

EDUCATIONAL ADVANCE

The 2013 Model of the Clinical Practice of Emergency Medicine

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Abstract

In 2001, "The Model of the Clinical Practice of Emergency Medicine" was first published. This document, the first of its kind, was the result of an extensive practice analysis of emergency department (ED) visits and several expert panels, overseen by representatives from six collaborating professional organizations (the American Board of Emergency Medicine, the American College of Emergency Physicians, the Society for Academic Emergency Medicine, the Residency Review Committee for Emergency Medicine, the Council of Emergency Medicine Residency Directors, and the Emergency Medicine Residents' Association). Every 2 years, the document is reviewed by these organizations to identify practice changes, incorporate new evidence, and identify perceived deficiencies. For this revision, a seventh organization was included, the American Academy of Emergency Medicine.

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Emergency medicine (EM) is the only medical specialty that has a scientifically derived and commonly accepted description of the domain of its clinical practice. That document, "The Model of the Clinical Practice of Emergency Medicine" (EM Model), was developed through the collaboration of six organizations: the American Board of Emergency Medicine (ABEM—the administrative organization for the project), the American College of Emergency Physicians (ACEP), the Council of Emergency Medicine Residency Directors (CORD), the Emergency Medicine Residents' Association (EMRA), the Residency Review Committee for Emergency Medicine (RRC-EM), and the Society for Academic Emergency Medicine (SAEM). Development of the EM Model was based on an extensive practice analysis of the specialty. The practice analysis relied on both empiric data gathered from actual emergency department (ED) visits and several expert panels.¹ The resulting product was first published in 2001² and has successfully served as the common source document for

all EM organizations. One of its strengths is incorporating the reality that EM is a specialty driven by symptoms, not diagnoses, requiring simultaneous therapeutic and diagnostic interventions.

The task force that developed the EM Model recommended that a new task force, composed of representatives from all six organizations, be formed every 2 years to assess the success of the document in accomplishing its objective of supporting the ongoing development of the specialty of EM, to consider alterations to the EM Model suggested by the collaborating organizations, and to recommend changes to the six sponsoring organizations.

The initial 2-year review occurred in 2003, with representatives from each of the six organizations suggesting changes and reporting how their respective organizations had used the document. The initial 2-year update was published in *Annals of Emergency Medicine* and *Academic Emergency Medicine* in 2005.^{3,4} Subsequently, a task force met every 2 years to review the EM Model

From the American Board of Emergency Medicine (FLC, CAM, JNK), East Lansing, MI; the Council of Emergency Medicine Residency Directors (MAB), Dallas, TX; the Society for Academic Emergency Medicine (CDC, SK), Chicago, IL; the American Academy of Emergency Medicine (MLE), Milwaukee, WI; the Emergency Medicine Residents' Association (CKK), Dallas, TX; the American College of Emergency Physicians (SDL, GS), Dallas, TX; and the Residency Review Committee for Emergency Medicine (SBP), Chicago, IL.

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and recommend changes.⁵⁻⁸ In 2013, a seventh organization, the American Academy of Emergency Medicine (AAEM), was added as a collaborating organization. This article provides a brief review of the original EM Model, along with the changes to the EM Model as recommended by the 2011 EM Model Review Task Force. Significant changes occurred with the 2013 review, including extensive reorganization of Category 1, Signs, Symptoms, and Presentations. A summary of all 2013 changes and an update on current uses of the EM Model by the seven collaborating EM organizations is also included in this article.

THE EM MODEL

The EM Model is a three-dimensional description of EM clinical practice. The three dimensions are patient acuity; physician tasks; and a listing of medical knowledge, patient care, and procedural skills. All of these dimensions are interrelated and employed concurrently by a physician when providing patient care. The emergency physician’s initial approach is determined by the acuity of the patient’s presentation. While assessing the patient, the physician completes a series of tasks in collecting information. Through this process, the physician is able to select the most likely etiology of the patient’s problem from the listing of medical knowledge, patient care, and procedural skills. Through simultaneous application of all three components, the physician is able to determine the most probable diagnosis and implement a treatment plan for the patient. Hence, the three dimensions of the EM Model are interrelated and applied concurrently in the practice of EM. The three dimensions, as revised in 2011, are included in Tables 1–4.

Table 1
Matrix of Physician Tasks by Patient Acuity

Physician Tasks	Patient Acuity		
	Critical	Emergent	Lower Acuity
Prehospital care			
Emergency stabilization			
Performance of focused history and physical examination			
Modifying factors			
Professional issues			
Legal issues			
Diagnostic studies			
Diagnosis			
Therapeutic interventions			
Pharmacotherapy			
Observation and reassessment			
Consultation			
Disposition			
Prevention and education			
Documentation			
Multiple patient care			
Team management			
Mass casualty/disaster			

Recently, the Accreditation Council for Graduate Medical Education (ACGME), in preparation for the Next Accreditation System (NAS), required each specialty to develop outcomes-based milestones for resident performance within the six general (core) competencies (i.e., patient care, medical knowledge, practice-based learning and improvement, interpersonal skills, professionalism, and system-based practice). The six general competencies are an integral part of the practice of EM and are embedded in the EM Model.⁹ The EM Model is closely aligned with the core competencies, using section headings with similar terminology.

The EM Model is designed for use as the core document for the specialty. It provides the foundation for developing medical school and residency curricula, certification examination specifications, continuing education objectives, research agendas, residency program review requirements, and other documents necessary for the definition, skills acquisition, assessment, and practice of the specialty. In conjunction with the EM Model, these six general competencies construct a framework for evaluation of physician performance and curriculum design to further refine and improve the education and training of competent emergency physicians. The six competencies and the EM Model also form the core of ABEM Maintenance of Certification (ABEM MOC). For further information on this program see ABEM’s website, www.abem.org.

CHANGES IN THE EM MODEL

The 2013 EM Model Review Task Force met to consider changes based on feedback received from the seven collaborating organizations. Each organization was asked to comment on how it was using the EM Model, identify changes in practice or updated evidence, and recommend changes in the document that would address any perceived deficiencies. Table 5 lists the changes recommended by the 2013 EM Model Review Task Force and accepted by the seven organizations.

CURRENT USES OF THE EM MODEL

AAEM

AAEM uses the EM Model as a reference document to identify topics for annual conference programming.

ABEM

ABEM uses the EM Model to define its examination specifications. Each question or structured case used in any ABEM examination is referenced to the EM Model. Every test and examination that ABEM develops is based on a blueprint derived directly from the EM Model.

ACEP

ACEP uses the EM Model primarily as the basis for its educational activities. In addition, the ACEP Academic Affairs Committee uses the EM Model to align programming with academic educational needs. This information is used to develop a comprehensive list of Web-based educational resources that can be incorporated into residency curricula.

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 airway, respiratory, hemodynamic, and/or neurologic instability.	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

Prehospital care	Participate actively in prehospital care; provide direct patient care or on-line or off-line medical direction or interact with prehospital medical providers; assimilate information from prehospital 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 examination.
Modifying factors	Recognize age, sex, ethnicity, barriers to communication, socioeconomic status, underlying disease, and other factors that may affect patient management.
Professional issues	Understand and apply principles of professionalism and ethics pertinent to patient management.
Legal issues	Understand and apply legal concepts pertinent to the practice of EM.
Diagnostic studies	Select and perform the most appropriate diagnostic studies and interpret the results, e.g., electrocardiogram, emergency ultrasound, radiographic and laboratory tests.
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 reevaluate 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	Collaborate with physicians and other professionals to help guide optimal management of patients.
Disposition	Arrange for patient admission, discharge (including follow-up plan), observation, or transfer as appropriate and communicate these arrangements effectively with patients, family, and involved health care team 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 and appropriate manner that facilitates quality care and coding.
Multiple patient care	Prioritize and implement the evaluation and management of multiple patients in the ED, including handling interruptions and task switching, to provide optimal patient care.
Team management	Coordinate, educate, or supervise members of the patient management team and utilize appropriate hospital resources.
Mass casualty/disaster management	Understand and apply the principles of disaster and mass casualty management including preparedness, triage, mitigation, response, and recovery.

CORD and RRC-EM

The integration of the competencies into the EM Model meets the program requirements of the RRC-EM that the six core competencies are included in residency training. The EM Model is a major tool for CORD and emergency medicine program faculty to use when integrating the competencies into the training, residency curricula, and evaluation of residents.

EMRA

EMRA uses the EM Model as a reference document to identify content at risk for testing on the in-training and certification examinations.

SAEM

SAEM uses the EM Model as a reference document to identify topics and plan programming.

SUMMARY

The EM Model is accomplishing the intended purposes for which it was developed. The 2013 review of the EM Model resulted in significant changes and clarifications, including extensive revision and reorganization of Category 1: Signs, Symptoms, and Presentations. Several EM organizations are using the EM Model to support the ongoing development of the specialty. The complete updated 2013 EM Model can be found on the websites of each of the seven collaborating organizations.

