2003 Model of the Clinical Practice of Emergency Medicine


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

Core Content Task Force II
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.

Advisory Panel to the Task Force
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.

2003 EM Model Review Task Force
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.

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

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

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

Following the completion of its mission, the Core Content Task Force recommended commissioning another task force that would be charged with the oversight of a practice analysis of the specialty - Core Content Task Force II.
The practice analysis relied upon both empirical data and the advice of several expert panels and resulted in *The Model of the Clinical Practice of Emergency Medicine* (EM Model). The EM Model resulted from the need for a more integrated and representative presentation of the Core Content of Emergency Medicine. It was created through the collaboration of six organizations:

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

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

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

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

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

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

Each of the contributing organizations conducted a thorough review of the initial EM Model document during the fall of 2000 and ultimately endorsed it as the 2001 version of the EM Model. Core Content Task Force II recommended that future revisions of this document be inputted, reviewed, and endorsed by the contributing organizations. The current version of the document reflects that process as it took place in 2002-2003.
Figure 1
Summary of 2003 EM Model Task Force Changes

EM Model Table 2: Patient Acuity
Critical Acuity Frame: Changed from "...hemodynamic, airway, respiratory, and/or neurologic instability" to "... airway, respiratory, hemodynamic, and/or neurologic instability."

EM Model Table 3: Physician Tasks
Diagnostic Studies: Added "e.g., electrocardiogram, emergency ultrasound, and laboratory tests" to the end of the definition.

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

Appendix 1. Blood, Fluid, and Component Therapy Administration: added Fluid
Appendix 2. Professional Development and Lifelong Learning: added Lifelong Learning
Appendix 2. Systems-based Management: added Disaster Preparedness

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

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

MATRIX

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

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

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

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

1. A 55-year old hypertensive diabetic male with crushing chest pain, diaphoresis, and a blood pressure of 60 systolic who is clutching his chest.
   Acuity Frame: Critical
   Implications: Immediate intervention is necessary to manage and stabilize vital functions. High probability of mortality exists without immediate intervention.

2. A 74-year old female with a history of angina presenting with three-to-five minutes of dull chest pain typical of her angina. She has stable vital signs and her pain is relieved by nitroglycerin.
   Acuity Frame: Emergent
   Implications: Initiation of monitoring, vascular access, evaluation, and treatment must be performed quickly. Progression in severity, complications, or morbidity may occur without immediate treatment.
3. A 12-year old female with non-traumatic sharp chest pain lasting for several days that intensifies with movement of the torso.

Acuity Frame: Lower acuity

Implications: Patient’s symptoms should be addressed promptly. However, progression to major complications would be unlikely.

Table 1.
Matrix of physician tasks by patient acuity

<table>
<thead>
<tr>
<th>Physician Tasks</th>
<th>Critical</th>
<th>Emergent</th>
<th>Lower Acuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-hospital care</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency stabilization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance of focused history and physical examination</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modifying factors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional issues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diagnostic studies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diagnosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Therapeutic interventions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmacotherapy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observation and reassessment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consultation and disposition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prevention and education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documentation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-tasking &amp; team management</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2.
Patient acuity definitions

<table>
<thead>
<tr>
<th>Critical</th>
<th>Emergent</th>
<th>Lower Acuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.*</td>
<td>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.</td>
<td>Patient presents with symptoms of an illness or injury that have a low probability of progression to more serious disease or development of complications.</td>
</tr>
</tbody>
</table>
### Table 3.
**Physician task definitions**

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

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

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

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

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

Listing of Conditions and Components

1.0 SIGNS, SYMPTOMS, AND PRESENTATIONS

<table>
<thead>
<tr>
<th>Condition</th>
<th>Critical</th>
<th>Emergent</th>
<th>Lower Acuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altered mental status</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apnea</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ataxia</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Back pain</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Bleeding</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Coma</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confusion</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Crying/Fussiness</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cyanosis</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Decreased level of consciousness</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Dehydration</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Dizziness</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Edema</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Failure to thrive</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Fatigue</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Feeding problems</td>
<td>Critical</td>
<td>Emergent</td>
<td>Lower Acuity</td>
</tr>
<tr>
<td>------------------</td>
<td>----------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>Fever</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hypotension</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Jaundice</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joint pain/Swelling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limp</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Lymphadenopathy</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Malaise</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Multiple trauma</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Needle stick</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Pain</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Paralysis</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Paresthesia/Dysesthesia</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Poisoning</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Pruritus</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Rash</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Shock</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIDS (See 3.1)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleeping problems</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Syncope</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Tremor</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Weakness</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Weight loss</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

