, hypothyroidism, overuse)
- Mental status changes (multi-infarct dementia)
- Peripheral neuropathy (alcohol abuse, vitamin deficiencies, diabetes mellitus [DM])

Amyotrophic Lateral Sclerosis (ALS)

- Multifocal motor neuropathy (MMN) with conduction block
- Cervical spondylotic myelopathy with polyradiculopathy
• Spinal stenosis with compression of lumbosacral nerve roots
• Chronic inflammatory demyelinating polyneuropathy with CNS lesions
• Syringomyelia
• Syringobulbia
• Foramen magnum tumor
• Spinal muscular atrophy
• Late-onset hexosaminidase A deficiency
• Polyglucosan body disease
• Bulbospinal muscular atrophy (Kennedy’s disease)
• Monomelic amyotrophy
• ALS-like syndromes have been reported in the setting of lead intoxication, HIV infection, hyperparathyroidism, hyperthyroidism, lymphoma, and vitamin B_{12} deficiency

**Anaerobic Infections**

• Primary differential possibility is an aerobic bacterial infection without the presence of anaerobic bacteria.
• Ischemic necrosis without accompanying anaerobic infection (or “dry” gangrene [noninfected necrosis] vs. “wet” gangrene [infected tissue with anaerobic infection])

**Anal Abscess and Fistula**

• Primary anal gland infection
• Secondary abscess
  • Inflammatory bowel disease (IBD)
  • Crohn’s disease—ulcerative colitis
  • Infection
  • Tuberculosis
  • Actinomycosis
  • Threadworm
  • Trauma
  • Leukopenia
  • Immunosuppression
  • HIV infection
  • Drugs
  • Rectal cancer
  • Diabetes mellitus (DM)
**Anal Fissure**

- Proctalgia fugax
- Thrombosed hemorrhoid

**Anal Fistula**

- Hidradenitis suppurativa
- Pilonidal sinus
- Bartholin’s gland abscess or sinus
- Infected perianal sebaceous cysts

**Anal Incontinence**

- Traumatic: nerve injured in surgery, spinal cord injury, obstetric trauma, sphincter injury
- Neurologic: spinal cord lesions, dementia, autonomic neuropathy (e.g., diabetes mellitus [DM])
- Obstetrics: pudendal nerve stretched during surgery, Hirschsprung’s disease
- Mass effect: carcinoma of anal canal, carcinoma of rectum, foreign body, fecal impaction, hemorrhoids
- Medical: procidentia, inflammatory disease, diarrhea, laxative abuse
- Pediatric: congenital, meningocele, myelomeningocele, spina bifida, after corrective surgery for imperforate anus, sexual abuse, encopresis

**Anaphylaxis**

- Pulmonary: laryngeal edema, epiglottitis, foreign body aspiration, pulmonary embolus, asphyxiation, hyperventilation
- Cardiovascular: myocardial infarction, arrhythmia, hypovolemic shock, cardiac arrest
- CNS: vasovagal reaction, cerebrovascular accident (CVA), seizure disorder, drug overdose
- Endocrine: hypoglycemia, pheochromocytoma, carcinoid syndrome, catamenial (progesterone-induced anaphylaxis)
- Psychiatric: vocal cord dysfunction syndrome, Munchausen’s disease, panic attack/globus hystericus
• Other: hereditary angioedema, cord urticaria, idiopathic urticaria, mastocytosis, serum sickness, idiopathic capillary leak syndrome, sulfite exposure, scombroid poisoning (tuna, bluefish, mackerel)

### Androgen Excess, Reproductive-Age Woman

- Polycystic ovary syndrome
- Idiopathic
- Medications (e.g., anabolizing agents, testosterone, danazol)
- Pregnancy (luteoma, hyperreactio luteinalis)
- Sertoli-Leydig ovarian neoplasm
- Adrenal adenoma or hyperplasia
- Cushing’s syndrome
- Glucocorticoid resistance
- Hypothyroidism
- Hyperprolactinemia

### Anemia, Aplastic

- Bone marrow infiltration from lymphoma, carcinoma, myelofibrosis
- Severe infection
- Hypoplastic acute lymphoblastic leukemia in children
- Hypoplastic myelodysplastic syndrome or hypoplastic acute myeloid leukemia in adults
- Hypersplenism
- Hairy cell leukemia

### Anemia, Autoimmune, Hemolytic

- Hemolytic anemia caused by membrane defects: paroxysmal nocturnal hemoglobinuria, spur cell anemia, Wilson’s disease
- Nonimmune mediated: microangiopathic hemolytic anemia, hypersplenism, cardiac valve prosthesis, giant cavernous hemangiomas, march hemoglobinuria, physical agents, infections, heavy metals, drugs (nitrofurantoin, sulfonamides)
Anemia, Drug Induced

- Drugs that may interfere with red cell production by inducing marrow suppression or aplasia: alcohol, antineoplastic drugs, antithyroid drugs, antibiotics, oral hypoglycemic agents, phenylbutazone, azidothymidine (AZT)
- Drugs that interfere with vitamin B₁₂, folate, or iron absorption or utilization: nitrous oxide, anticonvulsant drugs, antineoplastic drugs, isoniazid, cycloserine
- Drugs capable of promoting hemolysis: immune mediated, penicillins, quinine, methyldopa, procainamide, mitomycin C, oxidative stress, antimalarials, sulfonamide drugs, nalidixic acid
- Drugs that may produce or promote blood loss: aspirin, alcohol, nonsteroidal anti-inflammatory agents, corticosteroids, anticoagulants

