

2003 Model of the Clinical Practice of Emergency Medicine

The Core Content Task Force II created and endorsed the 2001 Model of the Clinical Practice of Emergency Medicine as published in the June 2001 Annals of Emergency Medicine and Academic Emergency Medicine.

The 2003 EM Model Review Task Force reviewed the 2001 EM Model, as requested by the Core Content Task Force II. Their work is published in the June 2005 Annals of Emergency Medicine and the June 2005 Academic Emergency Medicine, and it is reflected in this document.

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Preamble of the Core Content Task Force II Adapted for the 2003 EM Model

In 1975 the American College of Emergency Physicians and the University Association for Emergency Medicine (now the Society for Academic Emergency Medicine; SAEM) conducted a practice analysis of the emerging field of Emergency Medicine. This work resulted in the development of the Core Content of Emergency Medicine, a listing of common conditions, symptoms, and diseases seen and evaluated in emergency departments. The Core Content listing was subsequently revised four times, expanding from five to 20 pages. However, none of these revisions had the benefit of empirical analysis of the developing specialty but relied solely upon expert opinion.

Following the 1997 revision of the Core Content listing, the contributing organizations felt that the list had become complex and unwieldy, and subsequently agreed to address this issue by commissioning a task force to re-evaluate the Core Content listing and the process for revising the list. As part of its final set of recommendations, the Core Content Task Force recommended that the specialty undertake a practice analysis of the clinical practice of Emergency Medicine. Results of a practice analysis would provide an empirical foundation for content experts to develop a core document that would represent the needs of the specialty.

Following the completion of its mission, the Core Content Task Force recommended commissioning another task force that would be charged with the oversight of a practice analysis of the specialty - Core Content Task Force II.

The practice analysis relied upon both empirical data and the advice of several expert panels and resulted in *The Model of the Clinical Practice of Emergency Medicine* (EM Model). The EM Model resulted from the need for a more integrated and representative presentation of the Core Content of Emergency Medicine. It was created through the collaboration of six organizations:

- American Board of Emergency Medicine (ABEM)
- American College of Emergency Physicians (ACEP)
- Council of Emergency Medicine Residency Directors (CORD)
- Emergency Medicine Residents' Association (EMRA)
- Residency Review Committee for Emergency Medicine (RRC-EM)
- Society for Academic Emergency Medicine (SAEM)

As requested by Core Content Task Force II, the six collaborating organizations reviewed the 2001 EM Model in 2002-2003 and developed a small list of proposed changes to the document. The changes were reviewed and considered by 10 representatives from the organizations, i.e., the 2003 EM Model Task Force. The Task Force's recommendations were approved by the collaborating organizations and are summarized in Figure 1. The work of the Task Force was published in the June 2005 *Annals of Emergency Medicine* and *Academic Emergency Medicine*.

The 2003 EM Model, which incorporates the 2003 EM Model Task Force changes, is given here in its entirety.

There are three components to the EM Model: 1) an assessment of patient acuity; 2) a description of the tasks that must be performed to provide appropriate emergency medical care; and 3) a listing of common conditions, symptoms, and disease presentations. Together these three components describe the clinical practice of Emergency Medicine and differentiate it from the clinical practice of other specialties. The EM Model represents essential information and skills necessary for the clinical practice of Emergency Medicine by board certified emergency physicians.

Patients often present to the emergency department with signs and symptoms rather than a known disease or disorder. Therefore, an emergency physician's approach to patient care begins with the recognition of patterns in the patient's presentation that point to a specific diagnosis or diagnoses. Pattern recognition is both the hallmark and cornerstone of the clinical practice of Emergency Medicine, guiding the diagnostic tests and therapeutic interventions during the entire patient encounter.

The EM Model is designed for use as the core document for the specialty. It will provide the foundation for developing future medical school and residency curricula, certification examination specifications, continuing education objectives, research agendas, residency program review requirements, and other documents necessary for the functional operation of the specialty.

Each of the contributing organizations conducted a thorough review of the initial EM Model document during the fall of 2000 and ultimately endorsed it as the 2001 version of the EM Model. Core Content Task Force II recommended that future revisions of this document be inputted, reviewed, and endorsed by the contributing organizations. The current version of the document reflects that process as it took place in 2002-2003.

Figure 1
Summary of 2003 EM Model Task Force Changes

EM Model Table 2: Patient Acuity

Critical Acuity Frame: Changed from "...hemodynamic, airway, respiratory, and/or neurologic instability" to "... airway, respiratory, hemodynamic, and/or neurologic instability."

EM Model Table 3: Physician Tasks

Diagnostic Studies: Added "e.g., electrocardiogram, emergency ultrasound, and laboratory tests" to the end of the definition.

EM Model Listing of Conditions and Components

- 1.2 Pelvic pain: added critical
- 2.11 Added: Spleen - critical, emergent, and lower
- 3.3 Thromboembolism: added critical
- 3.8 Hypertension: Changed from "Hypertensive Emergencies" and added lower
- 6.7 Added: Radiation Emergencies - critical, emergent, and lower
- 8.6 Added: Leukopenia - emergent and lower
- 9.7 Added: Rheumatic Fever - emergent and lower
- 12.7 Myasthenia gravis: added lower
- 12.7 Added: Peripheral Neuropathy - emergent
- 14.5 Alcohol: added critical
- 14.6 Sexual assault: deleted critical
- 17.1 Added: Digitalis - critical and emergent
- 17.1 Added: Lithium - critical, emergent, and lower
- 18.1 Added: Vascular Injuries - critical and emergent

Appendix 1. Blood, Fluid, and Component Therapy Administration: added Fluid

Appendix 2. Professional Development and Lifelong Learning: added Lifelong

Appendix 2. Systems-based Management: added Disaster Preparedness

Note: In the 2003 Model of the Clinical Practice of Emergency Medicine that follows this introduction, all changes that resulted from the 2003 EM Model Task Force review appear in italics. An asterisk refers the reader back to this summary for an explanation of the specific change.

OVERVIEW

There are multiple components of *The Model of the Clinical Practice of Emergency Medicine*. The components of the EM Model are given in two complementary documents: 1) the Matrix; and 2) the Listing of Conditions and Components.

