

2022 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 (EM Model) as published in the June 2001 Annals of Emergency Medicine and Academic Emergency Medicine.

The 2022 EM Model Task Force conducted the ninth review of the EM Model. Their work is built on the original 2001 EM Model and its subsequent revisions. The 2022 EM Model is published online in the June 2023 *Journal of Emergency Medicine*.

All changes that resulted from the 2022 EM Model Task Force are summarized in Figure 1. The three dimensions, as revised in 2022, are presented in Tables 1-4.

Preamble of the Core Content Task Force II, Adapted for the 2022 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 5 to 20 pages. However, these revisions had yet to have the benefit of empirical analysis of the developing specialty but relied solely upon expert opinion.

2022 EM Model Review Task Force	2019 EM Model Review Task Force	2016 EM Model Review Task Force	2013 EM Model Review Task Force
Michael S. Beeson, M.D., M.B.A., Chair Rahul Bhat, M.D. Joshua S. Broder, M.D. Theodore J. Gaeta, D.O., M.P.H. Alan Janssen, D.O., Erin R. Karl, M.D. Bruce M. Lo, M.D., M.B.A. Joel Moll, M.D. Laura Oh, M.D. Viral Patel, M.D. Loren Touma, D.O.	Michael S. Beeson, M.D., M.B.A., Chair Felix Ankel, M.D. Rahul Bhat, M.D. Joshua S. Broder, M.D. Diane L. Gorgas, M.D. Jonathan S. Jones, M.D. Sara Paradise Dimeo, M.D. Viral Patel, M.D. Elizabeth Schiller, M.D. Jacob W. Ufberg, M.D.	Francis L. Counselman, M.D., Chair Kavita Babu, M.D. Mary Ann Edens, M.D., M.P.H. Diane Gorgas, M.D. Cherri Hobgood, M.D. Catherine A. Marco, M.D. Eric Katz, M.D. Kevin Rodgers, M.D. Leonard Stallings, M.D. Michael C. Wadman, M.D.	Francis L. Counselman, M.D., Chair Marc A Borenstein, M.D. Carey D. Chisholm, M.D. Michael L. Epter, D.O. Sorabh Khandelwal, M.D. Chadd K. Kraus, D.O., M.P.H. Samuel D. Luber, M.D., M.P.H. Catherine A. Marco, M.D. Susan B. Promes, M.D. Gillian Schmitz, M.D.

<p>2011 EM Model Review Task Force</p> <p>Debra G. Perina, M.D., Chair Patrick Brunett, M.D. David A. Caro, M.D. Douglas M. Char, M.D. Carey D. Chisholm, M.D. Francis L. Counselman, M.D. Jonathan Heidt, M.D. Samuel Keim, M.D., M.S. O. John Ma, M.D.</p>	<p>2009 EM Model Review Task Force</p> <p>Debra G. Perina, M.D., Chair Michael S. Beeson, M.D. Douglas M. Char, M.D. Francis L. Counselman, M.D. Samuel Keim, M.D., MS Douglas L. McGee, D.O. Carlo Rosen, M.D. Peter Sokolove, M.D. Steve Tantama, M.D.</p>	<p>2007 EM Model Review Task Force</p> <p>Harold A. Thomas, M.D., Chair Michael S. Beeson, M.D. Louis S. Binder, M.D. Patrick H. Brunett, M.D. Merle A. Carter, M.D. Carey D. Chisholm, M.D. Douglas L. McGee, D.O. Debra G. Perina, M.D. Michael J. Tocci, M.D.</p>	<p>2005 EM Model Review Task Force</p> <p>Harold A. Thomas, M.D., Chair Louis S. Binder, M.D. Dane M. Chapman, M.D., Ph.D. David A. Kramer, M.D. Joseph LaMantia, M.D. Debra G. Perina, M.D. Philip H. Shayne, M.D. David P. Sklar, M.D. Camie J. Sorensen, M.D., M.P.H</p>
<p>2003 EM Model Review Task Force</p> <p>Robert S. Hockberger, M.D., Chair Louis S. Binder, M.D. Carey D. Chisholm, M.D. Jeremy T. Cushman, M.D. Stephen R. Hayden, M.D. David P. Sklar, M.D. Susan A. Stern, M.D. Robert W. Strauss, M.D. Harold A. Thomas, M.D. Diana R. Viravec, M.D.</p>	<p>Core Content Task Force II</p> <p>Robert S. Hockberger, M.D., Chair Louis S. Binder, M.D. Mylissa A. Graber, M.D. Gwendolyn L. Hoffman, M.D. Debra G. Perina, M.D. Sandra M. Schneider, M.D. David P. Sklar, M.D. Robert W. Strauss, M.D. Diana R. Viravec, M.D.</p>	<p>Advisory Panel to the Task Force</p> <p>William J. Koenig, M.D., Chair James J. Augustine, M.D. William P. Burdick, M.D. Wilma V. Henderson, M.D. Linda L. Lawrence, M.D. David B. Levy, D.O. Jane McCall, M.D. Michael A. Parnell, M.D. Kent T. Shoji, M.D.</p>	

Following the 1997 revision of the Core Content listing, the contributing organizations felt that the list had become complex and unwieldy. Subsequently, they 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. The 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 Review Task Force. The Task Force's recommendations were approved by the collaborating organizations and were incorporated into the EM Model. The work of the Task

Force was published in the June 2005 *Annals of Emergency Medicine* and *Academic Emergency Medicine*.

The six collaborating organizations reviewed the 2002-2003 EM Model in 2005 and developed a small list of proposed changes to the document. The changes were reviewed and considered by nine representatives from the organizations, i.e., the 2005 EM Model Review Task Force. The Task Force's recommendations were approved by the collaborating organizations and were incorporated into the EM Model. The work of the Task Force was published in the October 2006 *Academic Emergency Medicine* and December 2006 *Annals of Emergency Medicine*.

The next regular review of the EM Model occurred in 2007. The 2007 EM Model Review Task Force recommendations were approved by the collaborating organizations and were incorporated into the EM Model. The work of the Task Force was published in the August 2008 *Academic Emergency Medicine* and online-only in the August 2008 *Annals of Emergency Medicine*.

The fourth review of the EM Model occurred in 2009. The 2009 EM Model Review Task Force recommendations were approved by the collaborating organizations and were incorporated into the EM Model. The work of the Task Force was published in the January 2011 *Academic Emergency Medicine* and online-only in *Annals of Emergency Medicine*.

The fifth review of the EM Model occurred in 2011. The 2011 EM Model Review Task Force recommendations were approved by the collaborating organizations and were incorporated into the EM Model. The work of the Task Force was published online-only in the July 2012 *Academic Emergency Medicine*.

The sixth review of the EM Model occurred in 2013, with the addition of a seventh collaborating organization, the American Academy of Emergency Medicine (AAEM). The 2013 EM Model Review Task Force recommendations were approved by the collaborating organizations and were incorporated into the EM Model. The work of the Task Force was published online-only in the May 2014 *Academic Emergency Medicine*.

In 2014, the collaborating organizations decided to review the EM Model on a three-year review cycle. The seventh review of the EM Model occurred in 2016. The 2016 EM Model Review Task Force recommendations were approved by the collaborating organizations and were incorporated into the EM Model. The complete 2016 EM Model was published online in the March 2017 *Journal of Emergency Medicine*.

The eighth review of the EM Model occurred in 2019. The 2019 EM Model Review Task Force recommendations were approved by the collaborating organizations and were incorporated into the EM Model. The full 2019 EM Model was published online in the May 2020 *Journal of Emergency Medicine*.

The ninth review of the EM Model occurred in 2022, with the addition of an eighth collaborating organization, American Academy of Emergency Medicine/Resident Student Association. The collaborating organizations approved the 2022 EM Model Task Force recommendations and are incorporated into this document. The full 2022 EM Model was published online in the June 2023 *Journal of Emergency Medicine*.