1.2 **Abdominal**

| Abnormal vaginal bleeding | X | X | X |
| Anuria |          | X |
| Ascites | X | X |     |
| Colic | X | X |     |
| Constipation |          | X |
| Cramps | X | X |     |
| Diarrhea | X | X |     |
| Dysmenorrhea |          | X |
| Dysuria | X |     |     |
| Hematemesis | X | X |     |
| Hematochezia | X | X |     |
| Hematuria | X | X |     |
| Nausea/Vomiting | X | X |     |
| Pain | X | X | X |
| Pelvic pain | X* | X | X |
| Peritonitis | X | X |     |
| Rectal bleeding | X | X | X |
| Rectal pain | X | X | X |
| Urinary incontinence |          | X |
| Urinary retention | X |     |     |

1.3 **Chest**

<p>| Chest pain | X | X | X |
| Cough | X | X |     |
| Dyspnea | X | X |     |</p>
<table>
<thead>
<tr>
<th>Condition</th>
<th>Critical</th>
<th>Emergent</th>
<th>Lower Acuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoptysis</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Hiccough</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Palpitations</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Shortness of breath</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Tachycardia</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Wheezing</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

### 1.4 Head and Neck

- Congestion: X
- Diplopia: X
- Dysphagia: X, X
- Eye pain: X, X
- Headache (See 12.3): X, X, X
- Loss of hearing: X
- Loss of vision: X
- Rhinorrhea: X
- Sore throat: X, X
- Stridor: X, X
- Tinnitus: X
- Vertigo: X, X
2.0 **ABDOMINAL AND GASTROINTESTINAL DISORDERS**

2.1 **Abdominal Wall**
- Hernias

2.2 **Esophagus**
- Infectious disorders
  - Candida (See 4.4, 7.5)
- Inflammatory disorders
  - Esophagitis
  - Gastroesophageal reflux (GERD)
  - Toxic effects of caustic (See 17.1)
  - Acid
  - Alkali
- Motor abnormalities
  - Spasms
- Structural disorders
  - Boerhaave’s syndrome
  - Diverticula
  - Foreign body
  - Hemiases
  - Mallory-Weiss syndrome
  - Stricture and stenosis
  - Tracheoesophageal fistula
  - Varices
- Tumors

2.3 **Liver**
- Cirrhosis
- Alcoholic
- Biliary obstructive
- Drug-induced
- Hepato-renal failure
- Infectious disorders
  - Abscess
  - Hepatitis
  - Acute
  - Chronic
- Tumors

2.4 **Gall Bladder and Biliary Tract**
- Cholangitis
- Cholecystitis
- Cholelithiasis/Choledocholithiasis
- Tumors

2.5 **Pancreas**
- Pancreatitits
- Tumors
2.6 **Peritoneum**
- Spontaneous bacterial peritonitis | Critical | Emergent | Lower Acuity | X | X

2.7 **Stomach**
| Infectious disorders | X |  
| Inflammatory disorders |  
| Gastritis | Critical | Emergent | Lower Acuity | X | X  
| Peptic ulcer disease | X | X |  
| Hemorrhage | Critical | Emergent | Lower Acuity | X | X  
| Perforation | Critical | Emergent | Lower Acuity | X | X  
| Structural disorders |  
| Congenital hypertrophic pyloric stenosis | Critical | Emergent | Lower Acuity | X |  
| Foreign body | Critical | Emergent | Lower Acuity | X | X  
| Tumors | Critical | Emergent | Lower Acuity | X | X

2.8 **Small Bowel**
| Infectious disorders | Critical | Emergent | Lower Acuity | X | X  
| Inflammatory disorders |  
| Regional enteritis/Crohn’s disease | Critical | Emergent | Lower Acuity | X | X  
| Motor abnormalities |  
| Obstruction | Critical | Emergent | Lower Acuity | X |  
| Paralytic ileus | Critical | Emergent | Lower Acuity | X |  
| Structural disorders |  
| Aortoenteric fistula | Critical | Emergent | Lower Acuity | X |  
| Congenital anomalies | Critical | Emergent | Lower Acuity | X | X  
| Intestinal malabsorption | Critical | Emergent | Lower Acuity | X | X  
| Meckel’s diverticulum | Critical | Emergent | Lower Acuity | X | X  
| Tumors | Critical | Emergent | Lower Acuity | X | X  
| Vascular insufficiency | Critical | Emergent | Lower Acuity | X | X

2.9 **Large Bowel**
| Infectious disorders |  
| Antibiotic associated | Critical | Emergent | Lower Acuity | X |  
| Bacterial | Critical | Emergent | Lower Acuity | X | X  
| Parasitic | Critical | Emergent | Lower Acuity | X | X  
| Viral | Critical | Emergent | Lower Acuity | X | X  
| Inflammatory disorders |  
| Acute appendicitis | Critical | Emergent | Lower Acuity | X |  
| Necrotizing enterocolitis (NEC) | Critical | Emergent | Lower Acuity | X | X  
| Radiation colitis | Critical | Emergent | Lower Acuity | X |  
| Ulcerative colitis | Critical | Emergent | Lower Acuity | X | X  
| Motor abnormalities |  
| Hirschsprung’s disease | Critical | Emergent | Lower Acuity | X | X  
| Irritable bowel | Critical | Emergent | Lower Acuity | X | X  
| Obstruction | Critical | Emergent | Lower Acuity | X |  
| Structural disorders |  
| Congenital anomalies | Critical | Emergent | Lower Acuity | X | X  
| Diverticula | Critical | Emergent | Lower Acuity | X | X  

