

# Atlas of Emergency Medicine

Knoop, Kevin J. MD

ISBN-13: 9780071496186

## Table of Contents

Contributors

Photography Credits

Foreword

Preface

### **PART 1: REGIONAL ANATOMY**

#### **1. Head & Facial Trauma, *David W. Munter and Timothy D. McGuirk***

Basilar Skull Fracture

Depressed Skull Fracture

Nasal Injuries

Fractures of the Zygoma

Lefort Facial Fractures

Orbital Floor Fractures

Mandibular Fractures

External Ear Injuries

Frontal Sinus Fracture

Traumatic Exophthalmos

Penetrating Facial Trauma

Uncal Herniation Syndrome

#### **2. Ophthalmologic Conditions, *Marc E. Levsky and Paul DeFlorio***

Neonatal Conjunctivitis (Ophthalmia Neonatorum)

Bacterial Conjunctivitis

Viral Conjunctivitis

Epidemic Keratoconjunctivitis

Allergic Conjunctivitis

Dacryocystitis

Dacryoadenitis

Pinguecula/Pterygium

Hordeolum/Chalazion

Scleritis

Episcleritis

Acute Angle Closure Glaucoma

Anterior Uveitis (Iritis)

Anisocoria

Herpes Zoster Ophthalmicus

Ocular Herpes Simplex

Corneal Ulcer

Afferent Pupillary Defect (Marcus Gunn Pupil)

Horner Syndrome

Sixth-Nerve Palsy

Third-Nerve Palsy

#### **3. Funduscopic Findings, *David Effron, Beverly C. Forcier, and Richard E. Wyszynski***

Normal Fundus

Age-Related Macular Degeneration

Exudate

Roth Spots

Emboli

Central Retinal Artery Occlusion

Central Retinal Vein Occlusion

Hypertensive Retinopathy

Diabetic Retinopathy

Vitreous Hemorrhage

Retinal Detachment

Cytomegalovirus Retinitis

Papilledema

Optic Neuritis

Anterior Ischemic Optic Neuropathy

Glaucoma

Subhyaloid Hemorrhage in Subarachnoid Hemorrhage

#### **4. Ophthalmic Trauma, *Dallas E. Peak, Christopher S. Weaver, and Kevin J. Knoop***

Corneal Abrasion  
Subconjunctival Hemorrhage  
Corneal Foreign Body  
Hyphema  
Intraocular Foreign Body  
Iridodialysis  
Lens Dislocation  
Penetrating Globe Injury  
Globe Rupture  
Traumatic Cataract  
Eyelid Laceration  
Chemical Exposure

**5. Ear, Nose, & Throat Conditions, Edward C. Jauch, Sean P. Barbabella, Francisco J. Fernandez, and Kevin J.**

***Knoop***

Otitis Media  
Bullous Myringitis  
Cholesteatoma and Osteoma  
Tympanic Membrane Perforation  
Otitis Externa  
Mastoiditis  
Auricular Perichondritis  
Herpes Zoster Oticus (Ramsay Hunt Syndrome)  
Facial Nerve Palsy  
Angioedema  
Pharyngitis  
Septal Hematoma  
Diphtheria  
Peritonsillar Abscess  
Epiglottitis  
Uvulitis  
Mucocele (Ranula)  
Sialadenitis  
Sinusitis  
Nasal Cellulitis

**6. Mouth, Edward C. Jauch and Brent E. Gottesman**

***A. Oral Trauma***

Tooth Subluxation  
Tooth Impaction (Intrusive Luxation)  
Tooth Avulsion  
Tooth Fractures  
Alveolar Ridge Fracture  
Temporal Mandibular Joint Dislocation  
Tongue Laceration

Vermilion Border Lip Laceration

***B. Odontogenic Infections***

Gingival Abscess (Periodontal Abscess)  
Periapical Abscess  
Pericoronary Abscess  
Buccal Space Abscess  
Canine Space Abscess  
Ludwig Angina  
Parapharyngeal Space Abscess