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 medical knowledge, patient care, and procedural skills. Together these three

components describe the clinical practice of Emergency Medicine (EM) and differentiate it from the clinical practice of other specialties. The EM Model represents essential information and skills necessary for the clinical practice of EM 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 EM, guiding the diagnostic tests and therapeutic interventions during the entire patient encounter.

The Accreditation Council for Graduate Medical Education (ACGME) has implemented the ACGME Outcome Project to ensure that physicians are appropriately trained in the knowledge and skills of their specialties. The ACGME derived six general (core) competencies thought to be essential for any practicing physician: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice.¹ The six general competencies are an integral part of the practice of Emergency Medicine and are embedded into the EM Model. To incorporate these competencies into the specialty of EM, an Emergency Medicine Competency Task Force demonstrated how these competencies are integrated into the EM Model.²

The EM Model is designed for use as the core document for the specialty. It provides 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. In conjunction with the EM Model, these six core competencies construct a framework for evaluating physician performance and curriculum design to further refine and improve the education and training of competent emergency physicians.

The 2022 review of the EM Model resulted in significant changes and clarifications, including expansion of the ultrasound section of Category 19, Procedures and Skills Integral to the Practice of Emergency Medicine. Additionally, Category 20, Other Core Competencies of the Practice of Emergency Medicine, was significantly revised to provide more clarity regarding patient-centered care. The complete updated 2022 EM Model can be found on the websites of each of the eight collaborating organizations.

¹ Accreditation Council for Graduate Medical Education (ACGME). ACGME Core Competencies. (ACGME Outcome Project Website). Available at <http://www.acgme.org/outcome/comp/compCPRL.asp>

² Chapman DM, Hayden S, Sanders AB, et al. Integrating the Accreditation Council for Graduate Medical Education core competencies into The Model of the Clinical Practice of Emergency Medicine. *Ann Emerg Med.* 2004;43:756-769, and *Acad Emerg Med.* 2004;11:674-685.

Figure 1

Summary of 2022 EM Model Task Force Changes

Table 1. Matrix of physician tasks by patient acuity

Changed Team management to Physician-led team leadership and management

Changed Patient-centered communication skills to Interpersonal and patient-centered communication skills

Table 3. Physician task definitions

Added “race” to the definition of Modifying factors

Changed Team management to Physician-led team leadership and team management; changed definition to: Function as team leaders in support of physician-led teams. Provide appropriate supervision of nurse practitioners and physician assistants in team-based care. Coordinate, educate, or supervise members of the patient management team and utilize appropriate hospital resources.

Changed Patient-centered communication skills to Interpersonal and patient-centered communication skills; changed definition to: Establish rapport with and demonstrate empathy toward patients and their families; listen effectively to and build trust with patients and their families. Identify situations that require individualized communication or shared decision-making, such as goals of care, end of life care, and palliative options.

Table 4. Medical Knowledge, Patient Care, and Procedural Skills

Location	Description of Change
1.1.10	Added Hyperthermia (Critical, Emergent, Low)
1.3.27	Deleted Lethargy
1.3.28	Changed Lightheadedness/Dizziness to Lightheadedness
1.3.60	Added Agitation (Critical, Emergent, Low)
1.3.61	Added Hypo/Hyperglycemia (Critical, Emergent, Low)
2.2.1.2	Deleted Viral esophagitis
2.3.1.5	Added Toxin-induced hepatitis (Critical, Emergent)
2.3.3.3	Deleted Perihepatitis
2.8.2.2	Deleted Gluten enteropathy/Celiac disease
2.9.2.6	Added Ischemic colitis (Critical, Emergent)
2.9.4.2	Changed Diverticula to Diverticular disease (added Critical)
2.9.4.5	Added Perforation (Critical, Emergent)
2.12.1	Changed Bariatric surgery to Bariatric surgery complications
3.5.2.3	Added Takotsubo (Critical, Emergent)
3.9.2	Added Valvular stenosis/insufficiency (Critical, Emergent, Low)
3.10.1	Added complication after AICD
3.10.3	Added Extracorporeal membrane oxygenation (ECMO) (Critical)
4.1.1	Changed from Basil cell to Basil cell carcinoma

4.1.4	Changed from Squamous cell to Squamous cell carcinoma
4.2	Changed Ulcerative Lesions to Cutaneous Ulcers
4.2.1	Changed Decubitus to Decubitus ulcer
4.2.2	Changed from Venous stasis to Venous stasis ulcer
4.2.4	Added Arterial insufficiency ulcer (Low)
4.2.5	Added Calciphylaxis (Low)
4.3.1	Changed Atopic/Eczema to Eczema
4.3.2	Changed from Contact to Contact dermatitis
4.3.4	Changed Seborrhea to Seborrheic dermatitis
4.3.5	Added Diaper dermatitis (Low)
4.4.1.4	Changed Impetigo to Impetigo/Ecthyma
4.4.1.6	Added Spirochete/Rickettsia (Emergent, Low)
4.4.2.2	Changed Dermatophytes to Dermatophytes (tinea)
4.4.3.1	Added Pediculosis (Low)
4.4.3.2	Added Scabies (Low)
4.4.3.3	Added Bed bugs (Low)
4.4.4.1	Deleted Aphthous ulcers
4.4.4.2	Deleted Childhood exanthems
4.4.4.1.1	Added Herpes simplex (Low)
4.4.4.1.2	Added Herpes zoster (Low)
4.4.4.4	Added Hand-foot-mouth disease (Low)
4.5.4.1	Added Drug rash with eosinophilia and systemic symptoms syndrome (DRESS) (Critical, Emergent, Low)
4.6.5	Added Hidradenitis suppurativa (Low)
4.6.6	Added Lichen planus (Low)
4.6.7	Added Pyogenic granuloma (Low)
4.7	Changed Vesicular/Bullous Lesions to Vesicular/Bullous/Sloughing Conditions or Syndromes
4.7.1	Changed Pemphigus to Pemphigus vulgaris
4.7.6	Added Toxicodendron (Low)
4.8.1	Changed Henoch-Schönlein purpura (HSP) to Vasculitis (Emergent, Low)
4.8.1.1	Added Infectious (Critical, Emergent)
4.8.1.2	Added Drug-induced (Emergent, Low)
4.8.1.3	Added Autoimmune (Emergent, Low)
4.8.1.3.1	Added IgA vasculitis (Critical)
5.4.1.1.2.1	Added Euglycemic DKA (Emergent)
5.5.3	Deleted Malabsorption
5.8.1.1	Added Thyroid storm (Critical, Emergent)
5.8.2.1	Added Myxedema coma (Critical, Emergent)
6.1.1.1.1	Added Hymenoptera (Critical, Emergent, Low)
7.1.2	Changed Labyrinthitis to Inner ear disorders (Low)
7.1.3	Deleted Meniere's disease
7.1.8	Deleted perichondritis
7.2.1.8	Added Chemical exposure (Critical, Emergent, Low)
7.2.3.1	Deleted Choroiditis/Chorioretinitis
7.2.3.5	Added Vitreous hemorrhage (Emergent)
7.4.2.5	Added Aphthous ulcers (Low)
7.4.7	Deleted Peritonsillar abscess
7.4.7.1	Added Post-tonsillectomy bleeding (Critical, Emergent)