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Table 4

Medical Knowledge, Patient Care, and Procedural Skills

1.0		SIGNS, SYMPTOMS, AND PRESENTATIONS		
		Critical	Emergent	Lower Acuity
1.1	Abnormal Vital Sign Physiology			
1.1.1	Hypothermia	X	X	X
1.1.2	Fever	X	X	X
1.1.3	Bradycardia	X	X	X
1.1.4	Tachycardia	X	X	
1.1.5	Apnea	X		
1.1.6	Tachypnea	X	X	
1.1.7	Hypoxia	X	X	
1.1.8	Hypotension	X	X	
1.1.9	Hypertension	X	X	X
1.2	Pain			
1.2.1	Pain (unspecified)	X	X	X
1.2.2	Headache (See 12.3)	X	X	X
1.2.3	Eye pain		X	X
1.2.4	Chest pain	X	X	X
1.2.5	Abdominal pain	X	X	X
1.2.6	Pelvic pain	X	X	X
1.2.7	Back pain	X	X	X
1.3	General			
1.3.1	Altered mental status	X	X	X
1.3.2	Anuria		X	
1.3.3	Anxiety			X
1.3.4	Ascites		X	X
1.3.5	Ataxia		X	X
1.3.6	Auditory disturbances			X
1.3.7	Bleeding	X	X	X
1.3.8	Congestion/rhinorrhea			X
1.3.9	Constipation			X
1.3.10	Cough		X	X
1.3.11	Crying/fussiness		X	X
1.3.12	Cyanosis	X		
1.3.13	Dehydration	X	X	
1.3.14	Diarrhea		X	X
1.3.15	Dysmenorrhea			X
1.3.16	Dysphagia		X	X
1.3.17	Dysuria			X
1.3.18	Edema		X	X
1.3.19	Failure to thrive		X	X
1.3.20	Fatigue/malaise		X	X
1.3.21	Feeding problems			X
1.3.22	Hematemesis	X	X	
1.3.23	Hematuria		X	X
1.3.24	Hemoptysis	X	X	
1.3.25	Hiccup			X
1.3.26	Jaundice		X	
1.3.27	Joint swelling		X	X
1.3.28	Lethargy	X	X	X
1.3.29	Lightheadedness/dizziness		X	X
1.3.30	Limp		X	X
1.3.31	Lymphadenopathy			X
1.3.32	Mechanical and indwelling devices, complications	X	X	X
1.3.33	Nausea/vomiting		X	X
1.3.34	Occupational exposure		X	X
1.3.35	Palpitations	X	X	X
1.3.36	Paralysis	X	X	
1.3.37	Paresthesia/dysesthesia		X	X
1.3.38	Poisoning	X	X	X
1.3.39	Pruritus		X	X
1.3.40	Rash	X	X	X

Table 4
Continued

		Critical	Emergent	Lower Acuity
1.3.41	Rectal bleeding	X	X	X
1.3.42	Shock	X		
1.3.43	Shortness of breath	X	X	
1.3.44	Sore throat		X	X
1.3.45	Stridor	X	X	
1.3.46	Syncope	X	X	X
1.3.47	Tinnitus			X
1.3.48	Tremor		X	X
1.3.49	Urinary incontinence			X
1.3.50	Urinary retention		X	
1.3.51	Vaginal bleeding	X	X	X
1.3.52	Vaginal discharge			X
1.3.53	Vertigo		X	X
1.3.54	Visual disturbances	X	X	X
1.3.55	Weakness		X	X
1.3.56	Wheezing	X	X	
2.0 ABDOMINAL AND GASTROINTESTINAL DISORDERS				
		Critical	Emergent	Lower Acuity
2.1	Abdominal Wall			
2.1.1	Hernias		X	X
2.2	Esophagus			
2.2.1	Infectious disorders			
2.2.1.1	Candida (See 4.4.2.1, 7.5.7)		X	X
2.2.1.2	Viral esophagitis		X	X
2.2.2	Inflammatory disorders			
2.2.2.1	Esophagitis		X	X
2.2.2.2	Gastroesophageal reflux (GERD)			X
2.2.2.3	Toxic effects of caustic (See 17.1.14)			
2.2.2.3.1	Acid	X	X	
2.2.2.3.2	Alkali	X	X	
2.2.3	Motor abnormalities			
2.2.3.1	Spasms			X
2.2.4	Structural disorders			
2.2.4.1	Boerhaave's syndrome	X	X	
2.2.4.2	Diverticula		X	X
2.2.4.3	Foreign body		X	
2.2.4.4	Hernias		X	X
2.2.4.5	Mallory-Weiss syndrome	X	X	
2.2.4.6	Stricture and stenosis		X	X
2.2.4.7	Tracheoesophageal fistula	X	X	
2.2.4.8	Varices	X	X	
2.2.5	Tumors		X	X
2.3	Liver			
2.3.1	Cirrhosis		X	X
2.3.1.1	Alcoholic		X	X
2.3.1.2	Biliary obstructive		X	
2.3.1.3	Drug-induced		X	X
2.3.2	Hepatorenal failure	X	X	
2.3.3	Infectious disorders		X	X
2.3.3.1	Abscess		X	
2.3.3.2	Hepatitis			
2.3.3.2.1	Acute		X	X
2.3.3.2.2	Chronic			X
2.3.4	Tumors		X	X
2.4	Gallbladder and Biliary Tract			
2.4.1	Cholangitis	X	X	
2.4.2	Cholecystitis		X	
2.4.3	Cholelithiasis/choledocholithiasis		X	X
2.4.4	Tumors		X	X
2.5	Pancreas			
2.5.1	Pancreatitis	X	X	
2.5.2	Tumors		X	X

Table 4
Continued

		Critical	Emergent	Lower Acuity
2.6	Peritoneum			
2.6.1	Spontaneous bacterial peritonitis	X	X	
2.7	Stomach			
2.7.1	Infectious disorders			X
2.7.2	Inflammatory disorders			
2.7.2.1	Gastritis		X	X
2.7.3	Peptic ulcer disease		X	X
2.7.3.1	Hemorrhage	X	X	
2.7.3.2	Perforation	X	X	
2.7.4	Structural disorders			
2.7.4.1	Congenital hypertrophic pyloric stenosis		X	
2.7.4.2	Foreign body		X	X
2.7.5	Tumors		X	X
2.8	Small Bowel			
2.8.1	Infectious disorders		X	X
2.8.2	Inflammatory disorders			
2.8.2.1	Regional enteritis/Crohn's disease		X	X
2.8.3	Motor abnormalities			
2.8.3.1	Obstruction		X	
2.8.3.2	Paralytic ileus		X	
2.8.4	Structural disorders			
2.8.4.1	Aortoenteric fistula	X		
2.8.4.2	Congenital anomalies		X	X
2.8.4.3	Intestinal malabsorption		X	X
2.8.4.4	Meckel's diverticulum		X	X
2.8.5	Tumors		X	X
2.8.6	Vascular insufficiency	X	X	
2.9	Large Bowel			
2.9.1	Infectious disorders			
2.9.1.1	Antibiotic-associated		X	
2.9.1.2	Bacterial		X	X
2.9.1.3	Parasitic		X	X
2.9.1.4	Viral		X	X
2.9.2	Inflammatory disorders			
2.9.2.1	Appendicitis		X	
2.9.2.2	Necrotizing enterocolitis (NEC)	X	X	
2.9.2.3	Radiation colitis		X	
2.9.2.4	Ulcerative colitis		X	X
2.9.3	Motor abnormalities			
2.9.3.1	Hirschsprung's disease		X	X
2.9.3.2	Irritable bowel			X
2.9.3.3	Obstruction		X	
2.9.4	Structural disorders			
2.9.4.1	Congenital anomalies		X	X
2.9.4.2	Diverticula		X	X
2.9.4.3	Intussusception	X	X	
2.9.4.4	Volvulus	X	X	
2.9.5	Tumors		X	X
2.10	Rectum and Anus			
2.10.1	Infectious disorders			
2.10.1.1	Perianal/anal abscess		X	X
2.10.1.2	Perirectal abscess		X	
2.10.1.3	Pilonidal cyst and abscess		X	X
2.10.2	Inflammatory disorders			
2.10.2.1	Proctitis			X
2.10.3	Structural disorders			
2.10.3.1	Anal fissure			X
2.10.3.2	Anal fistula		X	X
2.10.3.3	Congenital anomalies			X
2.10.3.4	Foreign body		X	X
2.10.3.5	Hemorrhoids			X
2.10.3.6	Rectal prolapse		X	
2.10.4	Tumors		X	X