***C. Oral Conditions***

Trench Mouth (Acute Necrotizing Ulcerative Gingivitis)  
Acid Tooth Erosion (Bulimia)  
Thrush (Oral Candidiasis)  
Oral Herpes Simplex Virus (Cold Sores)  
Aphthous Ulcers (Canker Sores)  
Strawberry Tongue  
Torus Palatinus  
Black Hairy Tongue  
Oral Cavity Piercing Complications

**7. Chest & Abdomen, Stephen W. Corbett, Lawrence B. Stack, and Kevin J. Knoop**

***A. Chest and Abdominal Trauma***

Traumatic Asphyxia  
Flail Chest  
Sternoclavicular Dislocation  
Tension Pneumothorax with Needle Thoracentesis  
Cardiac Tamponade with Pericardiocentesis  
Emergency Department Thoracotomy  
Diagnostic Peritoneal Lavage

Seat Belt Injury  
Grey Turner Sign and Cullen Sign  
Impaled Foreign Body  
Abdominal Evisceration  
Traumatic Abdominal Hernia  
Pelvic Fracture

*B. Nontraumatic Chest and Abdominal Conditions*

Respiratory Retractions  
Superior Vena Cava Syndrome  
Situs Inversus  
Apical Lung Mass  
Jugulovenous Distension  
Caput Medusae  
Abdominal Hernias  
Umbilical Hernia  
Patent Urachal Duct  
Sister Mary Joseph Node (Nodular Umbilicus)  
Abdominal Distension  
Abdominal Wall Hematoma  
Pectus Excavatum  
Stoma Prolapse

**8. Urologic Conditions, Jeffery D. Bondesson**

Testicular Torsion  
Torsion of a Testicular or Epididymal Appendix  
Acute Epididymitis  
Orchitis  
Hydrocele  
Testicular Tumor  
Scrotal Abscess  
Fournier Gangrene  
Paraphimosis  
Priapism  
Urethral Rupture  
Fracture of the Penis  
Penile Hair Tourniquet  
Straddle Injury  
Balanoposthitis  
Penile Zipper Injury

**9. Sexually Transmitted Infections & Anorectal Conditions, Diane M. Birnbaumer and Lynn K. Flowers**

*A. Sexually Transmitted Infections*

Primary Syphilis  
Secondary Syphilis  
Gonorrhea  
Chlamydial Infection  
Genital Herpes  
Lymphogranuloma Venereum  
Chancroid  
Condyloma Acuminata (Genital Warts)  
Pediculosis  
Anal Fissure  
Perianal-Perirectal Abscesses  
Internal-External Hemorrhoids  
Prolapsed Rectum  
Pilonidal Abscess  
Rectal Foreign Body  
Melena

**10. Gynecologic and Obstetric Conditions, Robert G. Buckley and Kevin J. Knoop**

*A. Gynecologic Conditions*

Vaginitis  
Mucopurulent Cervicitis  
Cervical Polyps  
Bartholin Gland Abscess  
Spontaneous Abortion  
Genital Trauma and Sexual Assault  
Uterine Prolapse  
Cystocele  
Rectocele  
Imperforate Hymen  
Ectopic Pregnancy: Ultrasonographic Imaging  
Molar Pregnancy (Hydatidiform Mole)

*B. Obstetric Conditions*

Third-Trimester Abdominal Trauma  
Emergency Delivery: Imminent Vertex Delivery--Crowning  
Emergency Delivery: Normal Delivery Sequence  
Breech Delivery  
Umbilical Cord Prolapse in Emergency Delivery  
Nuchal Cord in Emergency Delivery  
Shoulder Dystocia in Emergency Delivery  
Postpartum Perineal Lacerations  
Intrauterine Fetal Demise