Anemia, Hypochromic

- Decreased body iron stores
  - Iron deficiency anemia
- Normal or increased body iron stores
  - Impaired iron metabolism
  - Anemia of chronic disease
  - Defective absorption, transport, or use of iron
  - Disorders of globin synthesis
  - Thalassemia
  - Other microcytic hemoglobinopathies
  - Disorders of heme synthesis: sideroblastic anemias
  - Hereditary
  - Acquired

Anemia, Iron Deficiency

- Anemia of chronic disease
- Sideroblastic anemia
- Thalassemia trait
- Lead poisoning
Anemia, Low Reticulocyte Count

- Microcytic anemia (mean corpuscular volume [MCV] < 80): iron deficiency, thalassemia minor, sideroblastic anemia, lead poisoning
- Macrocytic anemia (MCV > 100): megaloblastic anemias, folate deficiency, vitamin B₁₂ deficiency, drug-induced megaloblastic anemia, nonmegaloblastic macrocytosis, liver disease, hypothyroidism
- Normocytic anemia (MCV 80–100): early iron deficiency, aplastic anemia, myelophthisic disorders, endocrinopathies, anemia of chronic disease, uremia, mixed nutritional deficiency

Anemia, Megaloblastic

COBALAMIN (Cbl) DEFICIENCY

- Nutritional Cbl deficiency (insufficient Cbl intake): vegetarians, vegans, breast-fed infants of mothers with pernicious anemia
- Abnormal intragastric events (inadequate proteolysis of food Cbl): atrophic gastritis, partial gastrectomy with hypochlorhydria
- Loss or atrophy of gastric oxyntic mucosa (deficient intrinsic factor [IF] molecules): total or partial gastrectomy, pernicious anemia, caustic destruction (lye)
- Abnormal events in small bowel lumen: inadequate pancreatic protease (R-Cbl not degraded, Cbl not transferred to IF)
  - Insufficiency of pancreatic protease: pancreatic insufficiency
  - Inactivation of pancreatic protease: Zollinger-Ellison syndrome
  - Usurping of luminal Cbl (inadequate Cbl binding to IF)
  - By bacteria; stasis syndromes (blind loops, pouches of diverticulosis, strictures, fistulas, anastomoses); impaired bowel motility (scleroderma, pseudo-obstruction); hypogammaglobulinemia
  - By *Diphyllobothrium latum*
- Disorders of ileal mucosa/IF receptors (IF-Cbl not bound to IF receptors)
  - Diminished or absent IF receptors: ileal bypass, resection, or fistula
  - Abnormal mucosal architecture/function: tropical or nontropical sprue, Crohn’s disease, TB ileitis, infiltration by lymphomas, amyloidosis
• IF/post IF receptor defects: Imerslund-Graesbeck syndrome, transcobalamin (TC) II deficiency
• Drug-induced effects (Slow-K, biguanides, cholestyramine, colchicine, neomycin, p-aminosalicylic acid [PAS])
• Disorders of plasma Cbl transport (TC II–Cbl not delivered to TC II receptors)
  • Congenital TC II deficiency, defective binding of TC II–Cbl to TC II receptors (rare)
• Metabolic disorders (Cbl not used by cell)
• Inborn enzyme errors (rare)
• Acquired disorders: N₂O inhalation

FOLATE DEFICIENCY

Nutritional Causes
• Decreased dietary intake: poverty and famine (associated with kwashiorkor, marasmus), institutionalized individuals (psychiatric/nursing homes), chronic debilitating disease/goat’s milk (low in folate), special diets (slimming), cultural/ethnic cooking techniques (food folate destroyed) or habits (folate-rich foods not consumed)

Decreased Diet and Increased Requirements
• Physiologic: pregnancy and lactation, prematurity, infancy
• Pathologic: intrinsic hematologic disease (autoimmune hemolytic disease), drugs, malaria; hemoglobinopathies (Sjögren’s syndrome, thalassemia), red blood cell (RBC) membrane defects (hereditary spherocytosis, paroxysmal nocturnal hemoglobinopathy); abnormal hematopoiesis (leukemia/lymphoma, myelodysplastic syndrome, agnogenic myeloid metaplasia with myelofibrosis); infiltration with malignant disease; dermatologic (psoriasis)

Folate Malabsorption
• With normal intestinal mucosa
  • Some drugs (controversial)
  • Congenital folate malabsorption (rare)
• With mucosal abnormalities: tropical and nontropical sprue, regional enteritis
• Defective cellular folate uptake: familial aplastic anemia (rare)
• Inadequate cellular utilization: folate antagonists (methotrexate), hereditary enzyme deficiencies involving folate
ANEMIA, PERNICIOUS

- Drugs (multiple effects on folate metabolism): alcohol, sulfasalazine, triamterene, pyrimethamine, trimethoprim-sulfamethoxazole, diphenylhydantoin, barbiturates

MISCELLANEOUS MEGALOBLASTIC ANEMIAS
(NOT CAUSED BY Cbl OR FOLATE DEFICIENCY)
- Congenital disorders of DNA synthesis (rare): orotic aciduria, Lesch-Nyhan syndrome, congenital dyserythropoietic anemia
- Acquired disorders of DNA synthesis: thiamine-responsive megaloblastosis (rare); malignant neoplasia, erythroleukemia, refractory sideroblastic anemias; all antineoplastic drugs that inhibit DNA synthesis; toxic alcohol