*2003 Model of the Clinical Practice of Emergency Medicine*
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### 2.10 Rectum and Anus

**Infectious disorders**
- Perianal/Anal abscess  
  - X  
- Perirectal abscess  
  - X
- Pilonidal cyst and abscess  
  - X

**Inflammatory disorders**
- Proctitis  
  - X

**Structural disorders**
- Anal fissure  
  - X
- Anal fistula  
  - X
- Congenital anomalies  
  - X
- Foreign body  
  - X
- Hemorrhoids  
  - X
- Rectal prolapse  
  - X

**Tumors**  
- X

### 2.11 Spleen*

- X
- X
- X

---

2003 Model of the Clinical Practice of Emergency Medicine
Page 12
3.0 **CARDIOVASCULAR DISORDERS**

<table>
<thead>
<tr>
<th>Section</th>
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<td>Aortic dissection</td>
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## 4.0 CUTANEOUS DISORDERS

### 4.1 Cancers of the Skin
- Basal cell
- Kaposi’s sarcoma
- Melanoma
- Squamous cell

### 4.2 Decubitus Ulcer

### 4.3 Dermatitis
- Atopic
- Contact
- Eczema
- Psoriasis
- Sebaceous cyst
- Seborrhea

### 4.4 Infections
#### Bacterial
- Abscess
- Cellulitis
- Erysipelas
- Impetigo
- Necrotizing infection

#### Fungal
- Candida (See 2.2, 7.5)
- Tinea

#### Parasitic
- Pediculosis infestation
- Scabies

#### Viral
- Aphthous ulcers
- Erythema infectiosum
- Herpes simplex (See 10.6, 13.1)
- Herpes zoster (See 10.6)
- Human papillomavirus (HPV) (See 13.1)
- Molluscum contagiosum
- Warts

### 4.5 Maculopapular Lesions
- Erythema multiforme
- Erythema nodosum
- Henoch-Schönlein purpura (HSP)
- Pityriasis rosea
- Purpura
- Urticaria
4.6  **Papular/Nodular Lesions**
   - Hemangioma/Lymphangioma
   - Lipoma

4.7  **Vesicular/Bullous Lesions**
   - Pemphigus
   - Staphylococcal scalded skin syndrome
   - Stevens-Johnson syndrome
   - Toxic epidermal necrolysis

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<td>Pemphigus</td>
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<td>Staphylococcal scalded skin syndrome</td>
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<td>Toxic epidermal necrolysis</td>
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### 5.0 ENDOCRINE, METABOLIC, AND NUTRITIONAL DISORDERS

#### 5.1 Acid-base Disturbances
- Metabolic or respiratory
  - Acidosis: X X
  - Alkalosis: X X X
  - Mixed acid-base balance disorder: X X

#### 5.2 Adrenal Disease
- Corticoadrenal insufficiency: X X
- Cushing’s syndrome: X X

#### 5.3 Fluid and Electrolyte Disturbances
- Calcium metabolism: X X X
- Fluid overload/Volume depletion: X X
- Hyperkalemia/Hypokalemia: X X X
- Hyponatremia/Hypernatremia: X X X
- Magnesium metabolism: X X
- Phosphorus metabolism: X X

#### 5.4 Glucose Metabolism
- Diabetes mellitus
  - Type I: X X X
  - Type II: X X
- Complications in glucose metabolism
  - Diabetic ketoacidosis (DKA): X X
  - Hyperglycemia: X X
  - Hyperosmolar coma: X X
  - Hypoglycemia: X X
  - Systemic: X X

#### 5.5 Nutritional Disorders
- Vitamin deficiencies: X
- Vitamin excess: X
- Wernicke-Korsakoff syndrome: X

#### 5.6 Parathyroid Disease
- X X

#### 5.7 Pituitary Disorders
- Panhypopituitarism: X

#### 5.8 Thyroid Disorders
- Hyperthyroidism: X X X
- Hypothyroidism: X X
- Thyroiditis: X X

#### 5.9 Tumors of Endocrine Glands
- Adrenal: X X
- Pituitary: X X
- Thyroid: X X
### 6.0 ENVIRONMENTAL DISORDERS

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<tr>
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<td><strong>6.2 Dysbarism</strong></td>
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### 7.0 HEAD, EAR, EYE, NOSE, THROAT DISORDERS

#### 7.1 Ear

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<td>Impacted cerumen</td>
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<td>Otitis media</td>
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<tr>
<td>Perforated tympanic membrane (See 18.1)</td>
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#### 7.2 Eye