7.4.7.2	Added Peritonsillar abscess (Emergent)
8.2.1.4	Added Anticoagulation reversal (Critical, Emergent)
8.7.9	Added Chemotherapy complications (Critical, Emergent, Low)
8.7.10	Added Immunotherapy complications (Critical, Emergent, Low)
9.4.1	Changed Mucocutaneous lymph node syndrome (Kawasaki syndrome) to Kawasaki disease
9.6	Added Multisystem Inflammatory Syndrome in Children (Critical, Emergent, Low)
10.1.7.1	Changed Shock to Septic shock
10.1.10	Added Scarlet fever (Emergent, Low)
10.2	Changed Biological Warfare Agents to Bioterrorism Agents/Diseases
10.2.1	Added Class A agents (Critical, Emergent)
10.2.2	Added Other microorganisms, viruses, and toxins (Critical, Emergent)
10.5.5	Added Southern tick-associated rash illness (STARI) – (Emergent, Low)
10.6.12	Added COVID-19 (SARS-CoV2) – (Critical, Emergent, Low)
10.6.13	Added Parvovirus (fifth disease) – (Emergent, Low)
11.3.1.4	Changed Juvenile to Juvenile idiopathic arthritis
11.4.3	Added Compartment syndrome (See 18.1.14.2) – (Critical, Emergent)
11.6.1	Changed Fasciitis to Necrotizing infections (Critical, Emergent)
12.3.2	Changed Vascular to Migraine
12.3.4	Added Giant cell arteritis (Critical, Emergent)
12.5.5	Deleted Neuritis
12.5.5	Added Epidural abscess (Critical, Emergent)
12.9.1.6	Added Withdrawal (Critical, Emergent)
12.9.2	Changed Nonepileptiform to Nonepileptic seizure
12.14.1	Deleted Excited delirium syndrome
13.1.3.3	Added Chancres (Low)
13.1.5.4.1	Changed from Low to Emergent
13.7.5	Added Shoulder dystocia (Critical, Emergent)
14.1.8	Changed Medication-assisted treatment (MAT) to Medication for substance use disorder
14.6.1.3	Changed Elder to Vulnerable adult (Critical, Emergent)
14.6.3.1	Added Post-exposure prophylaxis (Emergent, Low)
14.8.2	Changed Hysteria/Conversion to Conversion disorder
15.9	Added Urologic Devices
15.9.1	Added Nephrostomy tube (Emergent, Low)
15.9.2	Added Malfunctioning indwelling catheter (Emergent, Low)
15.9.3	Added Ureteral stents (Emergent, Low)
15.10	Added Gender-affirming Procedural Complications (Critical, Emergent, Low)
16.1.1.3	Added Ludwig's angina (See 7.4.2.1) (Critical, Emergent)
16.4.2	Changed Bronchitis and bronchiolitis to Bronchitis
16.4.8	Added Bronchiolitis (Emergent, Low)
16.7.2.3	Changed Hospital-acquired pneumonia to Health care-associated pneumonia
16.8.1	Deleted Breast
16.8.2	Deleted Pulmonary
18.1.2.1	Changed Blunt aortic dissection/disruption to Blunt aortic injury/disruption

18.1.3.3.4	Added Radiation (Critical, Emergent, Low)
18.1.6.1.3	Added Increased intracranial pressure (Critical, Emergent)
18.1.14.2	Added (See 11.4.3)
19.1.1.1	Added Direct laryngoscopy
19.1.1.2	Added Video-assisted laryngoscopy
19.1.2.1	Added Flexible endoscopic techniques
19.1.5.1	Added CPAP/BiPAP
19.1.5.2	Added High flow oxygen
19.2.4.1	Changed Therapeutic hypothermia (or targeted temperature management) to Targeted temperature management
19.2.13	Added Neurocritical care resuscitation
19.4.2.6	Changed Thoracostomy to Thoracostomy (including small bore catheters)
19.4.6.6	Deleted Fasciotomy
19.4.9.1	Deleted Psychiatric screening examination
19.5	Ultrasound – <i>This section underwent revision and extensive reordering. The changes are too numerous to document using this format.</i>
20.0	Other Core Competencies of the Practice of Emergency Medicine - <i>This category underwent revision and extensive reordering. The changes are too numerous to document using this format.</i>

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 Transitions of Care Prevention and education Documentation Task switching/Multiple patient care Physician-led team leadership and management Mass casualty/Disaster management Interpersonal and patient-centered communication skills Prognosis			

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	Effectively 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, race, ethnicity, barriers to communication, socioeconomic status, underlying disease, gender identity, sexual orientation, 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, prescribe, and be aware of adverse effects of appropriate pharmaceutical agents based upon relevant considerations such as intended effect, financial considerations, possible adverse effects, patient preferences, institutional policies, and clinical guidelines; and monitor and intervene in the event of adverse effects in the ED.
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 workups.
Consultation	Collaborate with physicians and other professionals to help guide optimal management of patients.
Transitions of care	Arrange for patient admission, discharge (including follow-up plan), observation, or transfer and transitions of care as appropriate, and communicate these arrangements effectively with patients, family, and involved healthcare team members.

Prevention and education	Apply epidemiologic information to patients at risk; conduct patient education; select appropriate disease and injury prevention, and harm reduction techniques.
Documentation	Communicate patient care information in a concise and appropriate manner that facilitates quality care. This includes documentation and medical decision-making variables related to billing, coding, and reimbursement for patient care.
Task switching/Multiple patient care	Prioritize and implement the evaluation and management of multiple patients in the emergency department, including handling interruptions and task-switching, in order to provide optimal patient care.
Physician-led team leadership and management	Function as team leaders in support of physician-led teams. Provide appropriate supervision of nurse practitioners and physician assistants in team-based care. 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.
Interpersonal and patient-centered communication skills	Establish rapport with and demonstrate empathy toward patients and their families; listen effectively and build trust with patients and their families. Identify situations that require individualized communication or shared decision-making, such as goals of care, end-of-life care, and palliative options.
Prognosis	Forecast the likely outcome of a medical disease or traumatic condition.

MEDICAL KNOWLEDGE, PATIENT CARE, AND PROCEDURAL SKILLS

As originally developed, the third dimension of the EM Model was called the Listing of Conditions and Components. The listing contained the fundamental conditions for which patients presented to emergency departments and was 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) other components of EM practice.

The Listing of Conditions and Components also contained two appendices. Appendix 1 outlined the diagnostic and/or therapeutic procedures and tests considered essential to the clinical practice of Emergency Medicine. Appendix 2 listed the other essential components and core competencies of EM practice.

With each Task Force review, the Listing of Conditions and Components has evolved to maintain consistency with the current clinical practice of EM. In 2011, it was determined that the contents of the two appendices represented core components of EM knowledge, which, when combined with the Listing of Conditions and Components, encompassed the universe of

knowledge that all practicing emergency physicians should possess. Consequently, the appendices were incorporated into the body of the document, and the entire section was renamed Medical Knowledge, Patient Care, and Procedural Skills (Table 4). This change strengthened the inherent link between the EM Model and the ACGME's six core competencies.

NOTE: The listing of Medical Knowledge, Patient Care, and Procedural Skills is not intended to be comprehensive. It is intended to be representative of the most frequent conditions seen, those with the most serious implications for patients presenting to the emergency department, and the core knowledge and skills required to provide safe and effective patient care.