Anemia, Pernicious

- Nutritional vitamin B₁₂ deficiency
- Malabsorption
- Chronic alcoholism (multifactorial)
- Chronic gastritis related to *Helicobacter pylori* infection
- Folic acid deficiency
- Myelodysplasia

Anemia, Sideroblastic

- Iron deficiency anemia
- Thalassemia
- Anemia of chronic disease
- Lead poisoning
- Blood loss

Anergy, Cutaneous

- Immunologic
  - Acquired (AIDS, acute leukemia, carcinoma, chronic lymphocytic leukemia [CLL], Hodgkin’s lymphoma, non-Hodgkin’s lymphoma)
  - Congenital (ataxia-telangiectasia, DiGeorge syndrome, severe combined immunodeficiency, Wiskott-Aldrich syndrome)
- Infections: bacterial (bacterial pneumonia, brucellosis), disseminated mycotic infections, mycobacterial (lepromatous
leprosy, TB), viral (varicella, hepatitis, influenza, mononucleosis, measles, mumps)

- Immunosuppressive medications: systemic corticosteroids, methotrexate, cyclophosphamide, rifampin
- Other: alcoholic cirrhosis, biliary cirrhosis, sarcoidosis, rheumatic disease, diabetes, Crohn’s disease, uremia, anemia, pyridoxine deficiency, sickle cell anemia, burns, malnutrition, pregnancy, old age, surgery

**Aneurysms, Thoracic Aorta**

- Trauma
- Infection
- Inflammatory (syphilis, Takayasu’s disease)
- Collagen-vascular disease (rheumatoid arthritis, ankylosing spondylitis)
- Annuloaortic ectasia (Marfan syndrome, Ehlers-Danlos syndrome)
- Congenital
- Coarctation
- Cystic medial necrosis

**Angina Pectoris**

- Pulmonary diseases: pulmonary hypertension, pulmonary embolism, pleurisy, pneumothorax, pneumonia
- GI disorders: peptic ulcer disease, pancreatitis, esophageal spasm or spontaneous esophageal muscle contraction, esophageal reflux, cholecystitis, cholelithiasis
- Musculoskeletal conditions: costochondritis, chest wall trauma, cervical arthritis with radiculopathy, muscle strain, myositis
- Acute aortic dissection
- Herpes zoster

**Angioedema**

- Cellulitis
- Arthropod bite
- Hypothyroidism
- Contact dermatitis
• Atopic dermatitis
• Mastocytosis
• Granulomatous cheilitis
• Bullous pemphigoid
• Urticaria pigmentosa
• Anaphylaxis
• Erythema multiforme
• Epiglottitis
• Peritonsillar abscess

Angioma (Cherry Angioma)

• Petechiae
• Telangiectasia
• Bacillary angiomatosis
• Melanoma
• Benign pigmented purpura
• Insect bite
• Pyogenic granuloma
• Angiokeratoma

Angular Cheilitis (Perlèche)

• Impetigo
• Contact dermatitis (lip balms, mouthwash, toothpaste)
• Lip smacking dermatitis

Anhidrosis

• Drugs (anticholinergics)
• Dehydration
• Hysteria
• Obstruction of sweat ducts (e.g., inflammation, miliaria)
• Local radiant heat or pressure
• CNS lesions (medulla, hypothalamus, pons)
• Spinal cord lesions
• Lesions of sympathetic nerves
• Congenital sweat gland disturbances
Anion Gap, Decrease

- Hypoalbuminemia
- Severe hypermagnesemia
- IgG myeloma
- Lithium toxicity
- Laboratory error (falsely decreased sodium or overestimation of bicarbonate or chloride)
- Hypercalcemia of parathyroid origin, antibiotics (e.g., polymyxin)

Anion Gap, Increase

- Uremia
- Ketoacidosis (diabetic, starvation, alcoholic)
- Lactic acidosis
- Ethylene glycol poisoning
- Salicylate overdose
- Methanol poisoning

Anisocoria

- Mydriatic or miotic drugs
- Prosthetic eye
- Inflammation (keratitis, iridocyclitis)
- Infections (herpes zoster, syphilis, meningitis, encephalitis, TB, diphtheria, botulism)
- Subdural hemorrhage
- Cavernous sinus thrombosis
- Intracranial neoplasm
- Cerebral aneurysm
- Glaucoma
- CNS degenerative diseases
- Internal carotid ischemia
- Toxic polyneuritis (alcohol, lead)
- Adie’s syndrome
- Horner’s syndrome
- Diabetes mellitus (DM)
- Trauma
- Congenital
### Ankle Fracture

- Ankle sprain
- Avulsion fracture of hindfoot or metatarsal

### Ankle Sprain

- Fracture of the ankle or foot, particularly involving the distal fibular growth plate in the immature patient
- Avulsion fracture of the fifth metatarsal base

### Anorectal Fissure

- Proctalgia fugax
- Thrombosed hemorrhoid
- Anorectal abscess
- Fistula

### Anorexia Nervosa

- Depression with loss of appetite
- Schizophrenia
- Conversion disorder
- Occult carcinoma, lymphoma
- Endocrine disorders: Addison’s disease, diabetes mellitus (DM), hypothyroidism or hyperthyroidism, panhypopituitarism
- GI disorders: celiac disease, Crohn’s disease, intestinal parasitosis
- Infectious disorders: AIDS, TB