Table 4
Continued

		Critical	Emergent	Lower Acuity
2.11	Spleen			
2.11.1	Asplenism		X	X
2.11.2	Splenomegaly			X
2.11.3	Vascular insufficiency/infarction	X	X	X
3.0 CARDIOVASCULAR DISORDERS				
		Critical	Emergent	Lower Acuity
3.1	Cardiopulmonary Arrest	X		
3.1.1	Sudden unexpected infant death (SUID)	X		
3.1.2	Pulseless electrical activity	X		
3.2	Congenital Abnormalities of the Cardiovascular System	X	X	X
3.3	Disorders of Circulation			
3.3.1	Arterial			
3.3.1.1	Aneurysm	X	X	X
3.3.1.2	Aortic dissection	X		
3.3.1.3	Thromboembolism	X	X	
3.3.2	Venous			
3.3.2.1	Thromboembolism (See 16.6.2)	X	X	
3.4	Disturbances of Cardiac Rhythm			
3.4.1	Cardiac dysrhythmias	X	X	X
3.4.1.1	Ventricular	X	X	
3.4.1.2	Supraventricular	X	X	X
3.4.2	Conduction disorders	X	X	X
3.5	Diseases of the Myocardium, Acquired			
3.5.1	Cardiac failure	X	X	
3.5.1.1	Cor pulmonale	X	X	
3.5.1.2	High output	X	X	
3.5.1.3	Low output	X	X	
3.5.2	Cardiomyopathy	X	X	X
3.5.2.1	Hypertrophic	X	X	X
3.5.3	Congestive heart failure	X	X	
3.5.4	Coronary syndromes	X	X	
3.5.5	Ischemic heart disease	X	X	
3.5.6	Myocardial infarction	X	X	
3.5.7	Myocarditis	X	X	X
3.5.8	Ventricular aneurysm	X	X	X
3.6	Diseases of the Pericardium			
3.6.1	Pericardial tamponade (See 18.1.2.6)	X	X	
3.6.2	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
4.0 CUTANEOUS DISORDERS				
		Critical	Emergent	Lower Acuity
4.1	Cancers of the Skin			
4.1.1	Basal cell			X
4.1.2	Kaposi's sarcoma			X
4.1.3	Melanoma			X
4.1.4	Squamous cell			X
4.2	Ulcerative Lesions			
4.2.1	Decubitus		X	X
4.2.2	Venous stasis			X

Table 4
Continued

		Critical	Emergent	Lower Acuity
4.3	Dermatitis			
4.3.1	Atopic			X
4.3.2	Contact			X
4.3.3	Eczema			X
4.3.4	Psoriasis			X
4.3.5	Seborrhea			X
4.4	Infections			
4.4.1	Bacterial			
4.4.1.1	Abscess		X	X
4.4.1.2	Cellulitis		X	X
4.4.1.3	Erysipelas		X	
4.4.1.4	Impetigo			X
4.4.1.5	Necrotizing infection	X	X	
4.4.2	Fungal			
4.4.2.1	Candida (See 2.2.1.1, 7.5.7)			X
4.4.2.2	Dermatophytes			X
4.4.3	Ectoparasites			X
4.4.4	Viral			
4.4.4.1	Aphthous ulcers			X
4.4.4.2	Childhood exanthems (See 10.6.8, 10.6.9)			X
4.4.4.3	Herpes simplex (See 10.6.4, 13.1.3.1)			X
4.4.4.4	Herpes zoster (See 10.6.5)		X	X
4.4.4.5	Human papillomavirus (HPV) (See 13.1.3.2)			X
4.4.4.6	Molluscum contagiosum			X
4.5	Maculopapular Lesions			
4.5.1	Erythema multiforme		X	X
4.5.2	Erythema nodosum			X
4.5.3	Henoch-Schönlein purpura (HSP)		X	
4.5.4	Pityriasis rosea			X
4.5.5	Purpura		X	X
4.5.6	Urticaria		X	X
4.6	Papular/Nodular Lesions			
4.6.1	Hemangioma/lymphangioma			X
4.6.2	Lipoma			X
4.6.3	Sebaceous cyst			X
4.7	Vesicular/Bullous Lesions			
4.7.1	Pemphigus		X	
4.7.2	Staphylococcal scalded skin syndrome	X	X	
4.7.3	Stevens-Johnson syndrome	X	X	
4.7.4	Toxic epidermal necrolysis	X	X	
4.7.5	Bullous pemphigoid		X	X
5.0 ENDOCRINE, METABOLIC, AND NUTRITIONAL DISORDERS				
		Critical	Emergent	Lower Acuity
5.1	Acid-Base Disturbances			
5.1.1	Metabolic or respiratory			
5.1.1.1	Acidosis	X	X	
5.1.1.2	Alkalosis	X	X	X
5.1.2	Mixed acid-base balance disorder	X	X	
5.2	Adrenal Disease			
5.2.1	Corticoadrenal insufficiency	X	X	
5.2.2	Cushing's syndrome		X	X
5.3	Fluid and Electrolyte Disturbances			
5.3.1	Calcium metabolism	X	X	X
5.3.2	Fluid overload/volume depletion	X	X	
5.3.3	Potassium metabolism	X	X	X
5.3.4	Sodium metabolism	X	X	X
5.3.5	Magnesium metabolism		X	X
5.3.6	Phosphorus metabolism		X	X

Table 4
Continued

		Critical	Emergent	Lower Acuity
5.4	Glucose Metabolism			
5.4.1	Diabetes mellitus			
5.4.1.1	Type I	X	X	X
5.4.1.2	Type II		X	X
5.4.1.3	Complications in glucose metabolism			
5.4.1.3.1	Diabetic ketoacidosis (DKA)	X	X	
5.4.1.3.2	Hyperglycemia		X	X
5.4.1.3.3	Hyperosmolar hyperglycemic state	X	X	
5.4.1.3.4	Hypoglycemia	X	X	
5.5	Nutritional Disorders			
5.5.1	Vitamin deficiencies			X
5.5.2	Wernicke-Korsakoff syndrome		X	
5.5.3	Malabsorption		X	X
5.6	Parathyroid Disease		X	X
5.7	Pituitary Disorders		X	X
5.7.1	Panhypopituitarism		X	
5.8	Thyroid Disorders			
5.8.1	Hyperthyroidism	X	X	X
5.8.2	Hypothyroidism	X	X	X
5.8.3	Thyroiditis		X	X
5.9	Tumors of Endocrine Glands			
5.9.1	Adrenal		X	X
5.9.1.1	Pheochromocytoma	X	X	
5.9.2	Pituitary		X	X
5.9.3	Thyroid		X	X
6.0 ENVIRONMENTAL DISORDERS				
		Critical	Emergent	Lower Acuity
6.1	Bites and Envenomation (See 18.1.3.2)			
6.1.1	Arthropods		X	X
6.1.1.1	Insects			X
6.1.1.2	Arachnida		X	X
6.1.2	Mammals		X	X
6.1.3	Marine organisms (See 17.1.28)	X	X	X
6.1.4	Reptiles	X	X	X
6.2	Dysbarism			
6.2.1	Air embolism	X	X	
6.2.2	Barotrauma	X	X	X
6.2.3	Decompression syndrome	X	X	
6.3	Electrical Injury (See 18.1.3.3.1)	X	X	X
6.3.1	Lightning	X	X	
6.4	High-altitude Illness			
6.4.1	Acute mountain sickness		X	X
6.4.2	Barotrauma of ascent		X	X
6.4.3	High-altitude cerebral edema	X	X	
6.4.4	High-altitude pulmonary edema	X	X	
6.5	Submersion Incidents			
6.5.1	Cold water immersion	X	X	
6.5.2	Near drowning	X	X	
6.6	Temperature-related Illness			
6.6.1	Heat			
6.6.1.1	Heat exhaustion		X	X
6.6.1.2	Heat stroke	X		
6.6.2	Cold			
6.6.2.1	Frostbite		X	X
6.6.2.2	Hypothermia	X	X	
6.7	Radiation Emergencies	X	X	X

Table 4
Continued

		7.0 HEAD, EAR, EYE, NOSE, THROAT DISORDERS		
		Critical	Emergent	Lower Acuity
7.1	Ear			
7.1.1	Foreign body		X	X
	7.1.1.1 Impacted cerumen			X
7.1.2	Labyrinthitis			X
7.1.3	Mastoiditis		X	
7.1.4	Ménière's disease			X
7.1.5	Otitis externa			X
	7.1.5.1 Infective			X
	7.1.5.1.1 Malignant		X	
7.1.6	Otitis media		X	X
7.1.7	Perforated tympanic membrane (See 18.1.11.2)		X	
7.1.8	Perichondritis		X	X
7.2	Eye			
7.2.1	External eye			
	7.2.1.1 Blepharitis			X
	7.2.1.2 Burn confined to eye (See 18.1.10.2)		X	
	7.2.1.3 Conjunctivitis			X
	7.2.1.4 Corneal abrasions (See 18.1.10.1)		X	X
	7.2.1.5 Dacryocystitis		X	X
	7.2.1.6 Disorders of lacrimal system			X
	7.2.1.7 Foreign body		X	X
	7.2.1.8 Inflammation of the eyelids			X
	7.2.1.8.1 Chalazion			X
	7.2.1.8.2 Hordeolum			X
	7.2.1.9 Keratitis		X	X
7.2.2	Anterior pole			
	7.2.2.1 Glaucoma		X	X
	7.2.2.2 Hyphema (See 18.1.10.5)		X	X
	7.2.2.3 Iritis (See 18.1.10.9)		X	X
	7.2.2.4 Hypopyon		X	
7.2.3	Posterior pole			
	7.2.3.1 Choroiditis/chorioretinitis		X	
	7.2.3.2 Optic neuritis		X	
	7.2.3.3 Papilledema	X	X	
	7.2.3.4 Retinal detachments and defects (See 18.1.10.8)		X	
	7.2.3.5 Retinal vascular occlusion		X	
7.2.4	Orbit			
	7.2.4.1 Cellulitis			
	7.2.4.1.1 Preseptal		X	
	7.2.4.1.2 Postseptal		X	
	7.2.4.2 Purulent endophthalmitis		X	
7.3	Cerebral Venous Sinus Thrombosis	X	X	
7.3.1	Cavernous sinus thrombosis	X	X	
7.4	Nose			
7.4.1	Epistaxis	X	X	X
7.4.2	Foreign body		X	X
7.4.3	Rhinitis			X
7.4.4	Sinusitis			X
7.5	Oropharynx/Throat			
7.5.1	Dentalgia			X
7.5.2	Diseases of the oral soft tissue			
	7.5.2.1 Ludwig's angina	X	X	
	7.5.2.2 Stomatitis			X
7.5.3	Diseases of the salivary glands			
	7.5.3.1 Sialolithiasis		X	X
	7.5.3.2 Suppurative parotitis		X	
7.5.4	Foreign body	X	X	
7.5.5	Gingival and periodontal disorders			
	7.5.5.1 Gingivostomatitis			X