**11. Extremity Trauma, *Neha P. Raukar, George J. Raukar, and Daniel L. Savitt***

Acromioclavicular Joint Separation  
Shoulder Dislocation  
Elbow Fractures  
Elbow Dislocation  
Biceps Tendon Rupture  
Forearm Fractures  
Fractures of the Distal Radius  
Carpal and Carpometacarpal Dislocations  
Clenched Fist Injury (Fight Bite)  
Boxer's Fracture  
Peripheral Nerve Injury  
Bennett and Rolando Fractures  
Boutonniere and Swan-Neck Deformities  
High-Pressure Injection Injury  
Gamekeeper's Thumb (Skier's Thumb)  
Phalangeal Dislocations  
Mallet Finger and Jersey Finger  
Compartment Syndrome  
Subungual Hematoma  
Hip Dislocations  
Hip Fracture  
Knee Extensor Injuries  
Patellar Dislocations  
Knee Dislocation  
Femur Fracture  
Tibial-Fibular Fractures  
Fracture Blisters  
Achilles Tendon Rupture  
Ankle Dislocation  
Calcaneus Fracture  
Ankle Sprain  
Fractures of the Fifth Metatarsal Base  
Lisfranc Fracture-Dislocation  
Amputations

**12. Extremity Conditions, *Robert J. Tubbs, Daniel L. Savitt, and Selim Suner***

Cellulitis  
Felon  
Gangrene  
Gas Gangrene (Myonecrosis)  
Necrotizing Fasciitis  
Crystal-Induced Synovitis (Gout and Pseudogout)  
Ingrown Toenail (Onychocryptosis)  
Lymphangitis  
Lymphedema  
Olecranon and Prepatellar Bursitis  
Palmar Space Infection  
Tenosynovitis  
Paronychia  
Subclavian Vein Thrombosis  
Cervical Radiculopathy  
Digital Clubbing  
Phlegmasia Dolens  
Deep Venous Thrombosis  
Dupuytren Contracture  
Achilles Tendonitis  
Ganglion (Synovial) Cyst  
Raynaud Disease  
Arterial Embolus

**13. Cutaneous Conditions, *J. Matthew Hardin***

Stevens-Johnson Syndrome/Toxic Epidermal Necrolysis  
Erythema Multiforme

Fixed Drug Eruption  
Drug Eruptions  
Hidradenitis Suppurativa  
Pyogenic Granuloma  
Pyoderma Gangrenosum  
Seborrheic Dermatitis  
Psoriasis  
Nummular Eczema/Xerotic Eczema  
Dyshydrotic Eczema  
ID Reaction  
Atopic Dermatitis  
Stasis Dermatitis  
Acne Vulgaris  
Vasculitis (Leukocytoclastic Vasculitis)  
Idiopathic Thrombocytopenic Purpura  
Thrombotic Thrombocytopenic Purpura  
Pityriasis Rosea  
Livedo Reticularis  
Urticaria, Dermatographism, and Angioedema  
Allergic Contact Dermatitis  
Phytophotodermatitis and Phototoxic Drug Reactions  
Erythema Nodosum  
Erythema Chronicum Migrans  
Rocky Mountain Spotted Fever  
Disseminated Gonococcus  
Infective Endocarditis  
Erysipelas  
Hot Tub Folliculitis  
Ecthyma Gangrenosum  
Secondary Syphilis  
Dissecting Cellulitis of the Scalp  
Squamous Cell Carcinoma  
Basal Cell Carcinoma  
Melanoma  
Herpes Zoster  
Nongenital Herpes Simplex Infections  
Autoimmune Bullous Diseases  
Sweet Syndrome  
Dermatophyte Infections  
Tinea (Pityriasis) Versicolor  
Onychomycosis  
Vitiligo  
Scabies and Norwegian Scabies  
Uremic Frost  
Bacillus Anthracis (Anthrax)  
Intertrigo  
Abdominal Striae (Striae Atrophicae)  
Melasma  
Jaundice  
Alopecia  
Systemic Lupus Erythematosus  
Porphyria Cutanea Tarda