### Anovulation

- Anorexia and bulimia
- Strenuous exercise
- Weight loss/malnutrition
- Empty sella syndrome
- Pituitary disorders (infarction, infection, trauma, irradiation, surgery, microadenomas, macroadenomas)
- Idiopathic hypopituitarism
- Drug induced
- Thyroid dysfunction (hypothyroidism, hyperthyroidism)
· Systemic diseases (e.g., liver disease)
· Adrenal hyperfunction (Cushing’s syndrome, congenital adrenal hyperplasia)
· Polycystic ovary syndrome
· Isolated gonadotropin deficiency

**Antiphospholipid Antibody Syndrome (APS)**

· Other hypercoagulable states (inherited or acquired)
· Inherited: ATIII, protein C and S deficiencies, factor V Leiden, prothrombin gene mutation

**Anthrax**

· Inhalation anthrax must be distinguished from influenza-like illness (ILI) and tularemia. Most cases of ILI are associated with nasal congestion and rhinorrhea, which are unusual in inhalation anthrax. An additional distinguishing factor is the usual absence of an abnormal chest radiograph in ILI.
· Cutaneous anthrax should be distinguished from staphylococcal disease, ecthyma, ecthyma gangrenosum, plague, brown recluse spider bite, and tularemia.
· The differential diagnosis of gastrointestinal anthrax includes viral gastroenteritis, shigellosis, and yersiniosis.

**Antinuclear Antibody (ANA) Positive**

· Systemic lupus erythematosus (SLE) (more significant if titer >1:160)
· Drugs (e.g., phenytoin, ethosuximide, primidone, methyldopa, hydralazine, carbamazepine, penicillin, procainamide, chlorpromazine, griseofulvin, thiazides)
· Autoimmune hepatitis
· Age older than 60 years (particularly age older than 80 years)
· Rheumatoid arthritis (RA)
· Scleroderma
· Mixed connective tissue disease
· Necrotizing vasculitis
· Sjögren’s syndrome
Acquired: heparin-induced thrombopathy, myeloproliferative syndromes, cancer, hyperviscosity
- Homocystinemia
- Nephrotic syndrome

**Anxiety**

- Wide range of psychiatric and medical conditions; however, for a diagnosis of generalized anxiety disorder (GAD) to be made, a person must experience anxiety with coexisting physical symptoms the majority of the time continuously for at least 6 months.
- Cardiovascular or pulmonary disease
- Hyperthyroidism
- Parkinson’s disease
- Myasthenia gravis
- Consequence of recreational drug use (e.g., cocaine, amphetamine, and PCP) or withdrawal (e.g., alcohol or benzodiazepines)

**Aortic Dissection**

- Acute myocardial infarction (MI)
- Aortic insufficiency
- Nondissecting aortic aneurysm
- Pulmonary embolism
- Rib fracture
- Esophageal spasm
- Esophagitis
- Cholelithiasis, cholecystitis
- Pancreatitis

**Aortic Stenosis**

- Hypertrophic cardiomyopathy
- Mitral regurgitation
- Ventricular septal defect
- Aortic sclerosis. Aortic stenosis is distinguished from aortic sclerosis by the degree of valve impairment. In aortic sclerosis, the valve leaflets are abnormally thickened, but obstruction to outflow is minimal.
Aphthous Stomatitis (Canker Sores)

WHITE LESIONS

- Leukoedema: filmy opalescent-appearing mucosa, which can be reverted to normal appearance by stretching. This condition is benign.
- Candidiasis
- White sponge nevus: thick, white corrugated folds involving the buccal mucosa; appears in childhood as an autosomal dominant trait; benign condition
- Darier’s disease (keratosis follicularis): white papules on the gingivae, alveolar mucosa, and dorsal tongue; skin lesions also present (erythematous papules); inherited as an autosomal dominant trait
- Chemical injury: white sloughing mucosa
- Nicotine stomatitis: whitened palate with red papules
- Lichen planus: linear, reticular, slightly raised striae on buccal mucosa; skin is involved by pruritic violaceous papules on forearms and inner thighs
- Discoid lupus erythematosus: lesion resembles lichen planus
- Leukoplakia: white lesions that cannot be scraped off; 20% are premalignant epithelial dysplasia or squamous cell carcinoma
- Hairy leukoplakia: shaggy white surface that cannot be wiped off; seen in HIV infection, caused by Epstein-Barr virus

RED LESIONS

- Candidiasis may present with red instead of the more frequent white lesion (see White Lesions). Median rhomboid glossitis is a chronic variant.
- Benign migratory glossitis (geographic tongue): area of atrophic depapillated mucosa surrounded by a keratotic border
- Hemangiomas
- Histoplasmosis: ill-defined irregular patch with a granulomatous surface, sometimes ulcerated
- Allergy
- Anemia: atrophic reddened glossal mucosa seen with pernicious anemia
• Erythroplakia: red patch usually caused by epithelial dysplasia or squamous cell carcinoma
• Burning tongue (glossopyrosis): normal examination; sometimes associated with denture trauma, anemia, diabetes, vitamin $B_{12}$ deficiency, psychogenic problems

DARK LESIONS (BROWN, BLUE, BLACK)
• Coated tongue: accumulation of keratin; harmless condition that can be treated by scraping
• Melanotic lesions: freckles, lentigines, lentigo, melanoma, Peutz-Jeghers syndrome, Addison’s disease
• Varices
• Kaposi’s sarcoma: red or purple macules that enlarge to form tumors; seen in patients with AIDS

