CRITICAL CARE MEDICINE Blueprint

For traditional, 10-year Maintenance of Certification (MOC) exam

ABIM invites diplomates to help develop the Critical Care Medicine MOC exam blueprint

Based on feedback from physicians that MOC assessments should better reflect what they see in practice, in 2016 the American Board of Internal Medicine (ABIM) invited all certified Critical Care Medicine specialists to provide ratings of the relative frequency and importance of blueprint topics in practice.

This review process, which resulted in a new MOC exam blueprint, will be used on an ongoing basis to inform and update all MOC assessments created by ABIM. No matter what form ABIM's assessments ultimately take, they will need to be informed by front-line clinicians sharing their perspective on what is important to know.

A sample of approximately 300 Critical Care Medicine specialists similar to the total invited population of Critical Care Medicine Specialists in age, gender, time spent in direct patient care, and geographic region of practice, provided the blueprint topic ratings. ABIM used this feedback to update the blueprint for MOC assessments (beginning with the Spring 2017 administration of the traditional, 10-year MOC exam).

To inform how assessment content should be distributed across the major blueprint content categories, ABIM considered the average respondent ratings of topic frequency and importance in each of the content categories.

To determine prioritization of specific assessment content within each major medical content category, ABIM used the respondent ratings of topic frequency and importance to set thresholds for these parameters in the exam assembly process (described further under *Detailed content outline* below).

Purpose of the Critical Care Medicine MOC Assessments

The MOC exams are designed to evaluate whether a certified Critical Care Medicine specialist has maintained competence and currency in the knowledge and judgment required for practice. The MOC assessments emphasize diagnosis and management of prevalent conditions, particularly in areas where practice has changed in recent years. As a result of the blueprint review by ABIM diplomates, MOC assessments place less emphasis on rare conditions and focus more on situations in which physician intervention can have important consequences for patients. For conditions that are usually managed by other specialists, the focus is on recognition rather than on management.

Assessment format

The traditional, 10-year MOC exam contains up to 220 single-best-answer multiple-choice questions, of which approximately 50 are new questions that do not count in the examinee's score. Examinees taking the traditional, 10-year MOC exam will have access to an external resource (i.e., UpToDate®) for the entire exam.

ABIM's Longitudinal Knowledge Assessment (LKA™) for MOC, slated to launch in 2023, is a five-year cycle in which physicians answer questions on an ongoing basis and receive feedback on how they're performing along the way. More information on how assessments are developed can be found at abim.org/about/exam-information/exam-development.aspx.

Most questions describe patient scenarios and ask about the work done (that is, tasks performed) by physicians in the course of practice:

- **Diagnosis:** making a diagnosis or identifying an underlying condition
- **Testing:** ordering tests for diagnosis, staging, or follow-up
- **Treatment/Care Decisions**: recommending treatment or other patient care
- **Risk Assessment/Prognosis/Epidemiology:** assessing risk, determining prognosis, and applying principles from epidemiologic studies
- **Pathophysiology/Basic Science:** understanding the pathophysiology of disease and basic science knowledge applicable to patient care

Clinical scenarios presented take place in inpatient settings as appropriate to a typical critical care medicine practice. Clinical information presented may include various media illustrating relevant findings, such as diagnostic imaging studies. Some questions require interpretation of pictorial material, such as pressure tracings, ultrasound scans, magnetic resonance imaging scans, electrocardiograms, radiographs, computed tomograms, radionuclide scans, and photomicrographs.

Tutorials for the MOC exam, including examples of question format, can be found at abim.org/maintenance-of-certification/exam-information/critical-care-medicine/exam-tutorial.aspx.

Content distribution

Listed below are the major medical content categories that define the domain for the Critical Care Medicine traditional, 10-year MOC exam and the LKA assessments. The relative distribution of content is expressed as a percentage of the total exam. To determine the content distribution, ABIM considered the average respondent ratings of topic frequency and importance. Informed by these data, the Critical Care Medicine Approval Committee and Board have determined the medical content category targets, shown below.

CONTENT CATEGORY	Target %
Renal, Endocrine, and Metabolic Disorders	**15%**
Cardiovascular Disorders	**17.5%**
Pulmonary Disease	**20%**
Infectious Disease	**12%**
Gastrointestinal Disorders	**5%**
Neurologic Disorders	**9.5%**
Hematologic and Oncologic Disorders	**5.5%**
Surgery, Trauma, and Transplantation	**7%**
Pharmacology and Toxicology	**4.5%**
Research, Administration, and Ethics	**2%**
Critical Care Ultrasound Scanning	**2%**
Total	**100%**

Assessment questions in the content areas above may also address clinical topics in general internal medicine that are relevant to the practice of critical care medicine (including some general pediatrics with an emphasis on adolescent medicine).