MATRIX

The Matrix is organized along two principal dimensions: Patient Acuity and Physician Tasks (Table 1). The Matrix represents all possible physician-patient interactions that are determined by patient acuity and the tasks that may be performed during a patient encounter. Patient acuity is most fundamental in determining the priority and sequence of tasks necessary to successfully manage the presenting patient. The Matrix represents how an emergency physician modifies the tasks necessary to perform appropriate patient care based on the patient acuity.

Patient Acuity

An emergency physician's frame of reference in a patient encounter is fundamentally related to the acuity of the patient's condition. Establishing the acuity level is essential for defining the context for action, the priorities of the patient encounter, and consequently, the order of tasks necessary to manage the patient successfully. In *The Model of the Clinical Practice of Emergency Medicine*, patient acuity includes critical, emergent, and lower acuity (Table 2).

Physician Tasks

The physician tasks include the range of activities and the dynamic nature of the practice of Emergency Medicine (Table 3). Emergency physicians simultaneously consider multiple factors involved in patient care that may alter the direction of patient management. For example, the approach to the patient can change dramatically when considering a pediatric vs. a geriatric presentation of the same complaint, i.e. modifying factors. The physician tasks apply to patients of all ages. Although there are no separate sections on the care of pediatric or geriatric patients, users of the document should consider including pediatric and geriatric aspects of patient care related to each task. When considered together, these tasks are directly related to the six broad competencies expected of board certified emergency physicians.

Following is a concise example of how patient acuity and physician tasks can be applied to patients presenting with the same complaint of chest pain:

1. A 55-year old hypertensive diabetic male with crushing chest pain, diaphoresis, and a blood pressure of 60 systolic who is clutching his chest.
Acuity Frame: Critical
Implications: Immediate intervention is necessary to manage and stabilize vital functions. High probability of mortality exists without immediate intervention.
2. A 74-year old female with a history of angina presenting with three-to-five minutes of dull chest pain typical of her angina. She has stable vital signs and her pain is relieved by nitroglycerin.
Acuity Frame: Emergent
Implications: Initiation of monitoring, vascular access, evaluation, and treatment must be performed quickly. Progression in severity, complications, or morbidity may occur without immediate treatment.

3. A 12-year old female with non-traumatic sharp chest pain lasting for several days that intensifies with movement of the torso.
 Acuity Frame: Lower acuity
 Implications: Patient's symptoms should be addressed promptly. However, progression to major complications would be unlikely.

Table 1.
Matrix of physician tasks by patient acuity

Physician Tasks	Patient Acuity		
	Critical	Emergent	Lower Acuity
Pre-hospital care Emergency stabilization Performance of focused history and physical examination Modifying factors Professional issues Diagnostic studies Diagnosis Therapeutic interventions Pharmacotherapy Observation and reassessment Consultation and disposition Prevention and education Documentation Multi-tasking & team management			

Table 2.
Patient acuity definitions

Critical	Emergent	Lower Acuity
Patient presents with symptoms of a life-threatening illness or injury with a high probability of mortality if immediate intervention is not begun to prevent further <i>airway, respiratory, hemodynamic, and/or neurologic instability.</i> *	Patient presents with symptoms of an illness or injury that may progress in severity or result in complications with a high probability for morbidity if treatment is not begun quickly.	Patient presents with symptoms of an illness or injury that have a low probability of progression to more serious disease or development of complications.

Table 3.
Physician task definitions

Pre-hospital care	Participate actively in pre-hospital care; provide direct patient care or on-line or off-line medical direction or interact with pre-hospital medical providers; assimilate information from pre-hospital care into the assessment and management of the patient.
Emergency stabilization	Conduct primary assessment and take appropriate steps to stabilize and treat patients.
Performance of focused history and physical examination	Communicate effectively to interpret and evaluate the patient's symptoms and history; identify pertinent risk factors in the patient's history; provide a focused evaluation; interpret the patient's appearance, vital signs and condition; recognize pertinent physical findings; perform techniques required for conducting the exam.
Modifying factors	Recognize age, gender, ethnicity, barriers to communication, socioeconomic status, underlying disease, and other factors that may affect patient management.
Professional and legal issues	Understand and apply principles of professionalism, ethics, and legal concepts pertinent to patient management.
Diagnostic studies	Select and perform the most appropriate diagnostic studies and interpret the results, e.g., <i>electrocardiogram, emergency ultrasound, and laboratory tests.*</i>
Diagnosis	Develop a differential diagnosis and establish the most likely diagnoses in light of the history, physical, interventions, and test results.
Therapeutic interventions	Perform procedures and nonpharmacologic therapies, and counsel.
Pharmacotherapy	Select appropriate pharmacotherapy, recognize pharmacokinetic properties, and anticipate drug interactions and adverse effects.
Observation and reassessment	Evaluate and re-evaluate the effectiveness of a patient's treatment or therapy, including addressing complications and potential errors; monitor, observe, manage, and maintain the stability of one or more patients who are at different stages in their work-ups.
Consultation and disposition	Collaborate with physicians and other professionals to evaluate and treat patients, arrange appropriate placement and transfer if necessary, formulate a follow-up plan, and communicate effectively with patients, family, and involved health care members.
Prevention and education	Apply epidemiologic information to patients at risk; conduct patient education; select appropriate disease and injury prevention techniques.
Documentation	Communicate patient care information in a concise manner that facilitates quality care and coding.
Multi-tasking and team management	Prioritize multiple patients in the emergency department in order to provide optimal patient care; interact, coordinate, educate, and supervise all members of the patient management team; utilize appropriate hospital resources; have familiarity with disaster management.

LISTING OF CONDITIONS AND COMPONENTS

The Listing of Conditions and Components contains the fundamental, or core, patient conditions that present to emergency departments. The listing is based on data collected by the National Center for Health Statistics at the Centers for Disease Control and Prevention (CDC) during 1995-1996. The CDC data were collected from 40,000 emergency department records statistically representative of 90.3 million emergency department visits in metropolitan and non-metropolitan short-stay or general hospitals in all 50 states and the District of Columbia. Frequency of occurrence was a primary factor in determining inclusion in the Listing of Conditions and Components. Frequency of occurrence, however, was not the sole determinant of inclusion, nor was the number of entries pertaining to a single topic representative of importance. The final list was developed by several expert panels of practicing emergency physicians based on three factors: 1) frequency of occurrence; 2) critical nature of patient presentation; and 3) basic organizational structure.