RAISED LESIONS
• Papilloma
• Verruca vulgaris
• Condyloma acuminatum
• Fibroma
• Epulis
• Pyogenic granuloma
• Mucocele
• Retention cyst

BLISTERS
• Primary herpetic gingivostomatitis
• Pemphigus and pemphigoid
• Hand-foot-mouth disease: caused by coxsackievirus group A
• Erythema multiforme
• Herpangina: caused by echovirus
• Traumatic ulcer
• Primary syphilis
• Perlèche (angular cheilitis)
• Recurrent aphthous stomatitis (canker sores)
• Behçet’s syndrome (aphthous ulcers, uveitis, genital ulcerations, arthritis, and aseptic meningitis)
• Reiter’s syndrome (conjunctivitis, urethritis, and arthritis with occasional oral ulcerations)
APPETITE LOSS IN INFANTS AND CHILDREN

Appendicitis

- Intestinal: regional cecal enteritis, incarcerated hernia, cecal diverticulitis, intestinal obstruction, perforated ulcer, perforated cecum, Meckel’s diverticulitis
- Reproductive: ectopic pregnancy, ovarian cyst, torsion of ovarian cyst, salpingitis, tubo-ovarian abscess, mittelschmerz, endometriosis, seminal vesiculitis
- Renal: renal and ureteral calculi, neoplasms, pyelonephritis
- Vascular: leaking aortic aneurysm
- Psoas abscess
- Trauma
- Cholecystitis
- Mesenteric adenitis

Appetite Loss in Infants and Children

ORGANIC DISEASE

- Infectious (acute or chronic)
- Neurologic: congenital degenerative disease
- Hypothalamic lesion: increased intracranial pressure (including a brain tumor), swallowing disorders (neuromuscular)
- Gastrointestinal: oral lesions (e.g., thrush or herpes simplex), gastroesophageal reflux, obstruction (especially with gastric or intestinal distention), inflammatory bowel disease (IBD), celiac disease, constipation
- Cardiac: congestive heart failure (CHF) (especially associated with cyanotic lesions)
- Metabolic: renal failure or renal tubular acidosis, liver failure, congenital metabolic disease, lead poisoning
- Nutritional: marasmus, iron deficiency, zinc deficiency
- Fever
- Rheumatoid arthritis (RA)
- Rheumatic fever
- Drugs: morphine, digitalis, antimetabolites, methylphenidate, amphetamines
- Miscellaneous: prolonged restriction of oral feedings, beginning in the neonatal period; systemic lupus erythematosus (SLE); tumor
**Psychological Factors**

- Anxiety, fear, depression, mania (limbic influence on the hypothalamus)
- Avoidance of symptoms associated with meals (abdominal pain, diarrhea, bloating, urgency, dumping syndrome)
- Anorexia nervosa
- Excessive weight loss and food aversion in athletes, simulating anorexia nervosa

**Arterial Occlusion**

- Thromboembolism (post–myocardial infarction, mitral stenosis, rheumatic valve disease, atrial fibrillation, atrial myxoma, marantic endocarditis, bacterial endocarditis, Libman-Sacks endocarditis)
- Atheroembolism (microemboli composed of cholesterol, calcium, and platelets from proximal atherosclerotic plaques)
- Arterial thrombosis (endothelial injury, altered arterial blood flow, trauma, severe atherosclerosis, acute vasculitis)
- Vasospasm
- Trauma
- Hypercoagulable states
- Miscellaneous (irradiation, drugs, infections, necrotizing)

**Arthritis and Abdominal Pain**

- Viral syndrome
- Inflammatory bowel disease (IBD)
- Celiac disease
- Vasculitis
- Systemic lupus erythematosus (SLE)
- Rheumatoid arthritis (RA)
- Scleroderma
- Amyloidosis
- Chronic hepatitis C
- Whipple’s disease
- Polyarteritis nodosa
- Behçet’s disease
- Familial Mediterranean fever
- Blind loop syndrome
Arthritis and Diarrhea

- Viral syndrome
- Inflammatory bowel disease (IBD)
- Celiac disease
- Whipple’s disease
- Enterogenic (bacterial) reactive arthritis
- Collagenous colitis
- Behçet’s disease
- Hyperthyroidism
- Spondyloarthropathy
- Blind loop syndrome

Arthritis and Eye Lesions

- Systemic lupus erythematosus (SLE)
- Sjögren’s syndrome
- Behçet’s syndrome
- Sarcoidosis
- Subacute bacterial endocarditis (SBE)
- Lyme disease
- Wegener’s granulomatosis
- Giant cell arteritis
- Takayasu’s arteritis
- Rheumatoid arthritis (RA), juvenile rheumatoid arthritis (JRA)
- Scleroderma
- Inflammatory bowel disease (IBD)
- Whipple’s disease
- Ankylosing spondylitis
- Reactive arthritis
- Psoriatic arthritis

Arthritis and Heart Murmur

- Subacute bacterial endocarditis (SBE)
- Cardiac myxoma
- Ankylosing spondylitis
- Reactive arthritis
- Acute rheumatic fever
- Rheumatoid arthritis (RA)
• Systemic lupus erythematosus (SLE) with Libman-Sacks endocarditis
• Relapsing polychondritis