**External eye**

- Blepharitis                                           | X        |          |              |
- Burn confined to eye and adnexa (See 18.1)            | X        |          |              |
- Conjunctivitis                                       | X        |          |              |
- Corneal abrasions (See 18.1)                          | X        | X        |              |
- Dacryocystitis                                       | X        |          | X            |
- Disorders of lacrimal system                          | X        |          | X            |
- Foreign body                                          | X        | X        |              |
- Inflammation of the eyelids                           | X        |          | X            |
- Chalazion                                            | X        |          | X            |
- Hordeolum                                             | X        |          | X            |

**Anterior pole**

- Glaucoma                                              | X        | X        |              |
- Hyphema (See 18.1)                                    | X        | X        |              |
- Iritis (See 18.1)                                     | X        | X        |              |

**Posterior pole**

- Chorioiditis/Chorioretinitis                         | X        |          |              |
- Optic neuritis                                       | X        |          |              |
- Papilledema                                           | X        | X        |              |
- Retinal detachments and defects (See 18.1)            | X        |          |              |
- Retinal vascular occlusion                            | X        |          |              |

**Orbit**

- Cellulitis                                            |          |          | X            |
- Preseptal                                             | X        |          |              |
- Postseptal                                            | X        |          |              |
- Purulent endophthalmitis                              | X        |          |              |

#### 7.3 Cavernous Sinus Thrombosis

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#### 7.4 Nose

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7.5 **Oropharynx/Throat**

- **Dentalgia**
- Diseases of the oral soft tissue
  - Ludwig's angina
  - Stomatitis
- Diseases of the salivary glands
  - Sialolithiasis
  - Suppurative parotitis
- Foreign body
- Gingival and periodontal disorders
  - Gingivostomatitis
- Larynx/Trachea
  - Epiglottitis (See 16.1)
  - Laryngitis
  - Tracheitis
- Oral candidiasis (See 2.2, 4.4)
- Periapical abscess
- Peritonsillar abscess
- Pharyngitis/Tonsillitis
- Retropharyngeal abscess
- Temporomandibular joint disorders

7.6 **Tumors**

| | Critical | Emergent | Lower Acuity |
| |          |          |              |
| | X        |          | X            |
8.0 **HEMATOLOGIC DISORDERS**

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### 9.0 IMMUNE SYSTEM DISORDERS

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### 10.0 SYSTEMIC INFECTIOUS DISORDERS

#### 10.1 Bacterial

- **Bacterial food poisoning**
  - Critical: X
  - Emergent: X

- **Botulism**
  - Critical: X

- **Chlamydia**
  - Critical: X

- **Gonococcal infections**
  - Critical: X

- **Meningococcemia**
  - Critical: X

- **Mycobacterial infections**
  - **Atypical mycobacteria**
    - Critical: X
  - **Tuberculosis**
    - Critical: X

- **Other bacterial diseases**
  - **Gas gangrene (See 11.6)**
    - Critical: X

- **Sepsis/Bacteremia**
  - **Shock**
    - Critical: X

- **Systemic inflammatory response syndrome (SIRS)**
  - Critical: X

- **Toxic shock syndrome**
  - Critical: X

- **Spirochetes**
  - **Syphilis**
    - Critical: X

- **Tetanus**
  - Critical: X

#### 10.2 Biologic Weapons

- Critical: X
- Emergent: X

#### 10.3 Fungal Infections

- Critical: X
- Emergent: X

#### 10.4 Protozoan/Parasites

- **Malaria**
  - Critical: X

- **Toxoplasmosis**
  - Critical: X

#### 10.5 Tick-borne

- **Ehrlichiosis**
  - Critical: X

- **Lyme disease**
  - Critical: X

- **Rocky Mountain spotted fever**
  - Critical: X

#### 10.6 Viral

- **Infectious mononucleosis**
  - Critical: X

- **Influenza/Parainfluenza**
  - Critical: X

- **Hantavirus**
  - Critical: X

- **Herpes simplex (See 4.4, 13.1)**
  - Critical: X

- **Herpes zoster/Varicella (See 4.4)**
  - Critical: X

- **HIV (See 9.2)**
  - Critical: X

- **Rabies**
  - Critical: X

- **Roseola**
  - Critical: X

- **Rubella**
  - Critical: X
11.0 **MUSCULOSKELETAL DISORDERS (NONTRAUMATIC)**

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<td>Osteomyelitis</td>
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<td>Tumors</td>
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| 11.2 **Disorders of the Spine** |          |          |              |
| Disc disorders                  | X        |          | X            |
| Inflammatory spondylopathies    | X        |          | X            |
| Low back pain                   |          |          | X            |
| Cauda equina syndrome (See 18.1)| X        |          |              |
| Sacroiliitis                    |          | X        |              |
| Sprains/Strains                 |          | X        |              |