Table 4. Medical Knowledge, Patient Care, and Procedural Skills

		Critical	Emergent	Lower Acuity
1.0 SIGNS, SYMPTOMS, AND PRESENTATIONS				
1.1 Abnormal Vital Signs				
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	Bradypnea/Apnea	X	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
1.1.10	Hyperthermia	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 and genital pain	X	X	X
1.2.7	Back pain	X	X	X
1.2.8	Chronic pain			X
1.2.9	Extremity pain	X	X	X
1.2.10	Neck pain	X	X	X
1.3 General				
1.3.1	Altered mental status	X	X	X
1.3.2	Anuria/Oliguria		X	
1.3.3	Ascites		X	X
1.3.4	Ataxia		X	X
1.3.5	Auditory disturbances			X
1.3.6	Bleeding	X	X	X
1.3.7	Congestion/Rhinorrhea			X
1.3.8	Constipation/Obstipation		X	X
1.3.9	Cough		X	X

1.3.10	Crying/Fussiness		X	X
1.3.11	Cyanosis	X		
1.3.12	Dehydration	X	X	
1.3.13	Diarrhea		X	X
1.3.14	Dysmenorrhea			X
1.3.15	Dysphagia		X	X
1.3.16	Dysuria			X
1.3.17	Edema		X	X
1.3.18	Failure to thrive		X	X
1.3.19	Fatigue/Malaise		X	X
1.3.20	Feeding problems			X
1.3.21	Hematemesis	X	X	
1.3.22	Hematuria		X	X
1.3.23	Hemoptysis	X	X	
1.3.24	Hiccup			X
1.3.25	Jaundice		X	
1.3.26	Joint swelling		X	X
1.3.27	Lightheadedness		X	X
1.3.28	Limp		X	X
1.3.29	Lymphadenopathy			X
1.3.30	Mechanical and indwelling devices, complications	X	X	X
1.3.31	Nausea/Vomiting		X	X
1.3.32	Occupational exposure		X	X
1.3.33	Palpitations	X	X	X
1.3.34	Paralysis	X	X	
1.3.35	Paresthesia/Dysesthesia		X	X
1.3.36	Poisoning	X	X	X
1.3.37	Pruritus		X	X
1.3.38	Rash	X	X	X
1.3.39	Rectal bleeding	X	X	X
1.3.40	Shock	X		
1.3.41	Shortness of breath	X	X	
1.3.42	Sore throat		X	X
1.3.43	Stridor	X	X	
1.3.44	Syncope/Near syncope	X	X	X
1.3.45	Tinnitus			X
1.3.46	Tremor		X	X
1.3.47	Urinary incontinence			X
1.3.48	Urinary retention		X	
1.3.49	Vaginal bleeding	X	X	X
1.3.50	Vaginal discharge			X
1.3.51	Visual disturbances		X	X
1.3.52	Weakness		X	X
1.3.53	Wheezing	X	X	
1.3.54	Toxidromes	X	X	X
1.3.55	Sudden unexpected infant death (SUID)	X		
1.3.56	Suicidal ideation	X	X	X
1.3.57	Brief resolved unexplained events (BRUE)	X	X	X
1.3.58	Intoxication syndromes	X	X	X
1.3.59	Postsurgical complications	X	X	X
1.3.60	Agitation	X	X	X

1.3.61 Hypo/Hyperglycemia

X

X

X

2.0 ABDOMINAL AND GASTROINTESTINAL DISORDERS

		Critical	Emergent	Lower Acuity
2.1	Abdominal Wall			
2.1.1	Hernias		X	X
2.1.2	Hematoma			X
2.2	Esophagus			
2.2.1	Infectious disorders			
2.2.1.1	Candida (See 4.4.2.1, 7.4.6)		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 agents (See 17.1.16.1)			
2.2.2.3.1	Acid	X	X	
2.2.2.3.2	Alkali	X	X	
2.2.3	Motor abnormalities			
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	Noninfectious hepatitis/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
2.3.1.4	Nonalcoholic steatohepatitis (NASH)			X
2.3.1.5	Toxin-induced hepatitis	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		X	
2.3.4	Tumors		X	X
2.3.5	Hepatic encephalopathy		X	X
2.4	Gall Bladder and Biliary Tract			
2.4.1	Cholangitis	X	X	
2.4.2	Cholecystitis	X	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

2.5.3	Pseudocyst				X
2.6	Peritoneum				
2.6.1	Spontaneous bacterial peritonitis	X		X	
2.6.2	Abdominal compartment syndrome	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
2.7.6	Gastroparesis			X	X
2.7.7	Cyclic vomiting syndrome (See 17.1.24.1.1)			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		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
	2.9.2.5 Neutropenic enterocolitis/Typhlitis	X		X	
	2.9.2.6 Ischemic 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	X	
2.9.4		Structural disorders			
	2.9.4.1	Congenital anomalies		X	X
	2.9.4.2	Diverticular disease	X	X	X
	2.9.4.3	Intussusception	X	X	
	2.9.4.4	Volvulus	X	X	
	2.9.4.5	Perforation	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
2.11 Spleen					
2.11.1		Asplenism		X	X
2.11.2		Splenomegaly			X
2.11.3		Vascular insufficiency/Infarction	X	X	X
2.12 Specific Post-surgical Populations					
2.12.1		Bariatric surgery complications	X	X	X
2.12.2		Ostomy		X	X

3.0 CARDIOVASCULAR DISORDERS

	Critical	Emergent	Lower Acuity
3.1 Cardiopulmonary Arrest	X		
3.2 Congenital Abnormalities of the Cardiovascular System	X	X	X
3.2.1 Tetralogy of Fallot spells	X	X	
3.2.2 Patent ductus arteriosus-dependent congenital heart anomalies	X	X	
3.3 Disorders of Circulation			
3.3.1 Arterial			
3.3.1.1 Aneurysm	X	X	X
3.3.1.2 Dissection	X		
3.3.1.2.1 Aortic	X	X	X
3.3.1.2.2 Non-aortic	X	X	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
3.4.1.3 Pulseless electrical activity	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
3.5.2.2 Dilated	X	X	X
3.5.2.3 Takotsubo	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 effusion/tamponade (See 18.1.2.6)	X	X	
3.6.2 Pericarditis		X	X
3.7 Hypertension	X	X	X
3.7.1 Asymptomatic hypertension			X
3.7.2 Hypertensive emergency	X	X	

3.8 Tumors	X	X	
3.9 Valvular Disorders	X	X	X
3.9.1 Endocarditis	X	X	
3.9.2 Valvular stenosis/insufficiency	X	X	X
3.10 Cardiovascular Devices			
3.10.1 Pacemaker/Automatic implantable cardioverter-defibrillator (AICD) complication	X	X	X
3.10.2 Left ventricular assist device (LVAD)	X	X	X
3.10.3 Extracorporeal membrane oxygenation (ECMO) (See 19.2.11)	X		

4.0 CUTANEOUS DISORDERS

	Critical	Emergent	Lower Acuity
4.1 Cancers of the Skin			
4.1.1 Basal cell carcinoma			X
4.1.2 Kaposi's sarcoma			X
4.1.3 Melanoma			X
4.1.4 Squamous cell carcinoma			X
4.2 Cutaneous Ulcers			
4.2.1 Decubitus ulcer		X	X
4.2.2 Venous stasis ulcer			X
4.2.3 Diabetic foot ulcers		X	X
4.2.4 Arterial insufficiency ulcer			X
4.2.5 Calciphylaxis			X
4.3 Dermatitis			
4.3.1 Eczema			X
4.3.2 Contact dermatitis			X
4.3.3 Psoriasis			X
4.3.4 Seborrheic dermatitis			X
4.3.5 Diaper dermatitis			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/Ecthyma			X
4.4.1.5 Necrotizing infection	X	X	
4.4.1.6 Spirochete/Rickettsia		X	X
4.4.2 Fungal			
4.4.2.1 Candida (See 2.2.1.1, 7.4.6)			X
4.4.2.2 Dermatophytes (tinea)			X
4.4.3 Ectoparasites			X
4.4.3.1 Pediculosis			X
4.4.3.2 Scabies			X
4.4.3.3 Bed bugs			X
4.4.4 Viral			
4.4.4.1 Herpetic infections		X	X
4.4.4.1.1 Herpes simplex (See 10.6.4, 13.1.3.1)			X
4.4.4.1.2 Herpes zoster (See 10.6.5)			X
4.4.4.2 Human papillomavirus (HPV) (See 13.1.3.2)			X
4.4.4.3 Molluscum contagiosum			X
4.4.4.4 Hand-foot-mouth disease			X
4.5 Maculopapular Lesions			
4.5.1 Erythema multiforme		X	X
4.5.2 Pityriasis rosea			X
4.5.3 Urticaria		X	X