**Arthritis and Muscle Weakness**

- Rheumatoid arthritis (RA)
- Ankylosing spondylitis
- Polymyositis
- Dermatomyositis
- Systemic lupus erythematosus (SLE), scleroderma, mixed connective tissue disease
- Sarcoidosis
- HIV infection–associated arthritis
- Whipple’s disease

**Arthritis and Rash**

- Chronic urticaria
- Vasculitic urticaria
- Systemic lupus erythematosus (SLE)
- Dermatomyositis
- Polymyositis
- Psoriatic arthritis
- Reactive arthritis
- Chronic sarcoidosis
- Serum sickness
- Sweet’s syndrome
- Leprosy

**Arthritis and Subcutaneous Nodules**

- Rheumatoid arthritis (RA)
- Gout
- Pseudogout (rare)
- Sarcoidosis
- Light-chain amyloidosis (LA) (primary, multiple myeloma)
- Acute rheumatic fever (ARF)
- Hemochromatosis
• Whipple’s disease
• Multicentric reticulohistiocytosis

**Arthritis and Weight Loss**

• Severe rheumatoid arthritis (RA)
• RA with vasculitis
• Reactive arthritis
• RA or psoriatic arthritis or ankylosing spondylitis with amyloidosis
• Cancer
• Enteropathic arthritis (Crohn’s disease, ulcerative colitis)
• HIV infection
• Whipple’s disease
• Blind loop syndrome
• Scleroderma with intestinal bacterial overgrowth

**Arthritis, Axial Skeleton**

• Rheumatoid arthritis (RA)
• Psoriatic arthritis
• Reiter’s syndrome
• Ankylosing spondylitis
• Juvenile RA
• Degenerative disease of the nucleus pulposus
• Spondylosis deformans
• Diffuse idiopathic skeletal hyperostosis (DISH)
• Alkaptonuria
• Infection

**Arthritis, Fever, and Rash**

• Rubella, parvovirus B19
• Gonococcemia, meningococcemia
• Secondary syphilis, Lyme borreliosis
• Adult acute rheumatic fever, adult Still’s disease, adult Kawasaki’s disease
• Vasculitic urticaria
• Acute sarcoidosis
• Familial Mediterranean fever (FMF)
• Hyperimmunoglobulinemia D and periodic fever syndrome

**Arthritis, Granulomatous**

• Sarcoidosis
• Fungal arthritis
• Metastatic cancer
• Primary or metastatic synovial tumors

**Arthritis, Juvenile, Rheumatoid**

• Infectious causes of fever
• Systemic lupus erythematosus (SLE)
• Rheumatic fever
• Drug reaction
• Serum sickness
• “Viral arthritis”
• Lyme arthritis

**Arthritis, Monarticular and Oligoarticular**

• Septic arthritis (*Staphylococcus aureus, Neisseria gonorrhoeae, meningococci, streptococci, Streptococcus pneumoniae, enteric gram-negative bacilli*)
• Crystalline-induced arthritis (gout, pseudogout; calcium oxalate, hydroxyapatite, and other basic calcium/phosphate crystals)
• Traumatic joint injury
• Hemarthrosis
• Monarticular or oligoarticular flare of an inflammatory polyarticular rheumatic disease (rheumatoid arthritis [RA], psoriatic arthritis, Reiter’s syndrome, systemic lupus erythematosus [SLE])

**Arthritis, Pediatric Age**

**RHEUMATIC DISEASES OF CHILDHOOD**

• Acute rheumatic fever
• Systemic lupus erythematosus (SLE)
• Juvenile ankylosing spondylitis
• Polymyositis and dermatomyositis
• Vasculitis
• Scleroderma
• Psoriatic arthritis
• Mixed connective tissue disease and overlap syndromes
• Kawasaki’s disease
• Behçet’s syndrome
• Familial Mediterranean fever
• Reiter’s syndrome
• Reflex sympathetic dystrophy
• Fibromyalgia (fibrositis)

INFECTION DISEASES
• Bacterial arthritis
• Viral or postviral arthritis
• Fungal arthritis
• Osteomyelitis
• Reactive arthritis

NEOPLASTIC DISEASES
• Leukemia
• Lymphoma
• Neuroblastoma
• Primary bone tumors

NONINFLAMMATORY DISORDERS
• Trauma
• Avascular necrosis syndromes
• Osteochondroses
• Slipped capital femoral epiphysis
• Diskitis
• Patellofemoral dysfunction (chondromalacia patellae)
• Toxic synovitis of the hip
• Overuse syndromes
• Genetic or congenital syndromes

HEMATOLOGIC DISORDERS
• Sickle cell disease
• Hemophilia
• Inflammatory bowel disease (IBD)
MISCELLANEOUS

- Growing pains
- Psychogenic arthralgias (conversion reactions)
- Hypermobility syndrome
- Villonodular synovitis
- Foreign body arthritis

Arthritis, Polyarticular

- Rheumatoid arthritis (RA), juvenile (rheumatoid) polyarthritis
- Systemic lupus erythematosus (SLE), other connective tissue diseases, erythema nodosum, palindromic rheumatism, relapsing polychondritis
- Psoriatic arthritis, ankylosing spondylitis
- Sarcoidosis
- Lyme arthritis, bacterial endocarditis, *N. gonorrhoeae* infection, rheumatic fever, Reiter’s disease
- Crystal deposition disease
- Hypersensitivity to serum or drugs
- Hepatitis B, HIV infection, rubella, mumps
- Other: serum sickness, leukemias, lymphomas, enteropathic arthropathy, Whipple’s disease, Behçet’s syndrome, Henoch-Schönlein purpura, familial Mediterranean fever, hypertrophic pulmonary osteoarthropathy