Appendix 1 outlines the diagnostic and/or therapeutic procedures or tests that are essential to the clinical practice of Emergency Medicine. Emergency physicians must know the indications for ordering, be able to perform, and be able to interpret the results of the listed items.

Appendix 2 lists the other essential components of Emergency Medicine practice. These include such items as administration; communication and interpersonal issues; research; and risk management, legal, and regulatory issues. Emergency physicians should have a basic knowledge of these components and be able to apply them to their clinical practice.

NOTE: The Listing of Conditions and Components is not intended to be comprehensive. It is intended to be representative of the most frequent conditions seen and those with the most serious implications for patients presenting to the emergency department.

Listing of Conditions and Components

	Critical	Emergent	Lower Acuity
1.0 SIGNS, SYMPTOMS, AND PRESENTATIONS			
1.1 General			
Altered mental status	X	X	
Anxiety			X
Apnea	X		
Ataxia		X	X
Back pain	X	X	X
Bleeding	X	X	X
Coma	X		
Confusion		X	
Crying/Fussiness		X	X
Cyanosis	X		
Decreased level of consciousness	X	X	
Dehydration	X	X	
Dizziness		X	X
Edema		X	X
Failure to thrive		X	X
Fatigue		X	X

	Critical	Emergent	Lower Acuity
Feeding problems			X
Fever	X	X	X
Hypotension	X	X	
Jaundice		X	
Joint pain/Swelling		X	X
Limp		X	X
Lymphadenopathy			X
Malaise		X	X
Multiple trauma	X	X	
Needle stick		X	X
Pain	X	X	X
Paralysis	X	X	
Paresthesia/Dysesthesia		X	X
Poisoning	X	X	X
Pruritus		X	X
Rash	X	X	X
Shock	X		
SIDS (See 3.1)	X		
Sleeping problems			X
Syncope	X	X	X
Tremor		X	X
Weakness		X	X
Weight loss		X	X
1.2 Abdominal			
Abnormal vaginal bleeding	X	X	X
Anuria		X	
Ascites		X	X
Colic		X	X
Constipation			X
Cramps		X	X
Diarrhea		X	X
Dysmenorrhea			X
Dysuria			X
Hematemesis	X	X	
Hematochezia	X	X	X
Hematuria		X	X
Nausea/Vomiting		X	X
Pain	X	X	X
Pelvic pain	X*	X	X
Peritonitis	X	X	
Rectal bleeding	X	X	X
Rectal pain		X	X
Urinary incontinence			X
Urinary retention		X	
1.3 Chest			
Chest pain	X	X	X
Cough		X	X
Dyspnea	X	X	

	Critical	Emergent	Lower Acuity
Hemoptysis	X	X	
Hiccough			X
Palpitations	X	X	X
Shortness of breath	X	X	
Tachycardia	X	X	
Wheezing	X	X	
1.4 Head and Neck			
Congestion			X
Diplopia		X	
Dysphagia		X	X
Eye pain		X	X
Headache (See 12.3)	X	X	X
Loss of hearing			X
Loss of vision		X	
Rhinorrhea			X
Sore throat		X	X
Stridor	X	X	
Tinnitus			X
Vertigo		X	X

	Critical	Emergent	Lower Acuity
2.0 ABDOMINAL AND GASTROINTESTINAL DISORDERS			
2.1 Abdominal Wall			
Hernias		X	X
2.2 Esophagus			
Infectious disorders			
Candida (See 4.4, 7.5)		X	X
Inflammatory disorders			
Esophagitis		X	X
Gastroesophageal reflux (GERD)			X
Toxic effects of caustic (See 17.1)			
Acid	X	X	
Alkali	X	X	
Motor abnormalities			
Spasms			X
Structural disorders			
Boerhaave's syndrome	X	X	
Diverticula		X	X
Foreign body		X	
Hernias		X	X
Mallory-Weiss syndrome	X	X	
Stricture and stenosis		X	X
Tracheoesophageal fistula	X	X	
Varices	X	X	
Tumors		X	X
2.3 Liver			
Cirrhosis		X	X
Alcoholic		X	X
Biliary obstructive		X	
Drug-induced		X	X
Hepato-renal failure	X	X	
Infectious disorders		X	X
Abscess		X	
Hepatitis			
Acute		X	X
Chronic			X
Tumors		X	X
2.4 Gall Bladder and Biliary Tract			
Cholangitis	X	X	
Cholecystitis		X	
Cholelithiasis/Choledocholithiasis		X	X
Tumors		X	X
2.5 Pancreas			
Pancreatitis	X	X	
Tumors		X	X

	Critical	Emergent	Lower Acuity
2.6 Peritoneum			
Spontaneous bacterial peritonitis	X	X	
2.7 Stomach			
Infectious disorders			X
Inflammatory disorders			
Gastritis		X	X
Peptic ulcer disease		X	X
Hemorrhage	X	X	
Perforation	X	X	
Structural disorders			
Congenital hypertrophic pyloric stenosis		X	
Foreign body		X	X
Tumors		X	X
2.8 Small Bowel			
Infectious disorders		X	X
Inflammatory disorders			
Regional enteritis/Crohn's disease		X	X
Motor abnormalities			
Obstruction		X	
Paralytic ileus		X	
Structural disorders			
Aortoenteric fistula	X		
Congenital anomalies		X	X
Intestinal malabsorption		X	X
Meckel's diverticulum		X	X
Tumors		X	X
Vascular insufficiency	X	X	
2.9 Large Bowel			
Infectious disorders			
Antibiotic associated		X	
Bacterial		X	X
Parasitic		X	X
Viral		X	X
Inflammatory disorders			
Acute appendicitis		X	
Necrotizing enterocolitis (NEC)	X	X	
Radiation colitis		X	
Ulcerative colitis		X	X
Motor abnormalities			
Hirschsprung's disease		X	X
Irritable bowel			X
Obstruction		X	
Structural disorders			
Congenital anomalies		X	X
Diverticula		X	X