| 11.3 **Joint Abnormalities**    |          |          |              |
| Arthritis                       |          |          | X            |
| Septic                          | X        |          |              |
| Gout                            | X        |          | X            |
| Rheumatoid (See 9.1)            |          |          | X            |
| Juvenile                        |          |          | X            |
| Osteoarthritis                  |          |          |              |
| Congenital dislocation of the hip| X        |          | X            |
| Slipped capital femoral epiphysis|          |          |              |

| 11.4 **Muscle Abnormalities**   |          |          | X            |
| Myalgia/Myositis                |          | X        |              |
| Rhabdomyolysis                  | X        |          | X            |

| 11.5 **Overuse Syndromes**      |          |          | X            |
| Bursitis                        |          |          | X            |
| Muscle strains                  |          |          | X            |
| Peripheral nerve syndrome       |          |          | X            |
| Carpal tunnel syndrome          |          |          | X            |
| Tendonitis                      |          |          | X            |

<p>| 11.6 <strong>Soft Tissue Infections</strong>|          |          |              |
| Fasciitis                       |          | X        |              |
| Felon                           | X        |          |              |
| Gangrene (See 10.1)             |          | X        | X            |
| Paronychia                      |          | X        | X            |
| Synovitis/Tenosynovitis         |          | X        | X            |</p>
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13.0 OBSTETRICS AND GYNECOLOGY

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13.1 Female Genital Tract

Cervix

- Cervicitis and endocervicitis
  - Tumors
- Infectious disorders
  - Pelvic inflammatory disease
  - Fitz-Hugh-Curtis syndrome
  - Tubo-ovarian abscess

Lesions

- Herpes simplex (See 4.4, 10.6)
- Human papillomavirus (HPV) (See 4.4)

Ovary

- Cyst
- Torsion
- Tumors

Uterus

- Dysfunctional bleeding
- Endometriosis
- Prolapse
- Tumors
  - Gestational trophoblastic disease
  - Leiomyoma

Vagina and vulva

- Bartholin’s abscess
- Foreign body
- Vaginitis/Vulvovaginitis

13.2 Normal Pregnancy

13.3 Complications of Pregnancy

- Abortion
- Ectopic pregnancy
- Hemolysis, elevated liver enzymes, low platelets (HELLP) syndrome
- Hemorrhage, antepartum
  - Abruptio placenta (See 18.2)
  - Placenta previa
- Hyperemesis gravidarum
- Hypertension complicating pregnancy
  - Eclampsia
  - Preeclampsia
- Infections
- Rh isoimmunization

13.4 High-risk Pregnancy

13.5 Normal Labor and Delivery
### 13.6 Complications of Labor

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<tr>
<td>Premature labor (See 18.2)</td>
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<td>Premature rupture of membranes</td>
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<td>Rupture of uterus (See 18.2)</td>
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### 13.7 Complications of Delivery

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<td>Nuchal cord</td>
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<td>Prolapse of cord</td>
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### 13.8 Postpartum Complications

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<td>Hemorrhage</td>
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<td>Mastitis</td>
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### 14.0 PSYCHOBEHAVIORAL DISORDERS

#### 14.1 Addictive Behavior
- Alcohol dependence: X
- Drug dependence: X
- Eating disorders: X X
- Substance abuse: X

#### 14.2 Mood Disorders and Thought Disorders
- Acute Psychosis: X X
- Bipolar disorder: X X
- Depression: X X
- Suicidal risk: X X
- Grief reaction: X
- Schizophrenia: X X

#### 14.3 Factitious Disorders
- Drug-seeking behavior: X
- Munchausen syndrome/Munchausen by proxy: X X

#### 14.4 Neurotic Disorders
- Anxiety/Panic: X
- Obsessive compulsive: X
- Phobic: X
- Post-traumatic stress: X

#### 14.5 Organic Psychoses
- Chronic organic psychotic conditions: X
- Alcoholic psychoses: X X
- Drug psychoses: X X
- Delirium: X
- Dementia (See 12.8): X
- Intoxication and/or withdrawal (See 17.1)
  - Alcohol: X* X X
  - Hallucinogens: X X
  - Opioids: X X X
  - Phencyclidine: X
  - Sedatives/Hypnotics/Anxiolytics: X X X
  - sympathomimetics and cocaine: X X X

#### 14.6 Patterns of Violence/Abuse/Neglect
- Domestic
  - Child, spouse, elder: X
- Homicidal Risk: X X
- Sexual assault: *
- Staff/Patient safety: X

#### 14.7 Personality Disorders
- X
14.8 **Psychosomatic Disorders**

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# RENAL AND UROGENITAL DISORDERS