## **PART 2: SPECIALTY AREAS**

### **14. Pediatric Conditions, Matthew R. Mittiga, Javier A. Gonzalez del Rey, and Richard M. Ruddy**

#### *A. Newborn Conditions*

Erythema Toxicum Neonatorum  
Salmon Patches (Nevus Simplex)  
Neonatal Jaundice  
Neonatal Milk Production (Witch's Milk)  
Neonatal Mastitis  
Umbilical Granuloma  
Hypertrophic Pyloric Stenosis

#### *B. Rashes and Lesions*

Erythema Infectiosum (Fifth Disease)  
Roseola Infantum (Exanthem Subitum)  
Impetigo  
Measles  
Varicella (Chickenpox)  
Herpes Zoster  
Hand, Foot, and Mouth Disease  
Cold Panniculitis (Popsicle Panniculitis)

Herpetic Gingivostomatitis  
Meningococcemia  
Urticaria  
Staphylococcal Scalded Skin Syndrome  
Scarlet Fever  
Blistering Distal Dactylitis  
Henoch-Schonlein Purpura  
Strawberry Hemangioma  
Orbital and Periorbital (Preseptal) Cellulitis  
Branchial Cleft Cyst  
Thyroglossal Duct Cyst  
Cystic Hygroma (Lymphangiomas)  
Cat-Scratch Disease

*C. General Conditions*

Epiglottitis  
Retropharyngeal Abscess  
Button Battery Ingestion  
Membranous (Bacterial) Tracheitis  
Physal Fractures: Salter-Harris Classification  
Acute Sickle Dactylitis (Hand-Foot Syndrome)  
Hair Tourniquet  
Failure to Thrive  
Nursing Bottle Caries  
Nursemaid's Elbow (Radial Head Subluxation)  
Inguinal Hernia  
Pinworm Infection (Enterobiasis)  
Oculogyric Crisis  
Kawasaki Disease

**15. Child Abuse, Robert A. Shapiro, Charles J. Schubert, Kathi L. Makoroff, and Megan L. McGraw**

*A. Physical Abuse*

Inflicted Burns  
Inflicted Burns and Soft-Tissue Injuries  
Lesions Mistaken for Physical Abuse  
Fractures Suggestive of Physical Abuse  
Inflicted Head Injury (Shaken Baby Syndrome)

*B. Sexual Abuse*

The Child Sexual Abuse Examination  
Injuries and Findings Indicative of Penetrating Genital or Anal Trauma

*C. Findings Mistaken for Sexual Abuse*

Straddle Injuries  
Labial Adhesions  
Urethral Prolapse  
Toilet Seat Injuries  
Perianal Streptococcal Infection  
Lichen Sclerosus Atrophicus

**16. Environmental Conditions, Ken Zafren, R. Jason Thurman, and Ian D. Jones**

High-Altitude Retinal Hemorrhage  
High-Altitude Pulmonary Edema  
High-Altitude Cerebral Edema  
Hypothermia  
Frostbite  
Pernio  
Immersion Injury (Trench Foot)  
Ultraviolet Radiation Exposure  
Lightning Injuries  
Large Terrestrial Animal Attacks  
Coral Snake Envenomation  
Pit Viper Envenomation  
Black Widow Spider Envenomation  
Brown Recluse Spider Envenomation  
Scorpion Envenomation  
Ticks  
Hymenoptera Envenomation  
Caterpillar, Mite, and Centipede Envenomation  
Middle Ear Squeeze  
Mask Squeeze  
Stingray Envenomation  
Sea Urchin Envenomation  
Coelenterate Envenomation  
Marine Dermatitis  
Scorpion Fish Sting

Sea Snake Envenomation  
Cephalopod Envenomation  
Erysipeloid  
Toxicodendron Exposure  
Sporotrichosis