Table 4
Continued

		Critical	Emergent	Lower Acuity
7.5.6	Larynx/trachea			
	7.5.6.1 Epiglottitis (See 16.1.1.2)	X	X	
	7.5.6.2 Laryngitis			X
	7.5.6.3 Tracheitis		X	X
7.5.7	Oral candidiasis (See 2.2.1.1, 4.4.2.1)			X
7.5.8	Dental abscess		X	X
7.5.9	Peritonsillar abscess		X	
7.5.10	Pharyngitis/tonsillitis			X
7.5.11	Retropharyngeal abscess	X	X	
7.5.12	Temporomandibular joint disorders			X
7.6	Tumors		X	X
8.0 HEMATOLOGIC DISORDERS				
		Critical	Emergent	Lower Acuity
8.1	Blood Transfusion			
8.1.1	Complications	X	X	
8.2	Hemostatic Disorders			
8.2.1	Coagulation defects	X	X	X
	8.2.1.1 Acquired	X	X	X
	8.2.1.2 Hemophilias	X	X	X
8.2.2	Disseminated intravascular coagulation	X		
8.2.3	Platelet disorders	X	X	X
	8.2.3.1 Thrombocytopenia		X	X
8.3	Lymphomas		X	X
8.4	Pancytopenia	X	X	
8.5	Red Blood Cell Disorders			
8.5.1	Anemias			
	8.5.1.1 Aplastic	X	X	
	8.5.1.2 Hemoglobinopathies		X	X
	8.5.1.2.1 Sickle cell disease		X	X
	8.5.1.3 Hemolytic		X	
	8.5.1.4 Hypochromic			
	8.5.1.4.1 Iron deficiency		X	X
	8.5.1.5 Megaloblastic		X	X
8.5.2	Polycythemia		X	X
8.5.3	Methemoglobinemia (See 17.1.29)	X	X	
8.6	White Blood Cell Disorders			
8.6.1	Leukemia		X	X
8.6.2	Multiple myeloma		X	X
8.6.3	Leukopenia		X	X
9.0 IMMUNE SYSTEM DISORDERS				
		Critical	Emergent	Lower Acuity
9.1	Collagen Vascular Disease			
9.1.1	Raynaud's disease			X
9.1.2	Reiter's syndrome		X	X
9.1.3	Rheumatoid arthritis (See 11.3.1.3)		X	X
9.1.4	Scleroderma		X	X
9.1.5	Systemic lupus erythematosus		X	X
9.1.6	Vasculitis		X	X
9.2	Hypersensitivity			
9.2.1	Allergic reaction		X	X
9.2.2	Anaphylaxis	X		
9.2.3	Angioedema	X	X	
9.2.4	Drug allergies	X	X	X
9.3	Transplant-related Problems	X	X	X
9.3.1	Immunosuppression		X	X
9.3.2	Rejection	X	X	
9.4	Immune Complex Disorders		X	
9.4.1	Kawasaki syndrome		X	X

Table 4
Continued

		Critical	Emergent	Lower Acuity
9.4.2	Rheumatic fever		X	X
9.4.3	Sarcoidosis		X	X
9.4.4	Poststreptococcal glomerulonephritis (See 15.3.1)		X	
10.0 SYSTEMIC INFECTIOUS DISORDERS				
		Critical	Emergent	Lower Acuity
10.1 Bacterial				
10.1.1	Bacterial food poisoning		X	X
	10.1.1.1 Botulism	X	X	
10.1.2	Chlamydia		X	X
10.1.3	Gonococcus		X	X
10.1.4	Meningococcus	X	X	
10.1.5	Mycobacterium			
	10.1.5.1 Atypical mycobacteria		X	X
	10.1.5.2 Tuberculosis		X	X
10.1.6	Other bacterial diseases	X	X	
	10.1.6.1 Gas gangrene (See 11.6.3)	X	X	
10.1.7	Sepsis/bacteremia	X	X	
	10.1.7.1 Shock	X		
	10.1.7.2 Systemic inflammatory response syndrome (SIRS)	X	X	
	10.1.7.3 Toxic shock syndrome	X	X	
10.1.8	Spirochetes			
	10.1.8.1 Syphilis		X	X
10.1.9	Tetanus	X	X	
10.2 Biologic Warfare Agents		X	X	
10.3 Fungal Infections			X	X
10.4 Protozoan/Parasites				
10.4.1	Malaria		X	
10.4.2	Toxoplasmosis		X	X
10.5 Tick-borne				
10.5.1	Ehrlichiosis		X	
10.5.2	Lyme disease		X	
10.5.3	Rocky Mountain spotted fever		X	
10.6 Viral			X	X
10.6.1	Infectious mononucleosis		X	X
10.6.2	Influenza/parainfluenza		X	X
10.6.3	Hantavirus	X	X	
10.6.4	Herpes simplex (See 4.4.4.3, 13.1.3.1)		X	X
10.6.5	Herpes zoster/varicella (See 4.4.4.4)		X	X
10.6.6	HIV/AIDS	X	X	X
10.6.7	Rabies	X		
10.6.8	Roseola (See 4.4.4.2)			X
10.6.9	Rubella (See 4.4.4.2)			X
10.7 Emerging Infections, Pandemics, and Drug Resistance		X	X	
11.0 MUSCULOSKELETAL DISORDERS (NONTRAUMATIC)				
		Critical	Emergent	Lower Acuity
11.1 Bony Abnormalities				
11.1.1	Aseptic/avascular necrosis		X	X
11.1.2	Osteomyelitis		X	
11.1.3	Tumors		X	X
11.2 Disorders of the Spine				
11.2.1	Disc disorders		X	X
11.2.2	Inflammatory spondylopathies		X	X
11.2.3	Low back pain			
	11.2.3.1 Cauda equina syndrome (See 18.1.15.1)	X	X	
	11.2.3.2 Sacroiliitis			X
	11.2.3.3 Sprains/strains			X

Table 4
Continued

		Critical	Emergent	Lower Acuity
11.3	Joint Abnormalities			
11.3.1	Arthritis			
	11.3.1.1 Septic		X	
	11.3.1.2 Crystal arthropathies		X	X
	11.3.1.3 Rheumatoid (See 9.1.3)			X
	11.3.1.4 Juvenile			X
	11.3.1.5 Osteoarthritis			X
11.3.2	Congenital dislocation of the hip		X	X
11.3.3	Slipped capital femoral epiphysis		X	
11.4	Muscle Abnormalities			
11.4.1	Myositis			X
11.4.2	Rhabdomyolysis	X	X	
11.5	Overuse Syndromes			
11.5.1	Bursitis			X
11.5.2	Muscle strains			X
11.5.3	Peripheral nerve syndrome			X
	11.5.3.1 Carpal tunnel syndrome			X
11.5.4	Tendonitis			X
11.6	Soft Tissue Infections			
11.6.1	Fasciitis		X	
11.6.2	Felon		X	
11.6.3	Gangrene (See 10.1.6.1)	X	X	
11.6.4	Paronychia		X	X
11.6.5	Synovitis/tenosynovitis		X	X
12.0 NERVOUS SYSTEM DISORDERS				
		Critical	Emergent	Lower Acuity
12.1	Cranial Nerve Disorders			X
12.1.1	Idiopathic facial nerve paralysis (Bell's palsy)		X	
12.1.2	Trigeminal neuralgia			X
12.2	Demyelinating Disorders	X	X	
12.2.1	Multiple sclerosis		X	X
12.3	Headache (See 1.2.2)	X	X	X
12.3.1	Tension			X
12.3.2	Vascular		X	X
12.3.3	Cluster		X	X
12.4	Hydrocephalus		X	X
12.4.1	Normal pressure		X	X
12.4.2	VP shunt		X	
12.5	Infections/Inflammatory Disorders			
12.5.1	Encephalitis	X	X	
12.5.2	Intracranial and intraspinal abscess	X	X	
12.5.3	Meningitis			
	12.5.3.1 Bacterial	X	X	
	12.5.3.2 Viral		X	X
12.5.4	Myelitis		X	
12.5.5	Neuritis			X
12.6	Movement Disorders		X	X
12.6.1	Dystonic reaction		X	X
12.6.2	Chorea/choreiform			X
12.6.3	Tardive dyskinesia			X
12.7	Neuromuscular Disorders			
12.7.1	Guillain-Barré syndrome	X	X	
12.7.2	Myasthenia gravis	X	X	X
12.7.3	Peripheral neuropathy		X	
12.8	Other Conditions of the Brain			
12.8.1	Dementia (See 14.5.3)			X