## 15.0 RENAL AND UROGENITAL DISORDERS

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<td>15.2 Complications of Renal Dialysis</td>
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<td>15.3 Glomerular Disorders</td>
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<td>Cystitis</td>
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<tr>
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</tr>
<tr>
<td>Urinary tract infection (UTI)</td>
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<tr>
<td>15.5 Male Genital Tract</td>
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<tr>
<td>Genital lesions</td>
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<tr>
<td>Hernias</td>
<td>X</td>
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<tr>
<td>Inflammation/Infection</td>
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<tr>
<td>Balanitis/Balanoposthitis</td>
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<tr>
<td>Epididymitis/Orchitis</td>
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<tr>
<td>Gangrene of the scrotum</td>
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<tr>
<td>(Fournier’s gangrene)</td>
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<tr>
<td>Prostatitis</td>
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<tr>
<td>Urethritis</td>
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<td>Structural</td>
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<tr>
<td>Paraphimosis/Phimosis</td>
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<td>Priapism</td>
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<td>Prostatic hypertrophy (BPH)</td>
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<td>Testicular masses</td>
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<td>Tumors</td>
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<td>Prostate</td>
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</tr>
<tr>
<td>Testis</td>
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<tr>
<td>15.6 Nephritis</td>
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<td>Hemolytic uremic syndrome</td>
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<td>15.7 Structural Disorders</td>
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<td>Calculus of urinary tract</td>
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<td>Obstructive uropathy</td>
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<td>Polycystic kidney disease</td>
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<td>15.8 Tumors</td>
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### 16.0 THORACIC-RESPIRATORY DISORDERS

#### 16.1 Acute Upper Airway Disorders

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<tr>
<td>Epiglottitis (See 7.5)</td>
<td>X</td>
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<tr>
<td>Pertussis/Whooping cough</td>
<td>X</td>
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<td>Upper respiratory infection</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Obstruction</td>
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<td>Tracheostomy/Complications</td>
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#### 16.2 Disorders of Pleura, Mediastinum, and Chest Wall

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<tr>
<td>Mediastinitis</td>
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<tr>
<td>Pleural effusion</td>
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</tr>
<tr>
<td>Pleuritis</td>
<td>X</td>
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<tr>
<td>Pneumomediastinum</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Pneumothorax (See 18.1)</td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>Simple</td>
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#### 16.3 Noncardiogenic Pulmonary Edema

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#### 16.4 Obstructive/Restrictive Lung Disease

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<tr>
<td>Asthma/Reactive airway disease</td>
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<td>Bronchitis and bronchiolitis</td>
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<td>Bronchopulmonary dysplasia</td>
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</tr>
<tr>
<td>Chronic obstructive pulmonary disease</td>
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<td></td>
<td>X</td>
</tr>
<tr>
<td>Cystic fibrosis</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Environmental/Industrial exposure</td>
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<td>Foreign body</td>
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</tbody>
</table>

#### 16.5 Physical and Chemical Irritants/Insults

<table>
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<th>Lower Acuity</th>
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</thead>
<tbody>
<tr>
<td>Pneumoconiosis</td>
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<td>X</td>
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<tr>
<td>Toxic effects of gases, fumes, vapors (See 18.1)</td>
<td>X</td>
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#### 16.6 Pulmonary Embolism/Infarct

<table>
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<th>Lower Acuity</th>
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</thead>
<tbody>
<tr>
<td>Septic emboli</td>
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<td>X</td>
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</tr>
<tr>
<td>Venous thromboembolism (See 3.3)</td>
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#### 16.7 Pulmonary Infections

<table>
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<th>Lower Acuity</th>
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</thead>
<tbody>
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<td>Lung abscess</td>
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<tr>
<td>Pneumonia</td>
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<td>X</td>
</tr>
<tr>
<td>Aspiration</td>
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<tr>
<td>Atypical</td>
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<tr>
<td>Bacterial</td>
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<tr>
<td>Chlamydia</td>
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<tr>
<td>Fungal</td>
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<td>X</td>
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</tr>
<tr>
<td></td>
<td>Critical</td>
<td>Emergent</td>
<td>Lower Acuity</td>
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<tr>
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</tr>
<tr>
<td>Viral</td>
<td></td>
<td>X</td>
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<tr>
<td>Pulmonary tuberculosis</td>
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16.8 **Tumors**

<table>
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<tr>
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<tbody>
<tr>
<td>Breast</td>
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<tr>
<td>Chest wall</td>
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<td></td>
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</tr>
<tr>
<td>Pulmonary</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
17.0 **TOXICOLOGIC DISORDERS**

17.1 **Drug and Chemical Classes**

**Analgesics**
- Acetaminophen
- Nonsteroidal anti-inflammatories (NSAIDS)
- Opiates and related narcotics
- Salicylates

**Alcohol**
- Ethanol
- Glycol
- Isopropyl
- Methanol

**Anesthetics**
- Anticholinergics/Cholinergics
- Anticoagulants
- Anticonvulsants
- Antidepressants
- Antiparkinsonism drugs
- Antihistamines and antiemetics
- Antipsychotics
- Bronchodilators
- Carbon monoxide