4.5.4	Drug eruptions		X	X
4.5.4.1	Drug rash with eosinophilia and systemic symptoms syndrome (DRESS)	X	X	X
4.6	Papular/Nodular Lesions			
4.6.1	Hemangioma/Lymphangioma			X
4.6.2	Lipoma			X
4.6.3	Sebaceous cyst			X
4.6.4	Erythema nodosum			X
4.6.5	Hidradenitis suppurativa			X
4.6.6	Lichen planus			X
4.6.7	Pyogenic granuloma			X
4.7	Vesicular/Bullous/Sloughing Conditions or Syndromes			
4.7.1	Pemphigus vulgaris		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
4.7.6	Toxicodendron			X
4.8	Purpuric Rash	X	X	X
4.8.1	Vasculitis		X	X
4.8.1.1	Infectious	X	X	
4.8.1.2	Drug-induced		X	X
4.8.1.3	Autoimmune		X	X
	4.8.1.3.1 IgA vasculitis	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 Hypervolemia/Hypovolemia	X	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
5.4 Glucose Metabolism			
5.4.1 Diabetes mellitus	X	X	X
5.4.1.1 Complications in glucose metabolism			
5.4.1.1.1 Hyperglycemia		X	X
5.4.1.1.2 Diabetic ketoacidosis (DKA)	X	X	X
5.4.1.1.2.1 Euglycemic DKA		X	
5.4.1.1.3 Hyperosmolar hyperglycemic state	X	X	
5.4.1.1.4 Hypoglycemia	X	X	
5.5 Nutritional Disorders			
5.5.1 Vitamin deficiencies			X
5.5.2 Wernicke-Korsakoff syndrome		X	
5.5.3 Malnutrition		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
5.8.1.1 Thyroid storm	X	X	
5.8.2 Hypothyroidism	X	X	X
5.8.2.1 Myxedema coma	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
6.1.1.1.1 Hymenoptera	X	X	X
6.1.1.2 Arachnids	X	X	X
6.1.2 Mammals		X	X
6.1.3 Marine organisms (See 17.1.20)	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 High-altitude cerebral edema	X	X	
6.4.3 High-altitude pulmonary edema	X	X	
6.5 Submersion Incidents	X	X	X
6.6 Temperature-related Illness			
6.6.1 Heat	X	X	X
6.6.2 Cold	X	X	X
6.6.2.1 Frostbite		X	X
6.6.2.2 Hypothermia	X	X	
6.7 Radiation Emergencies	X	X	X

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	Inner ear disorders			X
7.1.3	Mastoiditis		X	
7.1.4	Otitis externa			X
	7.1.4.1 Infective			X
	7.1.4.1.1 Malignant		X	
7.1.5	Otitis media		X	X
7.1.6	Perforated tympanic membrane (See 18.1.11.2)			X
7.2	Eye			
7.2.1	External eye			
	7.2.1.1 Burn confined to eye (See 18.1.10.2)		X	
	7.2.1.2 Conjunctivitis			X
	7.2.1.3 Corneal abrasions (See 18.1.10.1)		X	X
	7.2.1.4 Disorders of lacrimal system		X	X
	7.2.1.5 Foreign body		X	X
	7.2.1.6 Disorders of the eyelids			X
	7.2.1.7 Keratitis		X	X
	7.2.1.8 Chemical exposure	X	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 18.1.10.8)		X	X
	7.2.2.4 Hypopyon		X	
7.2.3	Posterior pole			
	7.2.3.1 Optic neuritis		X	
	7.2.3.2 Papilledema	X	X	
	7.2.3.3 Retinal detachments and defects (See 18.1.10.7)		X	
	7.2.3.4 Retinal vascular occlusion		X	
	7.2.3.5 Vitreous hemorrhage		X	
7.2.4	Orbit			
	7.2.4.1 Cellulitis			
	7.2.4.1.1 Preseptal		X	
	7.2.4.1.2 Septal/Orbital		X	
	7.2.4.2 Endophthalmitis		X	
7.3	Nose			
7.3.1	Epistaxis	X	X	X
7.3.2	Foreign body		X	X
7.3.3	Rhinitis			X
7.3.4	Sinusitis			X
7.4	Oropharynx/Throat			
7.4.1	Dentalgia			X
7.4.2	Diseases of the oral soft tissue			
	7.4.2.1 Ludwig's angina (see 16.1.1.3)	X	X	

	7.4.2.2	Stomatitis			X
	7.4.2.3	Gingival and periodontal disorders		X	X
	7.4.2.4	Odontogenic infections/Abscesses		X	X
	7.4.2.5	Aphthous ulcers			X
7.4.3		Diseases of the salivary glands			
	7.4.3.1	Sialolithiasis		X	X
	7.4.3.2	Suppurative parotitis		X	
7.4.4		Foreign body	X	X	
7.4.5		Larynx/Trachea			
	7.4.5.1	Epiglottitis (See 16.1.1.2)	X	X	
	7.4.5.2	Laryngitis			X
	7.4.5.3	Tracheitis		X	X
	7.4.5.4	Tracheostomy complications	X	X	X
7.4.6		Oral candidiasis (See 2.2.1.1, 4.4.2.1)			X
7.4.7		Pharyngitis/Tonsillitis			X
	7.4.7.1	Post-tonsillectomy bleeding	X	X	
	7.4.7.2	Peritonsillar abscess		X	
7.4.8		Retropharyngeal abscess	X	X	
7.4.9		Temporomandibular joint disorders			X
7.5		Tumors	X	X	X

8.0 HEMATOLOGIC AND ONCOLOGIC 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
8.2.1.3 Anticoagulation agents	X	X	X
8.2.1.4 Anticoagulation reversal	X	X	
8.2.2 Disseminated intravascular coagulation	X		
8.2.3 Platelet disorders	X	X	X
8.2.3.1 Thrombocytopenia		X	X
8.2.3.2 Idiopathic thrombocytopenic purpura	X	X	X
8.2.3.3 Thrombotic thrombocytopenic purpura	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 anemia	X	X	X
8.5.1.2.2 Thalassemia		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 17.1.21)	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
8.7 Oncologic Emergencies	X	X	X
8.7.1 Febrile neutropenia	X	X	X
8.7.2 Hypercalcemia of malignancy	X	X	X
8.7.3 Hyperviscosity syndrome	X	X	X
8.7.4 Malignant pericardial effusion	X	X	X
8.7.5 Spinal cord compression (See 12.10)	X	X	
8.7.6 Superior vena cava syndrome	X	X	
8.7.7 Tumor hemorrhage	X	X	X
8.7.8 Tumor lysis syndrome	X	X	
8.7.9 Chemotherapy complications	X	X	X

8.7.10	Immunotherapy complications	X	X	X
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9.0 IMMUNE SYSTEM DISORDERS