Table 4
Continued

		Critical	Emergent	Lower Acuity
12.8.2	Parkinson's disease			X
12.8.3	Pseudotumor cerebri		X	X
12.9	Seizure Disorders	X	X	X
12.9.1	Febrile		X	X
12.9.2	Neonatal		X	
12.9.3	Status epilepticus	X		
12.9.3.1	Nonconvulsive	X		
12.10	Spinal Cord Compression	X	X	
12.11	Stroke			
12.11.1	Hemorrhagic			
12.11.1.1	Intracerebral	X	X	
12.11.1.2	Subarachnoid	X	X	
12.11.2	Ischemic			
12.11.2.1	Embolic	X	X	
12.11.2.2	Thrombotic	X	X	
12.12	Transient Cerebral Ischemia		X	X
12.13	Tumors		X	X
13.0 OBSTETRICS AND GYNECOLOGY				
		Critical	Emergent	Lower Acuity
13.1	Female Genital Tract			
13.1.1	Cervix			
13.1.1.1	Cervicitis and endocervicitis		X	X
13.1.1.2	Tumors			X
13.1.2	Infectious disorders			
13.1.2.1	Pelvic inflammatory disease		X	
13.1.2.1.1	Fitz-Hugh-Curtis syndrome		X	
13.1.2.1.2	Tuboovarian abscess		X	
13.1.2.2	Urethritis			X
13.1.3	Lesions			
13.1.3.1	Herpes simplex (See 4.4.4.3, 10.6.4)		X	
13.1.3.2	Human papillomavirus (HPV) (See 4.4.4.5)			X
13.1.4	Ovary			
13.1.4.1	Cyst			X
13.1.4.2	Torsion		X	
13.1.4.3	Tumors		X	X
13.1.5	Uterus			
13.1.5.1	Dysfunctional bleeding		X	X
13.1.5.2	Endometriosis			X
13.1.5.3	Prolapse			X
13.1.5.4	Tumors		X	X
13.1.5.4.1	Gestational trophoblastic disease		X	
13.1.5.4.2	Leiomyoma			X
13.1.6	Vagina and vulva			
13.1.6.1	Bartholin's cyst		X	X
13.1.6.2	Foreign body		X	X
13.1.6.3	Vaginitis/vulvovaginitis			X
13.2	Normal Pregnancy			X
13.3	Complications of Pregnancy			
13.3.1	Abortion		X	
13.3.2	Ectopic pregnancy	X	X	
13.3.3	Hemolysis, elevated liver enzymes, low platelets (HELLP) syndrome	X	X	
13.3.4	Hemorrhage, antepartum			
13.3.4.1	Abruptio placentae (See 18.2.1)	X	X	
13.3.4.2	Placenta previa	X	X	
13.3.5	Hyperemesis gravidarum		X	X
13.3.6	Gestational hypertension		X	X
13.3.6.1	Eclampsia	X	X	

Table 4
Continued

		Critical	Emergent	Lower Acuity
	13.3.6.2 Preeclampsia		X	
13.3.7	Infections		X	
13.3.8	Rh isoimmunization		X	
13.3.9	First trimester bleeding	X	X	X
13.3.10	Gestational diabetes		X	X
13.4	High-risk Pregnancy	X	X	
13.4.1	Assisted reproductive therapies	X	X	X
13.5	Normal Labor and Delivery		X	X
13.6	Complications of Labor			
13.6.1	Fetal distress	X		
13.6.2	Premature labor (See 18.2.3)		X	
13.6.3	Premature rupture of membranes		X	
13.6.4	Rupture of uterus (See 18.2.4)	X		
13.7	Complications of Delivery			
13.7.1	Malposition of fetus	X	X	
13.7.2	Nuchal cord	X		
13.7.3	Prolapse of cord	X		
13.8	Postpartum Complications			
13.8.1	Endometritis		X	
13.8.2	Hemorrhage	X	X	
13.8.3	Mastitis		X	X
13.8.4	Pituitary infarction	X	X	
13.9	Contraception		X	X
	14.0 PSYCHOBEHAVIORAL DISORDERS			
		Critical	Emergent	Lower Acuity
14.1	Addictive Behavior			
14.1.1	Alcohol dependence			X
14.1.2	Drug dependence			X
14.1.3	Eating disorders		X	X
14.1.4	Substance abuse			X
14.1.5	Tobacco dependence			X
14.2	Mood Disorders and Thought Disorders			
14.2.1	Acute psychosis	X	X	
14.2.2	Bipolar disorder		X	X
14.2.3	Depression		X	X
14.2.3.1	Suicidal risk	X	X	
14.2.4	Grief reaction			X
14.2.5	Schizophrenia		X	X
14.3	Factitious Disorders			
14.3.1	Drug-diversion behavior			X
14.3.2	Munchausen syndrome/Munchausen by proxy	X	X	
14.4	Neurotic Disorders			
14.4.1	Anxiety/panic			X
14.4.2	Obsessive compulsive			X
14.4.3	Phobic			X
14.4.4	Posttraumatic stress			X
14.5	Organic Psychoses			
14.5.1	Chronic organic psychotic conditions			X
14.5.1.1	Alcoholic psychoses		X	X
14.5.1.2	Drug psychoses		X	X
14.5.2	Delirium		X	
14.5.3	Dementia (See 12.8.1)			X
14.5.4	Intoxication and/or withdrawal			
14.5.4.1	Alcohol (See 17.1.2)	X	X	X
14.5.4.2	Hallucinogens (See 17.1.17)		X	X
14.5.4.3	Opioids (See 17.1.1.3)	X	X	X
14.5.4.4	Sedatives/hypnotics/anxiolytics (See 17.1.35)	X	X	X

Table 4
Continued

		Critical	Emergent	Lower Acuity
	14.5.4.5 Sympathomimetics and cocaine (See 17.1.36, 17.1.15)	X	X	X
	14.5.4.6 Anticholinergic (See 17.1.4)	X	X	X
14.6	Patterns of Violence/Abuse/Neglect			
14.6.1	Interpersonal violence			
14.6.1.1	Child, intimate partner, elder		X	
14.6.2	Homicidal risk	X	X	
14.6.3	Sexual assault		X	
14.6.4	Staff/patient safety		X	
14.7	Personality Disorders			X
14.8	Psychosomatic Disorders			
14.8.1	Hypochondriasis			X
14.8.2	Hysteria/conversion			X
15.0 RENAL AND UROGENITAL DISORDERS				
		Critical	Emergent	Lower Acuity
15.1	Acute and Chronic Renal Failure	X	X	X
15.2	Complications of Renal Dialysis	X	X	
15.3	Glomerular Disorders			
15.3.1	Glomerulonephritis (See 9.4.4)		X	X
15.3.2	Nephrotic syndrome		X	X
15.4	Infection			
15.4.1	Cystitis			X
15.4.2	Pyelonephritis		X	
15.5	Male Genital Tract			
15.5.1	Genital lesions			X
15.5.2	Hernias		X	X
15.5.3	Inflammation/infection			
15.5.3.1	Balanitis/balanoposthitis		X	X
15.5.3.2	Epididymitis/orchitis		X	X
15.5.3.3	Gangrene of the scrotum (Fournier's gangrene)	X	X	
15.5.3.4	Prostatitis		X	X
15.5.3.5	Urethritis			X
15.5.4	Structural			
15.5.4.1	Paraphimosis/phimosis		X	
15.5.4.2	Priapism		X	
15.5.4.3	Prostatic hypertrophy (BPH)			X
15.5.4.4	Torsion		X	
15.5.5	Testicular masses			X
15.5.6	Tumors			
15.5.6.1	Prostate			X
15.5.6.2	Testis			X
15.6	Nephritis		X	X
15.6.1	Hemolytic uremic syndrome		X	
15.7	Structural Disorders			
15.7.1	Calculus of urinary tract		X	X
15.7.2	Obstructive uropathy		X	
15.7.3	Polycystic kidney disease			X
15.8	Tumors			X
16.0 THORACIC-RESPIRATORY DISORDERS				
		Critical	Emergent	Lower Acuity
16.1	Acute Upper Airway Disorders			
16.1.1	Infections			
16.1.1.1	Croup		X	
16.1.1.2	Epiglottitis (See 7.5.6.1)	X	X	
16.1.2	Obstruction	X		