	Critical	Emergent	Lower Acuity
Intussusception	X	X	
Volvulus	X	X	
Tumors		X	X
2.10 Rectum and Anus			
Infectious disorders			
Perianal/Anal abscess		X	X
Perirectal abscess		X	
Pilonidal cyst and abscess		X	X
Inflammatory disorders			
Proctitis			X
Structural disorders			
Anal fissure			X
Anal fistula		X	X
Congenital anomalies			X
Foreign body		X	X
Hemorrhoids			X
Rectal prolapse		X	
Tumors		X	X
2.11 Spleen*	X	X	X

	Critical	Emergent	Lower Acuity
3.0 CARDIOVASCULAR DISORDERS			
3.1 Cardiopulmonary Arrest	X		
SIDS (See 1.1)	X		
3.2 Congenital Abnormalities of the Cardiovascular System			
Disorders due to anatomic anomalies	X	X	X
Genetically transmitted disorders	X	X	X
3.3 Disorders of Circulation			
Arterial			
Aneurysm	X	X	X
Aortic dissection	X		
Thromboembolism	X*	X	
Venous			
Thromboembolism (See 16.6)	X	X	
3.4 Disturbances of Cardiac Rhythm			
Cardiac dysrhythmias	X	X	X
Ventricular	X	X	
Supraventricular	X	X	X
Conduction disorders	X	X	X
3.5 Diseases of the Myocardium, Acquired			
Cardiac failure	X	X	
Cor pulmonale	X	X	
High output	X	X	
Low output	X	X	
Cardiomyopathy	X	X	X
Hypertrophic	X	X	X
Congestive heart failure	X	X	
Coronary syndromes	X	X	
Ischemic heart disease	X	X	
Myocardial infarction	X	X	
Myocarditis	X	X	X
Ventricular aneurysm	X	X	X
3.6 Diseases of the Pericardium			
Pericardial tamponade (See 18.1)	X	X	
Pericarditis		X	X
3.7 Endocarditis	X	X	
3.8 Hypertension*	X	X	X*
3.9 Tumors	X	X	
3.10 Valvular Disorders	X	X	X

	Critical	Emergent	Lower Acuity
4.0 CUTANEOUS DISORDERS			
4.1 Cancers of the Skin			
Basal cell			X
Kaposi's sarcoma			X
Melanoma			X
Squamous cell			X
4.2 Decubitus Ulcer		X	X
4.3 Dermatitis			
Atopic			X
Contact			X
Eczema			X
Psoriasis			X
Sebaceous cyst			X
Seborrhea			X
4.4 Infections			
Bacterial			
Abscess		X	X
Cellulitis		X	X
Erysipelas		X	
Impetigo			X
Necrotizing infection	X	X	
Fungal			
Candida (See 2.2, 7.5)			X
Tinea			X
Parasitic			
Pediculosis infestation			X
Scabies			X
Viral			
Aphthous ulcers			X
Erythema infectiosum			X
Herpes simplex (See 10.6, 13.1)			X
Herpes zoster (See 10.6)		X	X
Human papillomavirus (HPV) (See 13.1)			X
Molluscum contagiosum			X
Warts			X
4.5 Maculopapular Lesions			
Erythema multiforme		X	X
Erythema nodosum			X
Henoch-Schönlein purpura (HSP)		X	
Pityriasis rosea			X
Purpura		X	X
Urticaria		X	X

	Critical	Emergent	Lower Acuity
4.6 Papular/Nodular Lesions			
Hemangioma/Lymphangioma			X
Lipoma			X
4.7 Vesicular/Bullous Lesions			
Pemphigus		X	
Staphylococcal scalded skin syndrome	X	X	
Stevens-Johnson syndrome	X	X	
Toxic epidermal necrolysis	X	X	

	Critical	Emergent	Lower Acuity
5.0 ENDOCRINE, METABOLIC, AND NUTRITIONAL DISORDERS			
5.1 Acid-base Disturbances			
Metabolic or respiratory			
Acidosis	X	X	
Alkalosis	X	X	X
Mixed acid-base balance disorder	X	X	
5.2 Adrenal Disease			
Corticoadrenal insufficiency	X	X	
Cushing's syndrome		X	X
5.3 Fluid and Electrolyte Disturbances			
Calcium metabolism	X	X	X
Fluid overload/Volume depletion	X	X	
Hyperkalemia/Hypokalemia	X	X	X
Hypernatremia/Hyponatremia	X	X	X
Magnesium metabolism		X	X
Phosphorus metabolism		X	X
5.4 Glucose Metabolism			
Diabetes mellitus			
Type I	X	X	X
Type II		X	X
Complications in glucose metabolism			
Diabetic ketoacidosis (DKA)	X	X	
Hyperglycemia		X	X
Hyperosmolar coma	X	X	
Hypoglycemia	X	X	
Systemic		X	X
5.5 Nutritional Disorders			
Vitamin deficiencies			X
Vitamin excess			X
Wernicke-Korsakoff syndrome		X	
5.6 Parathyroid Disease		X	X
5.7 Pituitary Disorders		X	X
Panhypopituitarism		X	
5.8 Thyroid Disorders			
Hyperthyroidism	X	X	X
Hypothyroidism		X	X
Thyroiditis		X	X
5.9 Tumors of Endocrine Glands			
Adrenal		X	X
Pituitary		X	X
Thyroid		X	X

	Critical	Emergent	Lower Acuity
6.0 ENVIRONMENTAL DISORDERS			
6.1 Bites and Envenomation (See 18.1)			
Arthropods		X	X
Insects			X
Spiders		X	X
Mammals		X	X
Marine organisms (See 17.1)	X	X	X
Snakes	X	X	X
6.2 Dysbarism			
Air embolism	X	X	
Barotrauma	X	X	X
Decompression syndrome	X	X	
6.3 Electrical Injury (See 18.1)	X	X	X
Lightning	X	X	
6.4 High-altitude Illness			
Acute mountain sickness		X	X
Barotrauma of ascent		X	X
High-altitude cerebral edema	X	X	
High-altitude pulmonary edema	X	X	
6.5 Submersion Incidents			
Cold water immersion	X	X	
Near drowning	X	X	
6.6 Temperature-related Illness			
Heat			
Heat exhaustion		X	X
Heat stroke	X		
Cold			
Frostbite		X	X
Hypothermia	X	X	
6.7 Radiation Emergencies*	X	X	X