	Critical	Emergent	Lower Acuity
9.1 Collagen Vascular Disease			
9.1.1 Raynaud's disease			X
9.1.2 Reactive arthritis (See 11.3.1.6)		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 Disease		X	X
9.4.2 Rheumatic fever		X	X
9.4.3 Sarcoidosis		X	X
9.4.4 Post-streptococcal glomerulonephritis (See 15.3.1)		X	
9.5 Medication-induced Immunosuppression	X	X	
9.5.1 Chemotherapeutic agents	X	X	
9.5.2 Steroids	X	X	
9.5.3 Targeted immune modulators	X	X	
9.6 Multisystem Inflammatory Syndrome in Children	X	X	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 Septic shock	X		
10.1.7.2 Toxic shock syndrome	X	X	
10.1.8 Spirochetes			
10.1.8.1 Syphilis		X	X
10.1.9 Tetanus	X	X	
10.1.10 Scarlet fever		X	X
10.2 Bioterrorism Agents/Diseases	X	X	
10.2.1 Class A agents	X	X	
10.2.2 Other microorganisms, viruses, and toxins	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 Anaplasmosis (Ehrlichiosis)		X	
10.5.2 Lyme disease		X	
10.5.3 Rocky Mountain spotted fever		X	
10.5.4 Babesiosis		X	
10.5.5 Southern tick-associated rash illness (STARI)		X	X
10.6 Viral		X	X
10.6.1 Infectious mononucleosis		X	X
10.6.2 Influenza/Parainfluenza		X	X
10.6.3 Arbovirus	X	X	X
10.6.4 Herpes simplex (See 4.4.4.1.1, 13.1.3.1)		X	X
10.6.5 Herpes zoster/Varicella (See 4.4.4.1.2)		X	X
10.6.6 HIV/AIDS	X	X	X
10.6.7 Rabies	X		
10.6.8 Roseola			X
10.6.9 Rubella			X
10.6.10 Measles	X	X	X
10.6.11 Mumps (Paramyxovirus)		X	X
10.6.12 COVID-19 (SARS-CoV2)	X	X	X

10.6.13 Parvovirus (fifth disease)		X	X
10.7 Emerging Infections/Pandemics	X	X	X
10.8 Drug Resistance	X	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
11.1.4 Atypical fractures		X	X
11.1.4.1 Osteoporotic		X	X
11.1.4.2 Tumor-related		X	X
11.1.4.3 Congenital disorders		X	X
11.2 Disorders of the Spine			
11.2.1 Disc disorders		X	X
11.2.2 Inflammatory/Infectious spondylopathies		X	X
11.2.3 Radiculopathy (See 12.7.3)		X	X
11.2.4 Spinal stenosis		X	X
11.2.5 Cervical pain	X	X	X
11.2.6 Thoracic pain	X	X	X
11.2.7 Lumbosacral pain	X	X	X
11.2.7.1 Cauda equina syndrome (See 18.1.15.1)	X	X	
11.2.7.2 Sacroiliitis			X
11.2.7.3 Sciatica		X	X
11.2.8 Discitis		X	X
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 idiopathic arthritis			X
11.3.1.5 Osteoarthritis			X
11.3.1.6 Reactive arthritis (See 9.1.2)		X	X
11.3.2 Developmental dysplasia of the hip		X	X
11.3.3 Slipped capital femoral epiphysis		X	
11.3.4 Synovitis		X	X
11.4 Muscle Abnormalities			
11.4.1 Myositis			X
11.4.2 Rhabdomyolysis	X	X	
11.4.3 Compartment syndrome (See 18.1.14.2)	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 Tendinopathy			X
11.5.5 Stress reaction fracture		X	X
11.6 Soft Tissue Infections			

11.6.1	Necrotizing infections	X	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	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 Migraine		X	X
12.3.3 Cluster		X	X
12.3.4 Giant cell arteritis	X	X	
12.4 Hydrocephalus		X	X
12.4.1 Normal pressure		X	X
12.4.2 Shunt complications		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	X
12.5.3.3 Fungal	X	X	X
12.5.4 Myelitis		X	
12.5.4.1 Acute flaccid myelitis		X	
12.5.5 Epidural abscess	X	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 (See 11.2.3)		X	
12.8 Other Conditions of the Brain			
12.8.1 Dementia (See 14.5.2)			X
12.8.2 Parkinson's disease			X
12.8.3 Idiopathic intracranial hypertension	X	X	
12.8.4 Cerebral venous sinus thrombosis	X	X	X
12.8.5 Posterior reversible encephalopathy syndrome (PRES)	X	X	
12.8.6 Transient global amnesia			X
12.9 Seizure Disorders			

12.9.1	Epileptiform	X	X	X
	12.9.1.1 Neonatal	X	X	
	12.9.1.2 Febrile	X	X	X
	12.9.1.3 Status epilepticus	X		
	12.9.1.4 Nonconvulsive	X	X	
	12.9.1.5 Drug-induced	X	X	
	12.9.1.6 Withdrawal	X	X	
12.9.2	Nonepileptic seizure			X
12.10 Spinal Cord Compression (See 8.7.5)		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	X
12.14 Delirium		X	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
	13.1.2.3 Gangrene of perineum	X	X	
13.1.3	Lesions			
	13.1.3.1 Herpes simplex (See 4.4.4.1.1, 10.6.4)			X
	13.1.3.2 Human papillomavirus (HPV) (See 4.4.4.2)			X
	13.1.3.3 Chancres			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 Abnormal 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	
	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
13.4.2	Pre-existing medical problems	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		
13.7.4	Amniotic fluid embolism	X	X	
13.7.5	Shoulder dystocia	X	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 Substance Use Disorders			
14.1.1 Alcohol use disorder (See 17.1.1)	X	X	X
14.1.2 Illicit drug use	X	X	X
14.1.3 Prescription drug use	X	X	X
14.1.3.1 Drug diversion			X
14.1.4 Tobacco use disorder			X
14.1.5 Withdrawal syndromes	X	X	X
14.1.6 Opioid use disorder (See 17.1.2.3)	X	X	X
14.1.7 Stimulant use disorder	X	X	X
14.1.8 Medication for substance use disorder		X	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		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 Post-traumatic 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 Dementia (See 12.8.1)			X
14.6 Patterns of Violence/Abuse/Neglect			
14.6.1 Interpersonal violence			
14.6.1.1 Child	X	X	X
14.6.1.2 Intimate partner	X	X	X
14.6.1.3 Vulnerable adult	X	X	
14.6.1.4 Elder	X	X	X
14.6.2 Homicidal risk	X	X	
14.6.3 Sexual assault		X	
14.6.3.1 Post-exposure prophylaxis		X	X
14.6.4 Staff/Patient safety		X	
14.6.5 Human trafficking		X	X
14.7 Personality Disorders			X
14.8 Psychosomatic Disorders			
14.8.1 Hypochondriasis			X