Table 4
Continued

		Critical	Emergent	Lower Acuity
16.1.3	Tracheostomy/complications	X	X	
16.2	Disorders of Pleura, Mediastinum, and Chest Wall			
16.2.1	Costochondritis			X
16.2.2	Mediastinitis	X	X	
16.2.3	Pleural effusion		X	X
16.2.4	Pleuritis			X
16.2.5	Pneumomediastinum		X	
16.2.6	Pneumothorax (See 18.1.2.7)			
	16.2.6.1 Simple		X	
	16.2.6.2 Tension	X		
	16.2.6.3 Open	X		
16.2.7	Empyema		X	X
16.3	Noncardiogenic Pulmonary Edema	X	X	
16.4	Obstructive/Restrictive Lung Disease			
16.4.1	Asthma/reactive airway disease	X	X	
16.4.2	Bronchitis and bronchiolitis		X	X
16.4.3	Bronchopulmonary dysplasia		X	X
16.4.4	Chronic obstructive pulmonary disease	X	X	X
16.4.5	Cystic fibrosis	X	X	X
16.4.6	Environmental/industrial exposure	X	X	X
16.4.7	Foreign body	X	X	
16.5	Physical and Chemical Irritants/Insults			
16.5.1	Pneumoconiosis		X	X
16.5.2	Toxic effects of gases, fumes, vapors (See 18.1.3.3.2)	X	X	X
16.6	Pulmonary Embolism/Infarct			
16.6.1	Septic emboli	X	X	
16.6.2	Venous thromboembolism (See 3.3.2.1)	X	X	
16.6.3	Fat emboli	X	X	
16.7	Pulmonary Infections			
16.7.1	Lung abscess		X	
16.7.2	Pneumonia			
	16.7.2.1 Aspiration	X	X	
	16.7.2.2 Community-acquired	X	X	X
	16.7.2.3 Health care-associated	X	X	X
16.7.3	Pulmonary tuberculosis		X	
16.7.4	Respiratory syncytial virus (RSV)	X	X	X
16.7.5	Pertussis	X	X	X
16.8	Tumors			
16.8.1	Breast			X
16.8.2	Pulmonary		X	X
16.9	Pulmonary Hypertension	X	X	X
17.0 TOXICOLOGIC DISORDERS				
		Critical	Emergent	Lower Acuity
17.1	Drug and Chemical Classes			
17.1.1	Analgesics			
	17.1.1.1 Acetaminophen		X	
	17.1.1.2 Nonsteroidal anti-inflammatories (NSAIDs)		X	X
	17.1.1.3 Opiates and related narcotics (See 14.5.4.3)	X	X	
	17.1.1.4 Salicylates	X	X	
17.1.2	Alcohol (See 14.5.4.1)			
	17.1.2.1 Ethanol	X	X	X
	17.1.2.2 Glycol	X	X	
	17.1.2.3 Isopropyl	X	X	X
	17.1.2.4 Methanol	X	X	
17.1.3	Anesthetics	X	X	
17.1.4	Anticholinergics/cholinergics (See 14.5.4.6)	X	X	
17.1.5	Anticoagulants/antithrombotics	X	X	

Table 4
Continued

		Critical	Emergent	Lower Acuity
17.1.6	Anticonvulsants	X	X	
17.1.7	Antidepressants	X	X	
17.1.8	Antiparkinsonism drugs		X	
17.1.9	Antihistamines and antiemetics		X	
17.1.10	Antipsychotics	X	X	
17.1.11	Bronchodilators		X	
17.1.12	Carbon monoxide	X	X	
17.1.13	Cardiovascular drugs			
	17.1.13.1 Antiarrhythmics	X	X	
	17.1.13.1.1 Digitalis	X	X	
	17.1.13.2 Antihypertensives	X	X	
	17.1.13.3 Beta blockers	X	X	
	17.1.13.4 Calcium channel blockers	X	X	
17.1.14	Caustic agents (See 2.2.2.3)			
	17.1.14.1 Acid	X	X	
	17.1.14.2 Alkali	X	X	
17.1.15	Cocaine (See 14.5.4.5)	X	X	X
17.1.16	Cyanides, hydrogen sulfide	X	X	
17.1.17	Hallucinogens (See 14.5.4.2)		X	X
17.1.18	Hazardous materials	X	X	
17.1.19	Heavy metals	X	X	
17.1.20	Herbicides, insecticides, and rodenticides	X	X	
17.1.21	Household/industrial chemicals	X	X	X
17.1.22	Hormones/steroids		X	X
17.1.23	Hydrocarbons	X	X	
17.1.24	Hypoglycemics/insulin	X	X	
17.1.25	Inhaled toxins	X	X	
17.1.26	Iron	X	X	
17.1.27	Isoniazid	X	X	
17.1.28	Marine toxins (See 6.1.3)	X	X	X
17.1.29	Methemoglobinemia (See 8.5.3)	X	X	
17.1.30	Mushrooms/poisonous plants	X	X	
17.1.31	Neuroleptics	X	X	
17.1.32	Nonprescription drugs		X	X
17.1.33	Organophosphates	X	X	
17.1.34	Recreational drugs	X	X	X
17.1.35	Sedatives/hypnotics (See 14.5.4.4)	X	X	
17.1.36	Stimulants/sympathomimetics (See 14.5.4.5)	X	X	
17.1.37	Strychnine	X	X	
17.1.38	Lithium	X	X	X
17.1.39	Nutritional supplements		X	X
17.1.40	Chemical warfare agents	X	X	X
17.1.41	Antibiotics		X	X
17.1.42	Antiretrovirals		X	X
18.0 TRAUMATIC DISORDERS				
		Critical	Emergent	Lower Acuity
18.1	Trauma			
18.1.1	Abdominal trauma			
	18.1.1.1 Diaphragm	X	X	
	18.1.1.2 Hollow viscus	X	X	
	18.1.1.3 Penetrating	X	X	
	18.1.1.4 Retroperitoneum	X	X	
	18.1.1.5 Solid organ	X	X	
	18.1.1.6 Vascular	X	X	
18.1.2	Chest trauma			
	18.1.2.1 Aortic dissection/disruption	X		
	18.1.2.2 Contusion			
	18.1.2.2.1 Cardiac	X	X	X
	18.1.2.2.2 Pulmonary	X	X	
	18.1.2.3 Fracture			
	18.1.2.3.1 Clavicle		X	X
	18.1.2.3.2 Ribs/flail chest	X	X	X
	18.1.2.3.3 Sternum		X	X
	18.1.2.4 Hemothorax	X	X	
	18.1.2.5 Penetrating chest trauma	X	X	
	18.1.2.6 Pericardial tamponade (See 3.6.1)	X		
	18.1.2.7 Pneumothorax (See 16.2.6)			
	18.1.2.7.1 Simple		X	

Table 4
Continued

			Critical	Emergent	Lower Acuity
	18.1.2.7.2	Tension	X		
	18.1.2.7.3	Open	X		
18.1.3	Cutaneous injuries				
	18.1.3.1	Avulsions		X	X
	18.1.3.2	Bite wounds (See 6.1)		X	X
	18.1.3.3	Burns			
	18.1.3.3.1	Electrical (See 6.3)	X	X	X
	18.1.3.3.2	Chemical (See 16.5.2)	X	X	X
	18.1.3.3.3	Thermal	X	X	X
	18.1.3.4	Lacerations		X	X
	18.1.3.5	Puncture wounds		X	X
18.1.4	Facial fractures				X
	18.1.4.1	Dental		X	X
	18.1.4.2	Le Fort	X	X	X
	18.1.4.3	Mandibular		X	X
	18.1.4.4	Orbital		X	X
	18.1.4.5	Nasal			X
	18.1.4.5.1	Septal hematoma		X	
	18.1.4.6	Zygomatic arch			X
18.1.5	Genitourinary trauma				
	18.1.5.1	Bladder		X	
	18.1.5.2	External genitalia		X	
	18.1.5.3	Renal		X	X
	18.1.5.4	Ureteral		X	
	18.1.5.5	Urethral		X	X
18.1.6	Head trauma				
	18.1.6.1	Intracranial injury	X	X	
	18.1.6.2	Scalp lacerations/avulsions		X	X
	18.1.6.3	Skull fractures		X	X
18.1.7	Injuries of the spine				
	18.1.7.1	Dislocations/subluxations	X	X	
	18.1.7.2	Fractures	X	X	X
	18.1.7.3	Sprains/strains			X
18.1.8	Extremity bony trauma				
	18.1.8.1	Dislocations/subluxations		X	
	18.1.8.2	Fractures (open and closed)		X	X
18.1.9	Neck trauma				
	18.1.9.1	Laryngotracheal injuries	X	X	
	18.1.9.2	Penetrating neck trauma	X	X	
	18.1.9.3	Vascular injuries			
	18.1.9.3.1	Carotid artery	X	X	
	18.1.9.3.2	Jugular vein	X	X	
	18.1.9.4	Strangulation	X	X	X
18.1.10	Ophthalmologic trauma				
	18.1.10.1	Corneal abrasions/lacerations (See 7.2.1.4)		X	X
	18.1.10.2	Corneal burns (See 7.2.1.2)			
	18.1.10.2.1	Acid		X	
	18.1.10.2.2	Alkali		X	
	18.1.10.2.3	Ultraviolet		X	X
	18.1.10.3	Eyelid lacerations		X	
	18.1.10.4	Foreign body (See 19.4.4.8)		X	
	18.1.10.5	HypHEMA (See 7.2.2.2)		X	
	18.1.10.6	Lacrimal duct injuries		X	
	18.1.10.7	Penetrating globe injuries		X	
	18.1.10.8	Retinal detachments (See 7.2.3.4)		X	
	18.1.10.9	Traumatic iritis (See 7.2.2.3)		X	X
	18.1.10.10	Retrolbulbar hematoma		X	
18.1.11	Otologic trauma				
	18.1.11.1	Hematoma		X	X
	18.1.11.2	Perforated tympanic membrane (See 7.1.7)		X	
18.1.12	Pediatric fractures				
	18.1.12.1	Epiphyseal		X	X
	18.1.12.1.1	Salter-Harris classification	X	X	
	18.1.12.2	Greenstick		X	
	18.1.12.3	Torus			X
18.1.13	Pelvic fracture		X	X	
18.1.14	Soft-tissue extremity injuries				
	18.1.14.1	Amputations/Replantation		X	
	18.1.14.2	Compartment syndromes		X	