	Critical	Emergent	Lower Acuity
7.0 HEAD, EAR, EYE, NOSE, THROAT DISORDERS			
7.1 Ear			
Foreign body		X	X
Impacted cerumen			X
Labyrinthitis			X
Mastoiditis		X	
Meniere's disease			X
Otitis externa			X
Infective			X
Malignant		X	
Otitis media		X	X
Perforated tympanic membrane (See 18.1)			X
7.2 Eye			
External eye			
Blepharitis			X
Burn confined to eye and adnexa (See 18.1)		X	
Conjunctivitis			X
Corneal abrasions (See 18.1)		X	X
Dacryocystitis		X	X
Disorders of lacrimal system			X
Foreign body		X	X
Inflammation of the eyelids			X
Chalazion			X
Hordeolum			X
Anterior pole			
Glaucoma		X	X
Hyphema (See 18.1)		X	X
Iritis (See 18.1)		X	X
Posterior pole			
Choroiditis/Chorioretinitis		X	
Optic neuritis		X	
Papilledema	X	X	
Retinal detachments and defects (See 18.1)			
Retinal vascular occlusion		X	
Retinal vascular occlusion		X	
Orbit			
Cellulitis			
Preseptal		X	
Postseptal		X	
Purulent endophthalmitis		X	
7.3 Cavernous Sinus Thrombosis	X	X	
7.4 Nose			
Epistaxis	X	X	X
Foreign body		X	X
Rhinitis			X

	Critical	Emergent	Lower Acuity
Sinusitis			X
7.5 Oropharynx/Throat			
Dentalgia			X
Diseases of the oral soft tissue			
Ludwig's angina	X	X	
Stomatitis			X
Diseases of the salivary glands			
Sialolithiasis		X	X
Suppurative parotitis		X	
Foreign body	X	X	
Gingival and periodontal disorders			
Gingivostomatitis			X
Larynx/Trachea			
Epiglottitis (See 16.1)	X	X	
Laryngitis			X
Tracheitis		X	X
Oral candidiasis (See 2.2, 4.4)			X
Periapical abscess		X	X
Peritonsillar abscess		X	
Pharyngitis/Tonsillitis			X
Retropharyngeal abscess	X	X	
Temporomandibular joint disorders			X
7.6 Tumors		X	X

	Critical	Emergent	Lower Acuity
8.0 HEMATOLOGIC DISORDERS			
8.1 Blood Transfusion			
Complications	X	X	
8.2 Hemostatic Disorders			
Coagulation defects	X	X	X
Acquired	X	X	X
Hemophilias	X	X	X
Disseminated intravascular coagulation	X		
Platelet disorders	X	X	X
Thrombocytopenia		X	X
8.3 Lymphomas		X	X
8.4 Pancytopenia	X	X	
8.5 Red Blood Cell Disorders			
Anemias			
Aplastic	X	X	
Hemoglobinopathies		X	X
Sickle cell disease		X	X
Hemolytic		X	
Hypochromic			
Iron deficiency		X	X
Megaloblastic		X	X
Polycythemia		X	X
Methemoglobinemia (See 17.1)	X	X	
8.6 White Blood Cell Disorders			
Leukemia		X	X
Multiple myeloma		X	X
Leukopenia*		X	X

	Critical	Emergent	Lower Acuity
9.0 IMMUNE SYSTEM DISORDERS			
9.1 Collagen Vascular Disease			
Raynaud's disease			X
Reiter's syndrome		X	X
Rheumatoid arthritis (See 11.3)		X	X
Scleroderma		X	X
Systemic lupus erythematosus		X	X
Vasculitis		X	X
9.2 HIV and Manifestations (See 10.6)	X	X	X
9.3 Hypersensitivity			
Allergic reaction		X	X
Anaphylaxis	X		
Angioedema	X	X	
Drug allergies	X	X	X
9.4 Kawasaki Syndrome		X	
9.5 Sarcoidosis		X	X
9.6 Transplant-related Problems	X	X	X
Immunosuppression		X	X
Rejection	X	X	
9.7 Rheumatic Fever*		X	X

	Critical	Emergent	Lower Acuity
10.0 SYSTEMIC INFECTIOUS DISORDERS			
10.1 Bacterial			
Bacterial food poisoning		X	X
Botulism	X	X	
Chlamydia		X	X
Gonococcal infections		X	X
Meningococemia	X	X	
Mycobacterial infections			
Atypical mycobacteria		X	X
Tuberculosis		X	X
Other bacterial diseases	X	X	
Gas gangrene (See 11.6)	X	X	
Sepsis/Bacteremia	X	X	
Shock	X		
Systemic inflammatory response syndrome (SIRS)	X	X	
Toxic shock syndrome	X	X	
Spirochetes			
Syphilis		X	X
Tetanus	X	X	
10.2 Biologic Weapons	X	X	
10.3 Fungal Infections		X	X
10.4 Protozoan/Parasites			
Malaria		X	
Toxoplasmosis		X	X
10.5 Tick-borne			
Ehrlichiosis		X	
Lyme disease		X	
Rocky Mountain spotted fever		X	
10.6 Viral		X	X
Infectious mononucleosis		X	X
Influenza/Parainfluenza		X	X
Hantavirus	X	X	
Herpes simplex (See 4.4, 13.1)		X	X
Herpes zoster/Varicella (See 4.4)		X	X
HIV (See 9.2)	X	X	X
Rabies	X		
Roseola			X
Rubella			X