**Cardiovascular drugs**
- Antiarrhythmics
- *Digitalis*
- Antihypertensives
- Beta blockers
- Calcium channel blockers

**Caustic agents**
- Acid
- Alkali
- Cocaine
- Cyanides, hydrogen sulfide
- Hallucinogens

**Hazardous materials**

**Heavy metals**

**Herbicides, insecticides, and rodenticides**

**Household/Industrial chemicals**

**Hormones/Steroids**

**Hydrocarbons**

**Hypoglycemics/Insulin**

**Inhaled toxins**

**Iron**

**Isoniazid**

**Marine toxins (See 6.1)**

**Methemoglobinemia (See 8.5)**

**Mushrooms/Poisonous plants**
<table>
<thead>
<tr>
<th></th>
<th>Critical</th>
<th>Emergent</th>
<th>Lower Acuity</th>
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</thead>
<tbody>
<tr>
<td>Neuroleptics</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Non-prescription drugs</td>
<td></td>
<td>X</td>
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<tr>
<td>Organophosphates</td>
<td>X</td>
<td></td>
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<tr>
<td>Recreational drugs</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Sedatives/Hypnotics</td>
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<tr>
<td>Stimulants/Sympathomimetics</td>
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<tr>
<td>Strychnine</td>
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<tr>
<td>Lithium*</td>
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### 18.0 TRAUMATIC DISORDERS

#### 18.1 Trauma

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<tr>
<td>Hollow viscus</td>
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<tr>
<td>Penetrating</td>
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<tr>
<td>Retroperitoneum</td>
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<tr>
<td>Solid organ</td>
<td>X</td>
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</tr>
<tr>
<td>Vascular</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Chest trauma</td>
<td></td>
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<tr>
<td>Aortic dissection/Disruption</td>
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</tr>
<tr>
<td>Contusion</td>
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<tr>
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<tr>
<td>Fracture</td>
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<td>Clavicle</td>
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<td>Ribs/Flail chest</td>
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<tr>
<td>Pericardial tamponade (See 3.6)</td>
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<td>Burns</td>
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<td>Puncture wounds</td>
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<tr>
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<td>Laryngotracheal injuries</td>
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<tr>
<td>Penetrating neck trauma</td>
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<td>Vascular injuries</td>
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<tr>
<td>Ophthalmologic trauma</td>
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<tr>
<td>Corneal abrasions/Lacerations</td>
<td>(See 7.2)</td>
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<td>Corneal burns</td>
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<td>Hyphema (See 7.2)</td>
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<tr>
<td>Penetrating globe injuries</td>
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<tr>
<td>Retinal detachments (See 7.2)</td>
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<tr>
<td>Traumatic iritis (See 7.2)</td>
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<td>Otologic trauma</td>
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<td>Perforated tympanic membrane (See 7.1)</td>
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<td>Pediatric fractures</td>
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<tr>
<td>Epiphyseal</td>
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<td>Greenstick</td>
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<td>Torus</td>
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<tr>
<td>Pelvic fracture</td>
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<tr>
<td>Soft-tissue extremity injuries</td>
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<td>Amputations/Replantation</td>
<td>X</td>
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<tr>
<td>Compartment syndromes</td>
<td>X</td>
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<tr>
<td>High-pressure injection</td>
<td>X</td>
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<tr>
<td>Injuries to joints</td>
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<tr>
<td>Knee</td>
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<tr>
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<tr>
<td>Penetrating soft-tissue</td>
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<td>Periarticular</td>
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<td>Sprains and strains</td>
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<tr>
<td>Tendon injuries</td>
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<td>Lacerations/Transections</td>
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<tr>
<td>Ruptures</td>
<td>X</td>
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<td>Achilles tendon</td>
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<td>Patellar tendon</td>
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<tr>
<td>Vascular injuries*</td>
<td>X</td>
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</tbody>
</table>
Spinal cord and nervous system trauma
  Cauda equina syndrome (See 11.2)  X
  Injury to nerve roots  X  X
  Peripheral nerve injury  X  X
  Spinal cord injury  X  X
    Spinal cord injury without radiologic abnormality (SCIWORA)  X
  Upper extremity bony trauma
    Dislocations/Subluxations  X
    Fractures (open and closed)  X  X

18.2 Trauma in Pregnancy
  Abruptio placenta (See 13.3)  X  X
  Perimortem C-section  X
  Premature labor (See 13.6)  X
  Rupture of uterus (See 13.6)  X

18.3 Multi-system Trauma
  Blast injury  X  X

APPENDIX 1.
Procedures and Skills Integral to the Practice of Emergency Medicine

<table>
<thead>
<tr>
<th>Airway Techniques</th>
<th>Critical</th>
<th>Emergent</th>
<th>Lower Acuity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airway adjuncts</td>
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<tr>
<td>Cricothyrotomy</td>
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<td>Heimlich maneuver</td>
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<tr>
<td>Intubation</td>
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</tbody>
</table>
  1. Nasotracheal            |          |          |              |
  2. Orotracheal             |          |          |              |
  3. Rapid sequence          |          |          |              |
| Mechanical ventilation     |          |          |              |
| Percutaneous transtracheal ventilation | | | |

| Anesthesia                |          |          |              |
| Local                     |          |          |              |
| Regional nerve block      |          |          |              |
| Sedation - analgesia for procedures | | | |