Table 4
Continued

		Critical	Emergent	Lower Acuity
	18.1.14.3 High-pressure injection		X	
	18.1.14.4 Injuries to joints		X	X
	18.1.14.5 Penetrating trauma		X	X
	18.1.14.6 Periarticular			X
	18.1.14.7 Sprains/Strains			X
	18.1.14.8 Tendon injuries			
	18.1.14.8.1 Lacerations/Transections		X	
	18.1.14.8.2 Ruptures		X	
	18.1.14.8.2.1 Achilles tendon		X	
	18.1.14.8.2.2 Patellar tendon		X	
	18.1.14.9 Vascular injuries	X	X	
18.1.15	Spinal cord and nervous system trauma			
	18.1.15.1 Cauda equina syndrome (See 12.2.3.1)	X	X	
	18.1.15.2 Injury to nerve roots		X	X
	18.1.15.3 Peripheral nerve injury		X	X
	18.1.15.4 Spinal cord injury	X	X	
	18.1.15.4.1 Spinal cord injury without radiologic abnormality (SCIWORA)		X	
18.2	Trauma in Pregnancy			
	18.2.1 Abruptio placentae (See 13.3.4.1)	X	X	
	18.2.2 Perimortem C-section (See 19.4.8.2)	X		
	18.2.3 Premature labor (See 13.6.2)		X	
	18.2.4 Rupture of uterus (See 13.6.4)	X		
18.3	Multisystem Trauma	X	X	
	18.3.1 Blast injury	X	X	
	19.0 PROCEDURES AND SKILLS INTEGRAL TO THE PRACTICE OF EMERGENCY MEDICINE			
19.1	Airway Techniques			
	19.1.1 Intubation			
	19.1.2 Airway adjuncts			
	19.1.3 Surgical airway			
	19.1.4 Mechanical ventilation			
	19.1.5 Noninvasive ventilatory management			
	19.1.6 Ventilatory monitoring			
19.2	Resuscitation			
	19.2.1 Cardiopulmonary resuscitation			
	19.2.2 Neonatal resuscitation			
	19.2.3 Pediatric resuscitation			
	19.2.4 Postresuscitative care			
	19.2.5 Blood, fluid, and component therapy			
	19.2.6 Arterial catheter insertion			
	19.2.7 Central venous access			
	19.2.8 Intraosseous infusion			
	19.2.9 Defibrillation			
	19.2.10 Thoracotomy			
19.3	Anesthesia and Acute Pain Management			
	19.3.1 Local anesthesia			
	19.3.2 Regional nerve block			
	19.3.3 Procedural sedation and analgesia			
19.4	Diagnostic and Therapeutic Procedures			
	19.4.1 Abdominal and gastrointestinal			
	19.4.1.1 Anoscopy			
	19.4.1.2 Excision of thrombosed hemorrhoid			
	19.4.1.3 Gastric lavage			
	19.4.1.4 Gastrostomy tube replacement			
	19.4.1.5 Nasogastric tube			
	19.4.1.6 Paracentesis			
	19.4.2 Cardiovascular and thoracic			
	19.4.2.1 Cardiac pacing			
	19.4.2.2 Cardioversion			
	19.4.2.3 ECG interpretation			

Table 4
Continued

	19.4.2.4 Pericardiocentesis
	19.4.2.5 Thoracentesis
	19.4.2.6 Thoracostomy
19.4.3	Cutaneous
	19.4.3.1 Escharotomy
	19.4.3.2 Incision and drainage
	19.4.3.3 Trephination, nails
	19.4.3.4 Wound closure techniques
	19.4.3.5 Wound management
19.4.4	Head, ear, eye, nose, and throat
	19.4.4.1 Control of epistaxis
	19.4.4.2 Drainage of peritonsillar abscess
	19.4.4.3 Laryngoscopy
	19.4.4.4 Lateral canthotomy
	19.4.4.5 Slit-lamp examination
	19.4.4.6 Tonometry
	19.4.4.7 Tooth stabilization
	19.4.4.8 Corneal foreign body removal (See 18.1.10.4)
	19.4.4.9 Drainage of hematoma
19.4.5	Systemic infectious
	19.4.5.1 Personal protection (equipment and techniques)
	19.4.5.2 Universal precautions and exposure management
19.4.6	Musculoskeletal
	19.4.6.1 Arthrocentesis
	19.4.6.2 Compartment pressure measurement
	19.4.6.3 Fracture/dislocation immobilization techniques
	19.4.6.4 Fracture/dislocation reduction techniques
	19.4.6.5 Spine immobilization techniques
	19.4.6.6 Fasciotomy
19.4.7	Nervous system
	19.4.7.1 Lumbar puncture
19.4.8	Obstetrics and gynecology
	19.4.8.1 Delivery of newborn
	19.4.8.2 Perimortem C-section (See 18.2.2)
	19.4.8.3 Sexual assault examination
19.4.9	Psychobehavioral
	19.4.9.1 Psychiatric screening examination
	19.4.9.2 Violent patient management/restraint
19.4.10	Renal and urogenital
	19.4.10.1 Bladder catheterization
	19.4.10.1.1 Urethral catheter
	19.4.10.1.2 Suprapubic catheter
	19.4.10.2 Cystourethrogram
	19.4.10.3 Testicular detorsion
19.4.11	Toxicologic
	19.4.11.1 Decontamination
19.5	Other Diagnostic and Therapeutic Procedures
	19.5.1 Foreign body removal
	19.5.2 Collection and handling of forensic material
	19.5.3 Ultrasound
	19.5.3.1 Diagnostic
	19.5.3.2 Procedural
20.0 OTHER CORE COMPETENCIES OF THE PRACTICE OF EMERGENCY MEDICINE	
20.1	Interpersonal and Communication Skills
	20.1.1 Interpersonal skills
	20.1.1.1 Interdepartmental and medical staff relations
	20.1.1.2 Intradepartmental relations, teamwork, and collaboration skills
	20.1.1.3 Patient and family experience of care
	20.1.2 Communication skills
	20.1.2.1 Complaint management and service recovery
	20.1.2.2 Conflict management
	20.1.2.3 Crisis resource management
	20.1.2.4 Delivering bad news
	20.1.2.5 Multicultural approach to the ED patient
	20.1.2.6 Negotiation skills

Table 4
Continued

20.2	Practice-based Learning and Improvement
20.2.1	Performance improvement and lifelong learning
	20.2.1.1 Evidence-based medicine
	20.2.1.2 Interpretation of medical literature
	20.2.1.3 Knowledge translation
	20.2.1.4 Patient safety and medical errors
	20.2.1.5 Performance evaluation and feedback
	20.2.1.6 Research
20.2.2	Practice guidelines
20.2.3	Education
	20.2.3.1 Patient and family
	20.2.3.2 Provider
20.2.4	Principles of quality improvement
20.3	Professionalism
20.3.1	Advocacy
	20.3.1.1 Patient
	20.3.1.2 Professional
20.3.2	Ethical principles
	20.3.2.1 Conflicts of interest
	20.3.2.2 Diversity awareness
	20.3.2.3 Electronic communications/social media
	20.3.2.4 Medical ethics
20.3.3	Leadership and management principles
20.3.4	Well-being
	20.3.4.1 Fatigue and impairment
	20.3.4.2 Time management/organizational skills
	20.3.4.3 Work/life balance
	20.3.4.4 Work dysphoria (burnout)
20.4	Systems-based Practice
20.4.1	Clinical informatics
	20.4.1.1 Computerized order entry
	20.4.1.2 Clinical decision support
	20.4.1.3 Electronic health record
	20.4.1.4 Health information integration
20.4.2	ED administration
	20.4.2.1 Contracts and practice models
	20.4.2.2 Patient flow and throughput
	20.4.2.2.1 Patient triage and classification
	20.4.2.2.2 Hospital crowding and diversion
	20.4.2.2.3 Observation and rapid treatment units
	20.4.2.3 Financial principles
	20.4.2.3.1 Billing and coding
	20.4.2.3.2 Cost-effective care and resource utilization
	20.4.2.3.3 Reimbursement issues
	20.4.2.4 Human resource management
	20.4.2.4.1 Allied health professionals
	20.4.2.4.2 Recruitment, credentialing, and orientation
20.4.3	ED operations
	20.4.3.1 Policies and procedures
	20.4.3.2 ED data acquisition and operational metrics
	20.4.3.3 Safety, security, and violence in the ED
20.4.4	Health care coordination
	20.4.4.1 End-of-life and palliative care/advance directives
	20.4.4.2 Placement options
	20.4.4.3 Outpatient services
20.4.5	Regulatory/legal
	20.4.5.1 Accreditation
	20.4.5.2 Compliance and reporting requirements
	20.4.5.3 Confidentiality and HIPAA
	20.4.5.4 Consent, capacity, and refusal of care
	20.4.5.5 Emergency Medical Treatment and Active Labor Act (EMTALA)
	20.4.5.6 External quality metrics
20.4.6	Risk management
	20.4.6.1 Liability and litigation
	20.4.6.2 Professional liability insurance
	20.4.6.3 Risk mitigation
20.4.7	Evolving trends in health care delivery
	20.4.7.1 Public policy
20.4.8	Regionalization of emergency care