	Critical	Emergent	Lower Acuity
11.0 MUSCULOSKELETAL DISORDERS (NONTRAUMATIC)			
11.1 Bony Abnormalities			
Aseptic necrosis of hip		X	X
Osteomyelitis		X	
Tumors		X	X
11.2 Disorders of the Spine			
Disc disorders		X	X
Inflammatory spondylopathies		X	X
Low back pain			
Cauda equina syndrome (See 18.1)		X	
Sacroiliitis			X
Sprains/Strains			X
11.3 Joint Abnormalities			
Arthritis			
Septic		X	
Gout		X	X
Rheumatoid (See 9.1)			X
Juvenile			X
Osteoarthritis			X
Congenital dislocation of the hip		X	X
Slipped capital femoral epiphysis		X	
11.4 Muscle Abnormalities			
Myalgia/Myositis			X
Rhabdomyolysis	X	X	
11.5 Overuse Syndromes			
Bursitis			X
Muscle strains			X
Peripheral nerve syndrome			X
Carpal tunnel syndrome			X
Tendonitis			X
11.6 Soft Tissue Infections			
Fasciitis		X	
Felon		X	
Gangrene (See 10.1)	X	X	
Paronychia		X	X
Synovitis/Tenosynovitis		X	X

	Critical	Emergent	Lower Acuity
12.0 NERVOUS SYSTEM DISORDERS			
12.1 Cranial Nerve Disorders			X
Bell's palsy			X
Trigeminal neuralgia			X
12.2 Demyelinating Disorders	X	X	
Multiple sclerosis		X	X
12.3 Headache (See 1.4)	X	X	X
Muscle contraction			X
Vascular		X	X
12.4 Hydrocephalus		X	X
Normal pressure		X	X
VP shunt		X	
12.5 Infections/Inflammatory Disorders			
Encephalitis	X	X	
Intracranial and intraspinal abscess	X	X	
Meningitis			
Bacterial	X	X	
Viral		X	X
Myelitis		X	
Neuralgia/Neuritis			X
12.6 Movement Disorders		X	X
Dystonic reaction		X	X
12.7 Neuromuscular Disorders			
Guillain-Barré syndrome	X	X	
Myasthenia gravis	X	X	X*
Peripheral neuropathy*		X	
12.8 Other Conditions of the Brain			
Dementia (See 14.5)			X
Parkinson's disease			X
Pseudotumor cerebri		X	X
12.9 Seizure Disorders	X	X	X
Febrile		X	X
Neonatal		X	
Status epilepticus	X		
12.10 Spinal Cord Compression	X	X	

	Critical	Emergent	Lower Acuity
12.11 Stroke			
Hemorrhagic			
Intracerebral	X	X	
Subarachnoid	X	X	
Ischemic			
Embolic	X	X	
Thrombotic	X	X	
12.12 Transient Cerebral Ischemia		X	X
12.13 Tumors		X	X

	Critical	Emergent	Lower Acuity
13.0 OBSTETRICS AND GYNECOLOGY			
13.1 Female Genital Tract			
Cervix			
Cervicitis and endocervicitis		X	X
Tumors			X
Infectious disorders			
Pelvic inflammatory disease		X	
Fitz-Hugh-Curtis syndrome		X	
Tubo-ovarian abscess		X	
Lesions			
Herpes simplex (See 4.4, 10.6)			X
Human papillomavirus (HPV) (See 4.4)			X
Ovary			
Cyst			X
Torsion		X	
Tumors		X	X
Uterus			
Dysfunctional bleeding		X	X
Endometriosis			X
Prolapse			X
Tumors		X	X
Gestational trophoblastic disease		X	
Leiomyoma			X
Vagina and vulva			
Bartholin's abscess		X	
Foreign body		X	X
Vaginitis/Vulvovaginitis			X
13.2 Normal Pregnancy			X
13.3 Complications of Pregnancy			
Abortion		X	
Ectopic pregnancy	X	X	
Hemolysis, elevated liver enzymes, low platelets (HELLP) syndrome	X	X	
Hemorrhage, antepartum			
Abruptio placentae (See 18.2)	X	X	
Placenta previa	X	X	
Hyperemesis gravidarum		X	X
Hypertension complicating pregnancy		X	X
Eclampsia	X	X	
Preeclampsia		X	
Infections		X	
Rh isoimmunization		X	
13.4 High-risk Pregnancy	X	X	
13.5 Normal Labor and Delivery		X	X

	Critical	Emergent	Lower Acuity
13.6 Complications of Labor			
Fetal distress	X		
Premature labor (See 18.2)		X	
Premature rupture of membranes		X	
Rupture of uterus (See 18.2)	X		
13.7 Complications of Delivery			
Malposition of fetus	X	X	
Nuchal cord	X		
Prolapse of cord	X		
13.8 Postpartum Complications			
Endometritis		X	
Hemorrhage	X	X	
Mastitis		X	X

	Critical	Emergent	Lower Acuity
14.0 PSYCHOBEHAVIORAL DISORDERS			
14.1 Addictive Behavior			
Alcohol dependence			X
Drug dependence			X
Eating disorders		X	X
Substance abuse			X
14.2 Mood Disorders and Thought Disorders			
Acute Psychosis	X	X	
Bipolar disorder		X	X
Depression		X	X
Suicidal risk	X	X	
Grief reaction			X
Schizophrenia		X	X
14.3 Factitious Disorders			
Drug-seeking behavior			X
Munchausen syndrome/Munchausen by proxy		X	X
14.4 Neurotic Disorders			
Anxiety/Panic			X
Obsessive compulsive			X
Phobic			X
Post-traumatic stress			X
14.5 Organic Psychoses			
Chronic organic psychotic conditions			X
Alcoholic psychoses		X	X
Drug psychoses		X	X
Delirium		X	
Dementia (See 12.8)			X
Intoxication and/or withdrawal (See 17.1)			
Alcohol	X*	X	X
Hallucinogens		X	X
Opioids	X	X	X
Phencyclidine		X	
Sedatives/Hypnotics/Anxiolytics	X	X	X
Sympathomimetics and cocaine	X	X	X
14.6 Patterns of Violence/Abuse/Neglect			
Domestic			
Child, spouse, elder		X	
Homicidal Risk	X	X	
Sexual assault	*	X	
Staff/Patient safety		X	
14.7 Personality Disorders			X