**17. Toxicological Conditions, *Saralyn R. Williams, Matthew D. Sztajnkrzyca, and R. Jason Thurman***

Methamphetamine Toxicity  
Cocaine Toxicity  
Anticholinergic (Antimuscarinic) Toxidrome  
Heroin and Opioid Toxicity  
Tricyclic Antidepressant Poisoning  
Poisoning by B-Blocker and Calcium Channel Blocker Agents  
Salicylate Poisoning  
Acetaminophen Poisoning  
Caustic Ingestion  
Toxic Alcohol Ingestion  
Cellular Asphyxiants  
Methemoglobinemia  
Inhalant Abuse  
Hydrofluoric Acid Burns  
Botulism  
Arsenic Poisoning  
Mercury Poisoning  
Lead Poisoning  
Iron Ingestion  
Amatoxin Ingestion  
Cardiac Glycoside Plant Ingestion  
Dieffenbachia Ingestion  
Jimsonweed Ingestion  
Peyote Ingestion  
Toxalbumin Ingestion  
Vancomycin-Induced Red Man Syndrome

**18. Wounds & Soft Tissue Injuries, *Chan W. Park, Michael L. Juliano, and Dana Woodhall***

Wound Cleaning and Irrigation  
Wound Assessment  
Wound Foreign Bodies  
Traumatic Wounds  
Ear Lacerations  
Lip Lacerations  
Tendon Lacerations  
Animal Bite Wounds  
Fishhook Injuries  
Simple Wound Closures  
Complex Wound Closures  
Wound Care Complications  
Burns  
Decubitus Ulcers  
Electrical Injury

**19. Forensic Medicine, *William S. Smock and Lawrence B. Stack***

Gunshot Wounds  
*A. Pattern Injuries of Domestic Violence, Assault, and Abuse*  
Sharp-Force-Pattern Injuries  
Blunt-Force-Pattern Injuries  
Thermal-Pattern Injuries

**20. HIV Conditions, *J. Michael Ballester and Roderick Morrison***

Primary HIV Infection  
Oral Hairy Leukoplakia  
Candidiasis Associated with HIV  
Kaposi Sarcoma  
Toxoplasma Gondii Infection  
Cryptococcal Infections  
Cytomegalovirus Infections  
Leishmaniasis  
Herpes Zoster in HIV Patients  
Eosinophilic Folliculitis  
Herpes Simplex Virus in HIV Patients  
Scabies  
Molluscum Contagiosum  
Dermatophyte (Tinea) Infections  
Pneumocystis  
Thrombocytopenia

Drug Reactions

Acute Necrotizing Ulcerative Gingivitis

**21. Tropical Medicine, Seth W. Wright and Meg Jack**

Free-Living Ameba Infection

Anemia in the Tropics

Cholera

Ascariasis

Cutaneous Larva Migrans

Cysticercosis

Dengue Fever

Elephantiasis

Epidemic Meningitis

Goiter

Leishmaniasis

Hydatid Cyst

Nontuberculosis Mycobacteria Infections

Leprosy

Malaria

Mycetoma

Myiasis

Protein Energy Malnutrition--Kwashiorkor and Marasmus

Rabies

Tropical Sporotrichosis

Tuberculosis

Tetanus

Trachoma

Tropical Snake Envenomations

Traditional Medicine in the Tropics

**22. Airway Procedures, Steven J. White, Richard M. Levitan, and Lawrence B. Stack**

Airway Maxim One

Airway Maxim Two

Airway Maxim Three

Airway Maxim Four

Airway Maxim Five

Laryngoscopic Orotracheal Intubation

Bougie-Assisted Intubation

Optical Stylet-Assisted Intubation

Optical Laryngoscope-Assisted Intubation

Lighted Stylets and Wands

Glidescope-Assisted Intubation

Digital (Tactile) Intubation

Laryngeal Mask Airway

Intubating Laryngeal Mask Airway

Intubating Laryngeal Airway

Esophageal-Pharyngeal Combitube Airway

Blind Nasotracheal Intubation

Nasal Flexible Fiberoptic Intubation

Transtracheal Jet Ventilation

Cricothyrotomy (Seldinger Technique)