<table>
<thead>
<tr>
<th>Blood, Fluid*, and Component Therapy Administration</th>
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<tbody>
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<td>Anoscopy</td>
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<tr>
<td>Arthrocentesis</td>
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<tr>
<td>Bedside ultrasonography</td>
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<tr>
<td>Cystourethrogram</td>
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<tr>
<td>Lumbar puncture</td>
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<tr>
<td>Nasogastric tube</td>
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<table>
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<tr>
<th>Diagnostic Procedures</th>
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<tbody>
<tr>
<td>Anoscopy</td>
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<tr>
<td>Nasogastric tube</td>
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</table>

| Genital/Urinary       |          |          |              |
| Bladder catheterization|        |          |              |
| 1. Foley catheter     |          |          |              |
| 2. Suprapubic         |          |          |              |
| Testicular detorsion  |          |          |              |

| Head and Neck         |          |          |              |
| Control of epistaxis  |          |          |              |
| 1. Anterior packing   |          |          |              |
| 2. Cautery            |          |          |              |
| 3. Posterior packing/Balloon placement | | | |
| Laryngoscopy          |          |          |              |
| Needle aspiration of peritonsillar abscess          | | | |
| Tooth replacement    |          |          |              |

| Hemodynamic Techniques |          |          |              |
| Arterial catheter insertion | | | |
| Central venous access   |          |          |              |
| 1. Femoral              |          |          |              |
2. Jugular
3. Subclavian
4. Umbilical
5. Venous cutdown
Intraosseous infusion
Peripheral venous cutdown

Obstetrics
Delivery of newborn
1. Abnormal delivery
2. Normal delivery

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

Wound closure techniques
Wound management

Resuscitation
Cardiopulmonary resuscitation (CPR)
Neonatal resuscitation

Skeletal Procedures
Fracture/Dislocation immobilization techniques
Fracture/Dislocation reduction techniques
Spine immobilization techniques

Thoracic
Cardiac pacing
1. Cutaneous
2. Transvenous
Defibrillation/Cardioversion
Thoracostomy
Thoracotomy

Universal Precautions

APPENDIX 2.
Other Components of the Practice of Emergency Medicine

ADMINISTRATION

Contract Principles
Analysis of Clauses and Components
Employment v. Independent Contractor
Negotiation

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

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

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Page 38
Performance Improvement
Customer Satisfaction and Service
Error Reduction
Practice Guidelines

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

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

Systems-based Management
Managed Care
Disaster Preparedness

COMMUNICATION AND INTERPERSONAL ISSUES
Complaint Management
Conflict Resolution
Interdepartmental and Medical Staff Relations
Team Building
Teaching

RESEARCH
Evidence-based Medicine
Interpretation of Medical Literature
Performance of Research

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

* For a description of specific changes, please refer to Figure 1, Summary of 2003 EM Model Task Force Changes, that appears on page 3 of this document.
The following individuals also made contributions to the 2001 EM Model:

Carey D. Chisholm, M.D.  
Steven C. Dronen, M.D.  
Samuel M. Keim, M.D.  
Jo Ellen Linder, M.D.  
John B. McCabe, M.D.  
Marcus L. Martin, M.D.  
John C. Moorhead, M.D.  
Ingrid Mudge, M.D.  
Scott A. Syverud, M.D.

American Board of Emergency Medicine  
Susan K. Adsit  
Hazen P. Ham, Ph.D.  
Benson S. Munger, Ph.D.  
Michael W. Radke, Ph.D.  
Mary Ann Reinhart, Ph.D.

American College of Emergency Physicians  
Rebecca Garcia, Ph.D.  
Marjorie A. Geist, Ph.D., R.N.

National Board of Medical Examiners (Consultants)  
Kristina G. Golden, M.A.  
Anthony LaDuca, Ph.D.  
Nancy A. Orr, Ph.D.

American College of Emergency Physicians  
Colleen P. Robinson

Residency Review Committee – Emergency Medicine  
Larry D. Sulton, Ph.D.  
Linda M. Thorsen

Dr. LaDuca made substantial intellectual contributions to the EM Model stemming from his many years of research and thinking about the contextual framework of professionals in practice.

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The following individuals also made contributions to the 2003 EM Model:

American Board of Emergency Medicine  
Susan K. Adsit  
Julie N. Keebauch  
Mary Ann Reinhart, Ph.D.  
Colleen P. Robinson

American College of Emergency Physicians  
Marjorie A. Geist, Ph.D., R.N.

Residency Review Committee – Emergency Medicine  
Larry D. Sulton, Ph.D.  
Daniel F. Danzl, M.D.

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