Arthritis, Psoriatic

- Rheumatoid arthritis (RA)
- Erosive osteoarthritis
- Gouty arthritis
- Ankylosing spondylitis

Arthritis, Rheumatoid

- Systemic lupus erythematosus (SLE)
- Seronegative spondyloarthropathies
- Polymyalgia rheumatica
- Acute rheumatic fever
- Scleroderma
- Osteoarthritis
**Arthritis, Septic**

- Gout
- Pseudogout
- Trauma
- Hemarthrosis
- Rheumatic fever
- Adult or juvenile rheumatoid arthritis
- Spondyloarthropathies such as Reiter’s syndrome
- Osteomyelitis
- Viral arthritides
- Septic bursitis

**Asbestosis**

- Silicosis
- Siderosis, other pneumoconioses
- Lung cancer
- Atelectasis

**Ascites**

- Hypoalbuminemia: nephrotic syndrome, protein-losing gastroenteropathy, starvation
- Cirrhosis
- Hepatic congestion: congestive heart failure (CHF), constrictive pericarditis, tricuspid insufficiency, hepatic vein obstruction (Budd-Chiari syndrome), inferior vena cava or portal vein obstruction
- Peritoneal infections: TB and other bacterial infections, fungal diseases, parasites
- Neoplasms: primary hepatic neoplasms, metastases to liver or peritoneum, lymphomas, leukemias, myeloid metaplasia
- Lymphatic obstruction: mediastinal tumors, trauma to the thoracic duct, filariasis
- Ovarian disease: Meigs’ syndrome, struma ovarii
- Chronic pancreatitis or pseudocyst: pancreatic ascites
- Leakage of bile: bile ascites
- Urinary obstruction or trauma: urine ascites
• Myxedema
• Chylous ascites

Aspergillosis

• Tuberculosis
• Cystic fibrosis
• Carcinoma of the lung
• Eosinophilic pneumonia
• Bronchiectasis
• Sarcoidosis
• Lung abscess

Asthenia

• Depression
• Chronic fatigue syndrome
• Sleep disorders
• Anemia
• Hypothyroidism
• Sedentary lifestyle
• Medications (e.g., narcotics, sedatives)
• Infections
• Dehydration/electrolyte disorders
• COPD and other pulmonary disorders
• Renal failure
• Congestive heart failure (CHF)
• Diabetes
• Addison’s disease
• Paraneoplastic syndrome

Asthma

• Congestive heart failure (CHF)
• Chronic obstructive pulmonary disease (COPD)
• Pulmonary embolism (in adult and elderly patients)
• Foreign body aspiration (most frequent in younger patients)
• Pneumonia and other upper respiratory infections
• Rhinitis with postnasal drip
• TB
• Hypersensitivity pneumonitis
• Anxiety disorder
• Wegener’s granulomatosis
• Diffuse interstitial lung disease

Asthma, Childhood

INFECTIONS
• Bronchiolitis (RSV)
• Pneumonia
• Croup
• Tuberculosis, histoplasmosis
• Bronchiectasis
• Bronchiolitis obliterans
• Bronchitis
• Sinusitis

ANATOMIC, CONGENITAL
• Cystic fibrosis
• Vascular rings
• Ciliary dyskinesia
• B lymphocyte immune defect
• Congestive heart failure (CHF)
• Laryngotracheomalacia
• Tumor, lymphoma
• H-type tracheoesophageal fistula
• Repaired tracheoesophageal fistula
• Gastroesophageal reflux

VASCULITIS, HYPERSENSITIVITY
• Allergic bronchopulmonary aspergillosis
• Allergic alveolitis, hypersensitivity pneumonitis
• Churg-Strauss syndrome
• Periarteritis nodosa

OTHER
• Foreign body aspiration
• Pulmonary thromboembolism
• Psychogenic cough
• Sarcoidosis
• Bronchopulmonary dysplasia
• Vocal cord dysfunction

**Ataxia**

• Vertebral-basilar artery ischemia
• Diabetic neuropathy
• Tabes dorsalis
• Vitamin B₁₂ deficiency
• Multiple sclerosis and other demyelinating diseases
• Meningomyelopathy
• Cerebellar neoplasms, hemorrhage, abscess, infarct
• Nutritional (Wernicke’s encephalopathy)
• Paraneoplastic syndromes
• Parainfectious: Guillain-Barré syndrome, acute ataxia of childhood and young adults
• Toxins: phenytoin, alcohol, sedatives, organophosphates
• Wilson’s disease (hepatolenticular degeneration)
• Hypothyroidism
• Myopathy
• Cerebellar and spinocerebellar degeneration: ataxia-telangiectasia, Friedreich’s ataxia
• Frontal lobe lesions: tumors, thrombosis of anterior cerebral artery, hydrocephalus
• Labyrinthine destruction: neoplasm, injury, inflammation, compression
• Hystera
• AIDS