Table 5
Summary of the 2013 EM Model Task Force Changes

Location	Description of Change
Listed below are the changes approved by the seven collaborating organizations:	
<i>5a. Changes to Table 1. Matrix of physician tasks by patient acuity</i>	
<ul style="list-style-type: none"> The physician task of professional and legal issues was separated into two separate physician tasks. The physician task of mass casualty/disaster management was added. 	
<i>5b. Changes to Table 3. Physician task definitions</i>	
<ul style="list-style-type: none"> The physician task of professional and legal issues was separated into the following two physician tasks: Professional issues: Understand and apply principles of professionalism and ethics pertinent to patient management. Legal issues: Understand and apply legal concepts pertinent to the practice of EM. Added "and appropriate" to the physician task of documentation, to read as follows: Documentation: Communicate patient care information in a concise and appropriate manner that facilitates quality care and coding. Deleted "have familiarity with disaster management" from the physician task of team management, to read as follows: Team management: Coordinate, educate, or supervise members of the patient management team and utilize appropriate hospital resources. Added the following new physician task: Mass casualty/disaster management: Understand and apply the principles of disaster and mass casualty management including preparedness, triage, mitigation, response, and recovery. 	
<i>5c. Changes to Table 4. Medical Knowledge, Patient Care, and Procedural Skills</i>	
Location	Description of Change
1.0	This category underwent revision and extensive reordering. The changes are too numerous to document using this format.
2.2.1.2	Added Viral esophagitis (Emergent, Lower)
2.11	Deleted acutities (Critical, Emergent, Lower) from this line
2.11.1	Added Asplenism (Emergent, Lower)
2.11.2	Added Splenomegaly (Lower)
2.11.3	Added Vascular insufficiency/infarction (Critical, Emergent, Lower)
3.1.1	Changed SIDS (See 1.1.34) to Sudden unexpected infant death (SUID)
3.1.2	Added Pulseless electrical activity (Critical)
4.2	Changed Decubitus ulcer to Ulcerative Lesions
4.2.1	Added Decubitus (Emergent, Lower)
4.2.2	Added Venous stasis (Lower)
4.4.2.2	Changed Tinea to Dermatophytes
4.4.3	Changed Parasitic to Ectoparasites (added Lower)
4.4.3.1	Deleted Pediculosis infestation
4.4.3.2	Deleted Scabies
4.4.4.2	Changed Erythema infectiosum to Childhood exanthems (See 10.6.8, 10.6.9)
4.4.4.7	Deleted Warts
5.4.1.3.3	Changed Hyperosmolar coma to Hyperosmolar hyperglycemic state
5.5.3	Added Malabsorption (Emergent, Lower)
5.9.1.1	Added Pheochromocytoma (Critical, Emergent)
6.1.1.2	Changed Spiders to Arachnida
6.1.4	Changed Snakes to Reptiles
7.1.8	Added Perichondritis (Emergent, Lower)
7.2.1.2	Changed Burn confined to eye and adnexa to Burn confined to eye
7.3	Changed Cavernous sinus thrombosis to Cerebral venous sinus thrombosis
7.3.1	Added Cavernous sinus thrombosis (Critical, Emergent)
7.5.8	Changed Periapical abscess to Dental abscess
10.6.8	Added (See 4.4.4.2)
10.6.9	Added (See 4.4.4.2)
11.1.1	Changed Aseptic necrosis of hip to Aseptic/avascular necrosis
11.4.1	Changed Myalgia/myositis to Myositis
12.3.1	Changed Muscle contraction to Tension
12.3.3	Added Cluster (Emergent, Lower)
12.5.5	Changed Neuralgia/neuritis to Neuritis
12.6.2	Added Chorea/choreiform (Lower)
12.6.3	Added Tardive dyskinesia (Lower)
12.9.3.1	Added Nonconvulsive (Critical)
12.11	Changed Stroke (cerebral vascular events) to Stroke
13.1.2.2	Added Urethritis (Lower)
13.1.6.1	Changed Bartholin's abscess to Bartholin's cyst (added Lower)
13.3.6	Changed Pregnancy-induced hypertension to Gestational hypertension
13.3.10	Added Gestational diabetes (Emergent, Lower)
13.4.1	Added Assisted reproductive therapies (Critical, Emergent, Lower)
13.8.4	Added Pituitary infarction (Critical, Emergent)
13.9	Added Contraception (Emergent, Lower)
14.1.5	Added Tobacco dependence (Lower)

Table 5
Continued

14.3.1	Changed Drug-seeking behavior to Drug-diversion behavior
14.5.4.4	Deleted Phencyclidine
14.5.4.6	Added Anticholinergic (See 17.1.4) (Critical, Emergent, Lower)
15.4.3	Deleted Urinary tract infection (UTI)
15.5.4.4	Changed Torsion of testis to Torsion
16.1.1.3	Deleted Pertussis
16.1.1.4	Deleted Upper respiratory infection
16.2.6.3	Added Open (Critical)
16.6.3	Added Fat emboli (Critical, Emergent)
16.7.4	Added Respiratory syncytial virus (RSV) (Critical, Emergent, Lower)
16.7.5	Added Pertussis (Critical, Emergent, Lower)
17.1.4	Added (See 14.5.4.6)
17.1.5	Changed Anticoagulants to Anticoagulants/antithrombotics
17.1.41	Added Antibiotics (Emergent, Lower)
17.1.42	Added Antiretrovirals (Emergent, Lower)
18.1.2.7.3	Added Open (Critical)
18.1.4.5	Added Nasal (Lower)
18.1.4.5.1	Added Septal hematoma (Emergent)
18.1.4.6	Added Zygomatic arch (Lower)
18.1.5.5	Added Urethral (Emergent, Lower)
18.1.8	Changed Lower extremity bony trauma to Extremity bony trauma
18.1.9.4	Added Strangulation (Critical, Emergent, Lower)
18.1.10.4	Added (See 19.4.4.8)
18.1.12.1.1	Added Salter-Harris classification (Emergent, Lower)
18.1.14.4.1	Deleted Knee
18.1.14.4.2	Deleted Penetrating
18.1.14.5	Changed Penetrating soft tissue to Penetrating trauma
18.1.16	Deleted Upper extremity bony trauma
18.1.16.1	Deleted Dislocations/subluxations
18.1.16.2	Deleted Fractures (open and closed)
18.2.2	Added (See 19.4.8.2)
19.3.1	Changed Local to Local anesthesia
19.4.4.8	Added Corneal foreign body removal (See 18.1.10.4)
19.4.4.9	Added Drainage of hematoma
19.4.6.6	Added Fasciotomy
19.4.8.2	Added (See 18.2.2)
19.5.2	Changed Forensic examination to Collection and handling of forensic material
20.2.4	Added Principles of quality improvement
20.4.1.1	Changed Computerized physician order entry to Computerized order entry
20.4.4.1	Changed End-of-life and palliative care to End-of-life and palliative care/advance directives
20.4.4.2	Changed Long-term care to Placement options
20.4.7.1	Added Public policy

5d. Changes to Category 1

- Category 1 in this document reflects all changes to the 2011 Model resulting from the 2013 EM Model Task Force review. For comparison, the 2011 version of Category 1 may be found at Perina DG, Brunett CP, Caro DA, et al; 2011 EM Model of the Clinical Practice of Emergency Medicine. The 2011 Model of the Clinical Practice of Emergency Medicine. Acad Emerg Med. 2012;19:e19–40.

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Abstracts en español!

Beginning with the September issue, *Academic Emergency Medicine* will be publishing the abstracts of the various articles in Spanish. They will be presented alongside the English abstracts in the online versions of each paper (pdf, html, and mobile apps). The Spanish abstracts will also be included in the print edition of the journal for any papers that originate in Spanish-speaking countries, or are likely to be of particular interest to emergency physicians in Spanish-speaking countries.

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