14.8.2	Conversion disorder			X
14.9	Feeding and Eating Disorders	X	X	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 Dialysis	X	X	
15.2.1 Vascular	X	X	X
15.2.2 Peritoneal	X	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	
15.4.3 Asymptomatic bacteriuria			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 perineum (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	
15.5.4.2.1 Medication induced		X	X
15.5.4.3 Prostatic hypertrophy (BPH)			X
15.5.4.4 Torsion		X	
15.5.5 Testicular masses			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	X	
15.7.3 Polycystic kidney disease			X
15.8 Tumors			X
15.9 Urologic Devices			
15.9.1 Nephrostomy tube		X	X
15.9.2 Malfunctioning indwelling catheter		X	X
15.9.3 Ureteral stents		X	X
15.10 Gender Affirming Procedural Complications	X	X	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 7.4.5.1)	X	X	
16.1.1.3 Ludwig's angina (See 7.4.2.1)	X	X	
16.1.2 Obstruction/Foreign body (See 16.4.7)	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 Acute Respiratory Distress Syndrome	X	X	
16.4 Obstructive/Restrictive Lung Disease			
16.4.1 Asthma/Reactive airway disease	X	X	
16.4.2 Bronchitis		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 (See 16.1.2)	X	X	
16.4.8 Bronchiolitis		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	X
16.6.2.1 Massive and submassive embolism	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 Healthcare-associated pneumonia	X	X	X
16.7.2.4 Pneumocystis	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		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	Alcohol (See 14.1.1)			
	17.1.1.1 Ethanol	X	X	X
	17.1.1.2 Ethylene glycol	X	X	
	17.1.1.3 Isopropyl	X	X	X
	17.1.1.4 Methanol	X	X	
17.1.2	Analgesics			
	17.1.2.1 Acetaminophen	X	X	
	17.1.2.2 Nonsteroidal anti-inflammatories (NSAIDs)		X	X
	17.1.2.3 Opioids (See 14.1.6)	X	X	
	17.1.2.4 Salicylates	X	X	
17.1.3	Anticholinergics	X	X	
	17.1.3.1 Antihistamines		X	
17.1.4	Anticoagulants/Antithrombotics/Antiplatelets	X	X	
	17.1.4.1 Direct thrombin inhibitors	X		
	17.1.4.2 Factor Xa inhibitors	X		
	17.1.4.3 Heparins	X	X	
	17.1.4.4 Vitamin K antagonists	X		X
17.1.5	Anticonvulsants	X	X	
17.1.6	Antidepressants	X	X	
	17.1.6.1 Bupropion		X	
	17.1.6.2 Selective serotonin reuptake inhibitors		X	X
	17.1.6.3 Tricyclic antidepressants	X	X	
17.1.7	Antiemetics		X	
17.1.8	Antimicrobials			
	17.1.8.1 Antibiotics		X	X
	17.1.8.1.1 Isoniazid	X	X	
	17.1.8.2 Antimalarials	X	X	X
	17.1.8.3 Antiretrovirals	X	X	X
17.1.9	Antipsychotics	X	X	
17.1.10	Carbon monoxide	X	X	
17.1.11	Cardiovascular drugs			
	17.1.11.1 Antiarrhythmics	X	X	
	17.1.11.1.1 Digoxin	X	X	
	17.1.11.2 Antihypertensives	X	X	
	17.1.11.2.1 Central acting	X	X	
	17.1.11.2.2 Peripheral Acting	X	X	
	17.1.11.3 Beta blockers	X	X	
	17.1.11.4 Calcium channel blockers	X	X	
17.1.12	Cholinergics	X	X	
	17.1.12.1 Nerve agents	X	X	
	17.1.12.2 Organophosphates	X	X	
17.1.13	Cyanides, hydrogen sulfide	X	X	
17.1.14	Heavy metals	X	X	
17.1.15	Herbicides, insecticides, and rodenticides	X	X	
17.1.16	Household/Industrial chemicals	X	X	X
	17.1.16.1 Caustic agents (See 2.2.2.3)	X	X	

	17.1.16.2 Hydrocarbons	X	X	
	17.1.16.3 Inhaled irritants	X	X	
17.1.17	Hypoglycemics/Insulin	X	X	
17.1.18	Lithium	X	X	X
17.1.19	Local anesthetics	X	X	
17.1.20	Marine toxins (See 6.1.3)	X	X	X
17.1.21	Methemoglobinemia (See 8.5.3)	X	X	
17.1.22	Mushrooms/Poisonous plants	X	X	
17.1.23	Nutritional supplements		X	X
	17.1.23.1 Iron	X	X	
	17.1.23.2 Performance enhancing and weight-loss drugs	X	X	X
17.1.24	Recreational drugs	X	X	X
	17.1.24.1 Cannabis			X
	17.1.24.1.1 Cannabinoid hyperemesis syndrome/Cyclic vomiting (See 2.7.7)			X
	17.1.24.2 Synthetic cannabinoids	X	X	X
	17.1.24.3 Hallucinogens	X	X	X
	17.1.24.4 GHB	X	X	X
17.1.25	Sedatives/Hypnotics	X	X	
17.1.26	Stimulants/Sympathomimetics	X	X	
	17.1.26.1 Amphetamines	X	X	
	17.1.26.2 Cocaine	X	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	
18.1.1.7	Abdominal wall		X	X
18.1.2	Thoracic trauma			
18.1.2.1	Blunt aortic injury/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
18.1.2.3.4	Scapula		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	
18.1.2.7.2	Tension	X		
18.1.2.7.3	Open	X		
18.1.3	Cutaneous trauma			
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
18.1.3.3.4	Radiation	X	X	X
18.1.3.4	Lacerations		X	X
18.1.3.5	Puncture wounds		X	X
18.1.3.6	Nail injuries			X
18.1.4	Facial trauma			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	Zygomaxillary complex			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	
		18.1.6.1.1 Concussion		X	X
		18.1.6.1.2 Intracranial hemorrhage	X	X	
		18.1.6.1.3 Increased intracranial pressure	X	X	
	18.1.6.2	Scalp lacerations/Avulsions		X	X
	18.1.6.3	Skull fractures		X	X
18.1.7		Spine trauma			
	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	X	X	
	18.1.9.4	Strangulation	X	X	X
18.1.10		Ophthalmologic trauma			
	18.1.10.1	Corneal abrasions/Lacerations (See 7.2.1.3)		X	X
	18.1.10.2	Corneal burns (See 7.2.1.1)			
		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	Periorbital lacerations		X	
		18.1.10.3.1 Eyelid		X	
		18.1.10.3.2 Lacrimal duct		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	Penetrating globe injuries		X	
	18.1.10.7	Retinal detachments (See 7.2.3.3)		X	
	18.1.10.8	Traumatic iritis (See 7.2.2.3)		X	X
	18.1.10.9	Retrobulbar hematoma		X	
18.1.11		Otologic trauma			
	18.1.11.1	Hematoma		X	X
	18.1.11.2	Perforated tympanic membrane (See 7.1.6)			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
	18.1.12.4	Apophyseal avulsion			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 (See 11.4.3)		X	
	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	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 11.2.7.1)	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	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 Resuscitative hysterotomy (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	Multi-system Trauma	X	X	
	18.3.1 Blast injury	X	X	
	18.3.2 Falls	X	X	X
	18.3.3 Motor vehicle collision	X	X	X
	18.3.4 Assault	X	X	X

19.0 PROCEDURES AND SKILLS INTEGRAL TO THE PRACTICE OF EMERGENCY MEDICINE

19.1 Airway Techniques

- 19.1.1 Intubation
 - 19.1.1.1 Direct laryngoscopy
 - 19.1.1.2 Video-assisted laryngoscopy
- 19.1.2 Airway adjuncts
 - 19.1.2.1 Flexible endoscopic techniques
- 19.1.3 Surgical airway
- 19.1.4 Mechanical ventilation
- 19.1.5 Non-invasive ventilatory management
 - 19.1.5.1 CPAP/BiPAP
 - 19.1.5.2 High flow oxygen
- 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 Post-resuscitative care
 - 19.2.4.1 Targeted temperature management
- 19.2.5 Blood, fluid, and component therapy
- 19.2.6 Arterial catheter insertion
- 19.2.7 Central venous access
- 19.2.8 Intraosseous line placement
- 19.2.9 Defibrillation
- 19.2.10 Thoracotomy
- 19.2.11 Extracorporeal membrane oxygenation (ECMO) (See 3.10.3)
- 19.2.12 Thermoregulation procedures
- 19.2.13 Neurocritical care resuscitation

19.3 Anesthesia and Acute Pain Management

- 19.3.1 Regional anesthesia
- 19.3.2 Procedural sedation
- 19.3.3 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 Gastrostomy tube replacement
 - 19.4.1.4 Nasogastric tube
 - 19.4.1.5 Paracentesis
 - 19.4.1.6 Mechanical control of upper gastrointestinal bleeding
- 19.4.2 Cardiovascular and thoracic
 - 19.4.2.1 Cardiac pacing
 - 19.4.2.2 Cardioversion
 - 19.4.2.3 ECG interpretation