14.8 Psychosomatic Disorders

Hypochondriasis

Hysteria/Conversion

Critical

Emergent

Lower Acuity

X

X

	Critical	Emergent	Lower Acuity
15.0 RENAL AND UROGENITAL DISORDERS			
15.1 Acute and Chronic Renal Failure	X	X	X
15.2 Complications of Renal Dialysis	X	X	
15.3 Glomerular Disorders			
Glomerulonephritis		X	X
Nephrotic syndrome		X	X
15.4 Infection			
Cystitis			X
Pyelonephritis		X	
Urinary tract infection (UTI)			X
15.5 Male Genital Tract			
Genital lesions			X
Hernias		X	X
Inflammation/Infection			
Balanitis/Balanoposthitis		X	X
Epididymitis/Orchitis		X	X
Gangrene of the scrotum (Fournier's gangrene)	X	X	
Prostatitis		X	X
Urethritis			X
Structural			
Paraphimosis/Phimosis		X	
Priapism		X	
Prostatic hypertrophy (BPH)			X
Torsion of testis		X	
Testicular masses			X
Tumors			
Prostate			X
Testis			X
15.6 Nephritis		X	X
Hemolytic uremic syndrome		X	
15.7 Structural Disorders			
Calculus of urinary tract		X	X
Obstructive uropathy		X	
Polycystic kidney disease			X
15.8 Tumors			X

	Critical	Emergent	Lower Acuity
16.0 THORACIC-RESPIRATORY DISORDERS			
16.1 Acute Upper Airway Disorders			
Infections			
Croup		X	
Epiglottitis (See 7.5)	X	X	
Pertussis/Whooping cough	X	X	
Upper respiratory infection			X
Obstruction	X		
Tracheostomy/Complications	X	X	
16.2 Disorders of Pleura, Mediastinum, and Chest Wall			
Costochondritis			X
Mediastinitis	X	X	
Pleural effusion		X	X
Pleuritis			X
Pneumomediastinum		X	
Pneumothorax (See 18.1)			
Simple		X	
Tension	X		
16.3 Noncardiogenic Pulmonary Edema	X	X	
16.4 Obstructive/Restrictive Lung Disease			
Asthma/Reactive airway disease	X	X	
Bronchitis and bronchiolitis		X	X
Bronchopulmonary dysplasia		X	X
Chronic obstructive pulmonary disease	X	X	X
Cystic fibrosis	X	X	X
Environmental/Industrial exposure	X	X	X
Foreign body	X	X	
16.5 Physical and Chemical Irritants/Insults			
Pneumoconiosis		X	X
Toxic effects of gases, fumes, vapors (See 18.1)	X	X	X
16.6 Pulmonary Embolism/Infarct			
Septic emboli	X	X	
Venous thromboembolism (See 3.3)	X	X	
16.7 Pulmonary Infections			
Lung abscess		X	
Pneumonia			
Aspiration	X	X	
Atypical		X	
Bacterial	X	X	
Chlamydia		X	
Fungal	X	X	

	Critical	Emergent	Lower Acuity
Mycoplasmal		X	X
Viral	X	X	X
Pulmonary tuberculosis		X	

16.8 Tumors

Breast			X
Chest wall			X
Pulmonary		X	X

	Critical	Emergent	Lower Acuity
17.0 TOXICOLOGIC DISORDERS			
17.1 Drug and Chemical Classes			
Analgesics			
Acetaminophen		X	
Nonsteroidal anti-inflammatories (NSAIDs)		X	X
Opiates and related narcotics	X	X	
Salicylates	X	X	
Alcohol			
Ethanol	X	X	X
Glycol	X	X	
Isopropyl	X	X	X
Methanol	X	X	
Anesthetics	X	X	
Anticholinergics/Cholinergics	X	X	
Anticoagulants	X	X	
Anticonvulsants	X	X	
Antidepressants	X	X	
Antiparkinsonism drugs		X	
Antihistamines and antiemetics		X	
Antipsychotics	X	X	
Bronchodilators		X	
Carbon monoxide	X	X	
Cardiovascular drugs			
Antiarrhythmics	X	X	
<i>Digitalis*</i>	X	X	
Antihypertensives	X	X	
Beta blockers	X	X	
Calcium channel blockers	X	X	
Caustic agents			
Acid	X	X	
Alkali	X	X	
Cocaine	X	X	X
Cyanides, hydrogen sulfide	X	X	
Hallucinogens		X	X
Hazardous materials	X	X	
Heavy metals	X	X	
Herbicides, insecticides, and rodenticides	X	X	
Household/Industrial chemicals	X	X	X
Hormones/Steroids		X	X
Hydrocarbons	X	X	
Hypoglycemics/Insulin	X	X	
Inhaled toxins	X	X	
Iron	X	X	
Isoniazid	X	X	
Marine toxins (See 6.1)	X	X	X
Methemoglobinemia (See 8.5)	X	X	
Mushrooms/Poisonous plants	X	X	

	Critical	Emergent	Lower Acuity
Neuroleptics	X	X	
Non-prescription drugs		X	X
Organophosphates	X	X	
Recreational drugs	X	X	X
Sedatives/Hypnotics	X	X	
Stimulants/Sympathomimetics	X	X	
Strychnine	X	X	
<i>Lithium*</i>	X	X	X

	Critical	Emergent	Lower Acuity
18.0 TRAUMATIC DISORDERS			
18.1 Trauma			
Abdominal trauma			
Diaphragm	X	X	
Hollow viscus	X	X	
Penetrating	X	X	
Retroperitoneum	X	X	
Solid organ	X	X	
Vascular	X	X	
Chest trauma			
Aortic dissection/Disruption	X		
Contusion			
Cardiac	X	X	X
Pulmonary	X	X	
Fracture			
Clavicle		X	X
Ribs/Flail chest	X	X	X
Sternum		X	X
Hemothorax	X	X	
Penetrating chest trauma	X	X	
Pericardial tamponade (See 3.6)	X		
Pneumothorax (See 16.2)			
Simple		X	
Tension	X		
Cutaneous injuries			
Avulsions		X	X
Bite wounds (See 6.1)		X	X
Burns			
Electrical (See 6.3)	X	X	X
Chemical (See 16.5)	X	X	X
Thermal	X	X	X
Lacerations		X	X
Puncture wounds		X	X
Facial fractures			X
Dental		X	X
Le Fort	X	X	X
Mandibular		X	X
Orbital		X	X
Genitourinary trauma			
Bladder		X	
External genitalia		X	
Renal		X	X
Ureteral		X	
Head trauma			
Intracranial injury	X	X	
Scalp lacerations/Avulsions		X	X
Skull fractures		X	X
Injuries of the spine			