Open Cricothyrotomy

**23. ECG Abnormalities, James V. Ritchie, Michael L. Juliano, and R. Jason Thurman**

*Part 1: ST-T Abnormalities*

Acute Anterior Myocardial Infarction

Acute Inferior Myocardial Infarction

Acute Right Ventricular Myocardial Infarction

Acute Posterior Myocardial Infarction

Left Main Lesion

Sgarbossa Criteria for AMI in Setting of LBBB

Subendocardial Ischemia

Hyperacute T Waves

Wellens Waves

"Cerebral" T Waves

Early Repolarization

Left Ventricular Aneurysm

Pericarditis

*Part 2: Conduction Disturbances*

First-Degree AV Block

Type 1 Second-Degree AV Block (Mobitz I, Wenckebach)

Type 2 Second-Degree AV Block (Mobitz II)

Third-Degree (Complete) AV Block

QT Interval Prolongation



Right Bundle Branch Block  
Left Bundle Branch Block(br)Left Anterior Fascicular Block  
Left Posterior Fascicular Block  
Ashman Phenomenon

*Part 3: Rhythm Disturbances*

Junctional Rhythm  
Ventricular Rhythm  
Paced Rhythm  
Atrial Fibrillation  
Atrial Flutter  
Multifocal Atrial Tachycardia  
Supraventricular Tachycardia (SVT)  
SVT with Aberrancy  
Ventricular Tachycardia  
Ventricular Flutter  
Torsades de Pointes

*Part 4: Structural Abnormalities*

Dextrocardia  
Left Ventricular Hypertrophy  
Right Ventricular Hypertrophy  
Left Atrial Hypertrophy  
Right Atrial Hypertrophy  
Hypertrophic Cardiomyopathy  
Brugada Syndrome  
Wolff-Parkinson-White Syndrome

*Part 5: ECG Abnormalities of Non-cardiac Origin*

Hypothermia  
Hypokalemia  
Hyperkalemia  
Pulmonary Embolism  
Pericardial Effusion  
Digoxin Effect, Toxicity  
Tricyclic Antidepressant Effect  
Limb Lead Reversal  
Low Voltage

**24. Emergency Ultrasound, Paul R. Sierzenski, Jason Gukhool, and Stephen J. Leech**

Emergency Ultrasound

Trauma Ultrasound

E-Fast Window 1: Subxiphoid-Cardiac (Subcostal View)

E-Fast Window 2: Right Upper Quadrant (Morison Pouch)

E-Fast Window 3: Left Upper Quadrant (Splenorenal View)

E-Fast Window 4: Suprapubic

E-Fast Window 5: Thorax (Right and Left)

Cardiac Ultrasound

Echo Window 1: Subxiphoid-Cardiac (Subcostal View) Echo Window 2: Parasternal Long-Axis View (PSLAX)

Echo Window 3: Parasternal Short-Axis View (PSLAX)

Echo Window 4: Apical Four-Chamber View (4AC)

Echo Window 5: Subxiphoid Long-Axis (IVC)

Gallbladder Ultrasound

Abdominal Aorta Ultrasound

Renal Ultrasound

Pelvic Ultrasound

Deep Venous Thrombosis Ultrasound

Ultrasound-Guided Venous Access

Ocular Ultrasound

Superficial Ultrasound

**25. Microscopic Findings, Diane M. Birnbaumer**

Microscopic Urinalysis

Synovial Fluid Analysis for Crystals

Gram Stain

Dark-Field Examination

Vaginal Fluid Wet Mount

Potassium Hydroxide Mount

Stool Examination for Fecal Leukocytes

Skin Scraping for Dermatoses and Infestations

Cerebrospinal Fluid Examination: India Ink Preparation

Cerebrospinal Fluid Examination: Wright Stain--Thin Smear for Malaria

Ferning Pattern for Amniotic Fluid

Peripheral Blood Smear for Schistocytes

Tape Test for *enterobias Vermicularis* Eggs

Tzanck Preparation