**Ataxia, Acute or Recurrent**¹¹

• Drug ingestion (e.g., phenytoin, carbamazepine, sedatives, hypnotics, and phencyclidine) or intoxication (e.g., alcohol, ethylene glycol, hydrocarbon fumes, lead, mercury, or thallium)
• Postinfectious (cerebellitis [e.g., varicella], acute disseminated encephalomyelitis)
• Head trauma
• Basilar migraine
• Benign paroxysmal vertigo (migraine equivalent)
• Brain tumor or neuroblastoma (if accompanied by opsoclonus or myoclonus [i.e., “dancing eyes, dancing feet”])
• Hydrocephalus
• Infection (e.g., labyrinthitis, abscess)
• Seizure (ictal or postictal)
• Vascular events (e.g., cerebellar hemorrhage or stroke)
• Miller-Fisher variant of Guillain-Barré syndrome (ataxia, ophthalmoplegia, and areflexia). **Warning:** If bulbar signs are present, disease is likely progressive; patient may lose ability to protect airway or ability to breathe.
• Inherited ataxias
• Inborn errors of metabolism (e.g., mitochondrial disorders, aminoacidopathies, urea cycle defects)
• Conversion reaction
• Multiple sclerosis

### Ataxia, Chronic or Progressive

• Hydrocephalus
• Hypothyroidism
• Tumor or paraneoplastic syndrome
• Low vitamin E levels (e.g., cystic fibrosis)
• Wilson’s disease
• Inborn errors of metabolism
• Inherited ataxias (e.g., ataxia-telangiectasia, Friedreich’s ataxia)

### Ataxia-Telangiectasia

• Friedreich’s ataxia
• Abetalipoproteinemia (Bassen-Kornzweig syndrome)
• Acquired vitamin E deficiency
• Early-onset cerebellar ataxia with retained reflexes (EOCA)
• Ataxia associated with biochemical abnormalities: associated with ceroid lipofuscinosis, xeroderma pigmentosa, Cockayne’s syndrome, adrenoleukodystrophy, metachromatic leukodystrophy, mitochondrial disease, sialidosis, Niemann-Pick disease

### Atelectasis

• Infection (pneumonia, TB, fungal, histoplasmosis)
• Lung neoplasm (primary or metastatic)
- Postoperative (lower lobes)
- Sarcoidosis
- Mucoid impaction
- Foreign body
- Postinflammatory (middle lobe syndrome)
- Pneumothorax
- Pleural effusion
- Pneumoconiosis
- Interstitial fibrosis
- Bulla
- Mediastinal or adjacent mass

**Atrial Fibrillation**

- Multifocal atrial tachycardia
- Atrial flutter
- Frequent atrial premature beats
- Baseline ECG artifact

**Atrial Flutter**

- Atrial fibrillation
- Paroxysmal atrial tachycardia
- ECG baseline artifact
- Atrial ectopy

**Atrial Myxoma**

- Mitral stenosis
- Mitral regurgitation
- Tricuspid stenosis
- Tricuspid regurgitation
- Pulmonary hypertension
- Endocarditis
- Vasculitis
- Left atrial thrombus
- Pulmonary embolism
- Cerebrovascular accidents
- Collagen-vascular disease
• Carcinoid heart disease
• Ebstein’s anomaly

### Atrial Septal Defect (ASD)

• Primary pulmonary hypertension
• Pulmonary stenosis
• Rheumatic heart disease
• Mitral valve prolapse
• Cor pulmonale

### Atrioventricular Nodal Block

• Idiopathic fibrosis (Lenègre’s disease)
• Sclerodegenerative processes (e.g., Lev’s disease with calcification of the mitral and aortic annuli)
• AV node radiofrequency ablation procedure
• Medications (e.g., digoxin, β-blockers, calcium channel blockers, class III antiarrhythmics)
• Acute inferior wall myocardial infarction (MI)
• Myocarditis
• Infections (endocarditis, Lyme disease)
• Infiltrative diseases (e.g., hemochromatosis, sarcoidosis, amyloidosis)
• Trauma (including cardiac surgical procedures)
• Collagen-vascular diseases
• Aortic root diseases (e.g., spondylitis)
• Electrolyte abnormalities (e.g., hyperkalemia)

### Atrium Enlargement, Right Atrium

• Right ventricular failure
• Atrial septal defect
• Tricuspid regurgitation
• Tricuspid stenosis
• Pulmonary hypertension
• Restrictive cardiomyopathy
• Right atrial myxoma
• Ebstein’s anomaly
• Anomalous pulmonary venous drainage to the right atrium
• Endomyocardial fibrosis
• Sinus of Valsalva fistula
• Arrhythmogenic right ventricular dysplasia

Attention-Deficit/Hyperactivity Disorder (ADHD)

• In early childhood, may be difficult to distinguish from normal active children
• ADHD may overlap symptoms in children with disruptive behavior, such as conduct disorder or oppositional defiant disorders
• School and behavioral problems are associated with a learning disability (these disorders often coexist)
• Bipolar disorder may be confused with ADHD, but it can be distinguished by the episodic nature of bipolar illness and the pervasive presence of ADHD

Atypical Mole

• Melanoma
• Lentigo maligna
• Compound nevus
• Flat wart
• Seborrheic keratosis

Autistic Spectrum Disorder

• Rett’s syndrome: occurs in females; exhibits head growth deceleration, loss of previously acquired motor skills, and incoordination
• Childhood disintegration disorder: development normal until the age of 2 years, followed by regression
• Childhood-onset schizophrenia: follows period of normal development
• Asperger’s syndrome: lacks the language developmental abnormalities of autism
• Isolated symptoms of autism: when occurring in isolation, defined as disorders (i.e., selective mutism, expressive language disorder,