	Critical	Emergent	Lower Acuity
Dislocations/Subluxations	X	X	
Fractures	X	X	X
Sprains/Strains			X
Lower extremity bony trauma			
Dislocations/Subluxations		X	
Fractures (open and closed)		X	X
Neck trauma			
Laryngotracheal injuries	X	X	
Penetrating neck trauma	X	X	
Vascular injuries			
Carotid artery	X	X	
Jugular vein	X	X	
Ophthalmologic trauma			
Corneal abrasions/Lacerations (See 7.2)		X	X
Corneal burns			
Acid		X	
Alkali		X	
Ultraviolet		X	X
Eyelid lacerations		X	
Foreign body		X	
Hyphema (See 7.2)		X	
Lacrimal duct injuries		X	
Penetrating globe injuries		X	
Retinal detachments (See 7.2)		X	
Traumatic iritis (See 7.2)		X	X
Otologic trauma			
Hematoma		X	X
Perforated tympanic membrane (See 7.1)			X
Pediatric fractures			
Epiphyseal		X	X
Greenstick		X	
Torus			X
Pelvic fracture	X	X	
Soft-tissue extremity injuries			
Amputations/Replantation		X	
Compartment syndromes		X	
High-pressure injection		X	
Injuries to joints		X	X
Knee		X	X
Penetrating		X	
Penetrating soft-tissue		X	X
Periarticular			X
Sprains and strains			X
Tendon injuries			
Lacerations/Transections		X	
Ruptures		X	
Achilles tendon		X	
Patellar tendon		X	
Vascular injuries*	X	X	

	Critical	Emergent	Lower Acuity
Spinal cord and nervous system trauma			
Cauda equina syndrome (See 11.2)		X	
Injury to nerve roots		X	X
Peripheral nerve injury		X	X
Spinal cord injury	X	X	
Spinal cord injury without radiologic abnormality (SCIWORA)		X	
Upper extremity bony trauma			
Dislocations/Subluxations		X	
Fractures (open and closed)		X	X
18.2 Trauma in Pregnancy			
Abruptio placentae (See 13.3)	X	X	
Perimortem C-section	X		
Premature labor (See 13.6)		X	
Rupture of uterus (See 13.6)	X		
18.3 Multi-system Trauma	X	X	
Blast injury	X	X	

APPENDIX 1.

Procedures and Skills Integral to the Practice of Emergency Medicine

Airway Techniques

Airway adjuncts
Cricothyrotomy
Heimlich maneuver
Intubation

1. Nasotracheal
2. Orotracheal
3. Rapid sequence

Mechanical ventilation
Percutaneous transtracheal ventilation

Anesthesia

Local
Regional nerve block
Sedation - analgesia for procedures

Blood, Fluid*, and Component Therapy Administration

Diagnostic Procedures

Anoscopy
Arthrocentesis
Bedside ultrasonography
Cystourethrogram
Lumbar puncture
Nasogastric tube

Paracentesis
Pericardiocentesis
Peritoneal lavage
Slit lamp examination
Thoracentesis
Tonometry

Genital/Urinary

Bladder catheterization

1. Foley catheter
2. Suprapubic

Testicular detorsion

Head and Neck

Control of epistaxis

1. Anterior packing
2. Cautery
3. Posterior packing/Balloon placement

Laryngoscopy
Needle aspiration of peritonsillar abscess
Removal of rust ring
Tooth replacement

Hemodynamic Techniques

Arterial catheter insertion
Central venous access

1. Femoral

2. Jugular
3. Subclavian
4. Umbilical
5. Venous cutdown

Intraosseous infusion
Peripheral venous cutdown

Obstetrics

Delivery of newborn

1. Abnormal delivery
2. Normal delivery

Other Techniques

Excision of thrombosed hemorrhoids
Foreign body removal
Gastric lavage
Gastrostomy tube replacement
Incision/Drainage
Pain management (See Anesthesia)
Physical restraints
Sexual assault examination
Trepination, nails

Wound closure techniques
Wound management

Resuscitation

Cardiopulmonary resuscitation (CPR)
Neonatal resuscitation

Skeletal Procedures

Fracture/Dislocation immobilization techniques
Fracture/Dislocation reduction techniques
Spine immobilization techniques

Thoracic

Cardiac pacing

1. Cutaneous
2. Transvenous

Defibrillation/Cardioversion
Thoracostomy
Thoracotomy

Universal Precautions

APPENDIX 2.

Other Components of the Practice of Emergency Medicine

ADMINISTRATION

Contract Principles

Analysis of Clauses and Components
Employment v. Independent Contractor
Negotiation

Financial Issues

Budget and Planning
Cost Containment
Reimbursement Issues, Billing, and Coding

Operations

Department Administration
Documentation
Facility Design
Human Resource Management
Information Management
Patient Throughput
Policies and Procedures
Safety and Security

Performance Improvement

Customer Satisfaction and Service
Error Reduction
Practice Guidelines

Pre-hospital Care

Administration, Management, and Operations
Credentialing of Providers
Direct Patient Care
Multi-casualty Incidents
Performance Improvement
Protocol Development

Professionalism

Death in ED
Ethics
Impairment
Leadership (Leading, Directing and Mentoring)
Personal Well-being
Professional Development and *Lifelong** Learning

Systems-based Management

Managed Care
*Disaster Preparedness**

COMMUNICATION AND INTERPERSONAL ISSUES

Complaint Management
Conflict Resolution
Interdepartmental and Medical Staff Relations
Team Building
Teaching

RESEARCH

Evidence-based Medicine
Interpretation of Medical Literature
Performance of Research

RISK MANAGEMENT, LEGAL, AND REGULATORY ISSUES

Accreditation
Compliance
Confidentiality
Consent and Refusal of Care
Emergency Medical Treatment and Active Labor Act (EMTALA)
Liability and Malpractice
Reporting (Assault, Communicable Diseases, National Practitioner Data Bank, etc.)
Risk Management

* For a description of specific changes, please refer to Figure 1, Summary of 2003 EM Model Task Force Changes, that appears on page 3 of this document.

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