- 19.4.2.4 Pericardiocentesis
- 19.4.2.5 Thoracentesis
- 19.4.2.6 Thoracostomy (including small bore catheters)
- 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
- 19.4.7 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 Resuscitative hysterotomy (See 18.2.2)
 - 19.4.8.3 Sexual assault examination
- 19.4.9 Psychobehavioral
 - 19.4.9.1 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
 - 19.4.11.2 Antidote administration

19.5 Ultrasound

- 19.5.1 Ultrasound physics, artifacts, knobology, and safety (ALARA)
- 19.5.2 Diagnostic ultrasound
 - 19.5.2.1 Aorta
 - 19.5.2.1.1 Abdominal aortic aneurysm

- 19.5.2.2 Biliary
 - 19.5.2.2.1 Cholelithiasis
 - 19.5.2.2.2 Cholecystitis
- 19.5.2.3 Bowel
 - 19.5.2.3.1 Peritoneal fluid assessment
 - 19.5.2.3.2 Small bowel obstruction
- 19.5.2.4 Cardiac
 - 19.5.2.4.1 Asystole
 - 19.5.2.4.2 Global left ventricular function
 - 19.5.2.4.3 Global right ventricular size
 - 19.5.2.4.4 Pericardial fluid
- 19.5.2.5 Ocular
 - 19.5.2.5.1 Undifferentiated vitreous chamber
- 19.5.2.6 Female pelvis (transabdominal and transvaginal approaches)
 - 19.5.2.6.1 Intrauterine pregnancy
 - 19.5.2.6.2 Fetal assessment
 - 19.5.2.6.2.1 Fetal heart rate
- 19.5.2.7 Renal and bladder
 - 19.5.2.7.1 Hydronephrosis
 - 19.5.2.7.2 Bladder volume assessment
- 19.5.2.8 Soft tissue/Musculoskeletal
 - 19.5.2.8.1 Abscess
 - 19.5.2.8.2 Cellulitis
 - 19.5.2.8.3 Necrotizing fasciitis
 - 19.5.2.8.4 Foreign body detection
 - 19.5.2.8.5 Joint effusion
- 19.5.2.9 Thoracic
 - 19.5.2.9.1 Pleural effusion
 - 19.5.2.9.2 Pneumothorax
 - 19.5.2.9.3 Alveolar interstitial syndrome
- 19.5.2.10 Venous/Arterial assessment
 - 19.5.2.10.1 Deep venous thrombosis
 - 19.5.2.10.2 Inferior vena cava
- 19.5.3 Resuscitative
 - 19.5.3.1 Cardiac arrest
 - 19.5.3.2 Medical
 - 19.5.3.3 Traumatic
 - 19.5.3.3.1 Pericardial fluid
 - 19.5.3.3.2 Peritoneal fluid
 - 19.5.3.3.3 Pleural fluid
 - 19.5.3.3.4 Pneumothorax
 - 19.5.3.4 Undifferentiated hypotension
- 19.5.4 Procedural applications
 - 19.5.4.1 Abscess incision and drainage
 - 19.5.4.2 Arthrocentesis
 - 19.5.4.3 Foreign body removal
 - 19.5.4.4 Paracentesis
 - 19.5.4.5 Pericardiocentesis
 - 19.5.4.6 Regional anesthesia
 - 19.5.4.7 Thoracentesis
 - 19.5.4.8 Vascular access

- 19.5.4.8.1 Central venous
- 19.5.4.8.2 Peripheral venous
- 19.5.4.8.3 Arterial

19.6 Other Diagnostic and Therapeutic Procedures

- 19.6.1 Foreign body removal
- 19.6.2 Collection and handling of forensic material

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 Inter-departmental and medical staff relations
 - 20.1.1.2 Intra-departmental relations, teamwork, and collaboration skills
 - 20.1.1.3 Patient and family-centered care and patient/family engagement
 - 20.1.1.4 Empathetic and compassionate care management skills
- 20.1.2 Communication skills
 - 20.1.2.1 Complaint management and service recovery
 - 20.1.2.2 Conflict management and resolution
 - 20.1.2.3 Crisis resource management
 - 20.1.2.4 Delivering difficult information to patient and family
 - 20.1.2.5 Notification of family/loved ones of deceased patient
 - 20.1.2.6 Cultural humility
 - 20.1.2.6.1 Implicit bias
 - 20.1.2.6.2 Systemic racism
 - 20.1.2.7 Social determinants of health resource management
 - 20.1.2.8 Negotiation skills
 - 20.1.2.9 Partnering with patients and families to discuss, address, and manage their plan of care
 - 20.1.2.10 Shared decision-making
 - 20.1.2.11 Active listening and building trust
 - 20.1.2.12 Discharge planning, medication management, and patient/family education
 - 20.1.2.13 Handoffs, hospital admission, and patient/family education

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 Care teams
- 20.2.4 Principles of quality improvement

20.3 Professionalism

- 20.3.1 Advocacy
 - 20.3.1.1 Patient
 - 20.3.1.2 Professional
 - 20.3.1.3 Healthcare disparities
 - 20.3.1.4 Injury prevention
 - 20.3.1.4.1 Firearm injury
- 20.3.2 Ethical principles
 - 20.3.2.1 Conflicts of interest
 - 20.3.2.2 Diversity and inclusion awareness
 - 20.3.2.3 Management of medical misinformation and disinformation

- 20.3.2.4 Medical ethics
- 20.3.2.5 Stewardship of resources
- 20.3.2.6 Care of vulnerable populations
- 20.3.2.7 Gender and sexual orientation
 - 20.3.2.7.1 Transgender care
 - 20.3.2.7.1.1 Gender-affirming therapy and procedures
- 20.3.3 Leadership and management principles
- 20.3.4 Well-being and resilience
 - 20.3.4.1 Fatigue and impairment
 - 20.3.4.1.1 Sleep hygiene
 - 20.3.4.2 Time management/Organizational skills
 - 20.3.4.3 Work/Life balance
 - 20.3.4.4 Physician burnout
 - 20.3.4.5 Job and contract evaluation
 - 20.3.4.6 Care for the caregiver

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 exchange and interoperability
 - 20.4.1.5 Telemedicine
- 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
 - 20.4.2.4.3 Staffing/Scheduling
 - 20.4.2.5 Emergency preparedness
 - 20.4.2.5.1 Emergency operations plan
 - 20.4.2.5.2 Supplies/Materials procurement and stockpiling
 - 20.4.2.5.2.1 Personal protective equipment
 - 20.4.2.5.3 Hospital-based casualty/disaster protocols
 - 20.4.2.5.3.1 Incident command system
 - 20.4.2.5.3.2 Decontamination, triage, and treatment areas
 - 20.4.2.5.4 External disaster planning
- 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
 - 20.4.3.4 Patient satisfaction
 - 20.4.3.5 Clinical quality measurement

- 20.4.3.6 Physician-led care team
- 20.4.4 Health care coordination
 - 20.4.4.1 Advance directives
 - 20.4.4.1.1 Physician orders for life-sustaining treatment (POLST)
 - 20.4.4.2 Palliative care
 - 20.4.4.2.1 Patient identification for palliative care
 - 20.4.4.2.2 Withdrawal of support
 - 20.4.4.2.3 Hospice referral
 - 20.4.4.3 Placement options
 - 20.4.4.3.1 Activities of daily living/Functional assessment
 - 20.4.4.4 Outpatient services
 - 20.4.4.5 Organ donation
- 20.4.5 Regulatory/Legal
 - 20.4.5.1 Accreditation
 - 20.4.5.2 Compliance and reporting requirements
 - 20.4.5.3 Confidentiality, privacy, 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
 - 20.4.5.7 Good Samaritan emergency care
 - 20.4.5.8 Treatment of unaccompanied minors
- 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
 - 20.4.6.4 Error disclosure
 - 20.4.6.5 Root cause analysis
- 20.4.7 Regionalization of emergency care
- 20.4.8 Evolving trends in health care delivery