How the blueprint ratings are used to assemble the MOC assessment

Blueprint reviewers provided ratings of relative frequency in practice for each of the detailed content topics in the blueprint and provided ratings of the relative importance of the topics for each of the tasks described in *Assessment format* above. In rating importance, reviewers were asked to consider factors such as the following:

- High risk of a significant adverse outcome
- Cost of care and stewardship of resources
- Common errors in diagnosis or management
- Effect on population health
- Effect on quality of life
- When failure to intervene by the physician deprives a patient of significant benefit

Frequency and importance were rated on a three-point scale corresponding to low, medium, or high. The median importance ratings are reflected in the *Detailed content* outline below. The Critical Care Medicine Approval Committee and Board, in partnership with the physician community, have set the following parameters for selecting MOC assessment questions according to the blueprint review ratings:

- At least 70% of questions will address high-importance content (indicated in green)
- No more than 30% of questions will address medium-importance content (indicated in yellow)
- No questions will address low-importance content (indicated in red)

Independent of the importance and task ratings, no more than 15% of questions will address low-frequency content (indicated by “LF” following the topic description).

The content selection priorities below are applicable beginning with the Spring 2017 traditional, 10-year MOC exam and are subject to change in response to future blueprint review.

Note: *The same topic may appear in more than one medical content category.*

Detailed content outline for the Critical Care Medicine traditional, 10-year MOC exam

✓ – ***High Importance***: *At least 70% of questions will address topics and tasks with this designation.*

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RENAL, ENDOCRINE, AND METABOLIC DISORDERS *(15% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
SODIUM-WATER BALANCE *(2% of exam)*					
Hyponatremia					
Syndrome of inappropriate antidiuretic hormone secretion	✓	✓	✓	⁄	⁄
Cerebral salt wasting LF	⁄	⁄	⁄	⁄	⁄
Psychogenic polydipsia LF	⁄	⁄	⁄	⁄	✗
Hypothyroidism	⁄	⁄	⁄	⁄	⁄
Iatrogenic	⁄	⁄	✓	⁄	⁄
Exercise-induced LF	⁄	⁄	⁄	✗	✗
Hypernatremia					
Central diabetes insipidus LF	⁄	⁄	⁄	⁄	⁄
Nephrogenic diabetes insipidus LF	⁄	⁄	⁄	⁄	⁄
Osmotic diuresis	⁄	⁄	⁄	⁄	✗
Primary hypodipsia LF	✗	✗	✗	✗	✗
Dehydration	✓	✓	✓	⁄	⁄
Gastrointestinal fluid losses	✓	✓	✓	⁄	⁄
Hypervolemia	✓	✓	✓	✓	⁄
Hypovolemia	✓	✓	✓	⁄	⁄

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RENAL, ENDOCRINE, AND METABOLIC DISORDERS *continued…* *(15% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
POTASSIUM DISORDERS *(<2% of exam)*					
Hyperkalemia					
Pseudohyperkalemia	⊘	⊘	⊘	⊘	⊘
Drug-induced	⊘	⊘	✓	⊘	⊘
Adrenal insufficiency	✓	✓	✓	⊘	⊘
Hypokalemia					
Vomiting	✓	⊘	✓	⊘	✗
Diarrhea	✓	✓	✓	⊘	✗
Renal losses					
Drug-induced	✓	⊘	⊘	⊘	⊘
ACID-BASE DISORDERS *(4.5% of exam)*					
Metabolic acidosis					
Increased anion gap					
Lactic acidosis	✓	✓	✓	✓	✓
Ketoacidosis	✓	✓	✓	✓	✓
Hypoalbuminemia	⊘	⊘	⊘	⊘	⊘
Normal anion gap					
Diarrhea	⊘	⊘	⊘	⊘	⊘
Saline resuscitation-associated	✓	✓	✓	⊘	⊘
Drug-induced	⊘	⊘	⊘	⊘	⊘
Decreased anion gap in multiple myeloma **LF**	⊘	⊘	⊘	✗	✗

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RENAL, ENDOCRINE, AND METABOLIC DISORDERS *continued…* *(15% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
ACID-BASE DISORDERS *continued… (4.5% of exam)*					
Metabolic alkalosis					
Diuretic-induced (contraction alkalosis)	✓	✓	✓	⊘	⊘
Other metabolic alkalosis topics (parenteral nutrition-induced, complications of citrate anticoagulation) **LF**	⊘	⊘	⊘	✗	✗
Mixed acid-base disorders	✓	✓	✓	⊘	⊘
Respiratory acidosis	✓	✓	✓	✓	✓
Respiratory alkalosis	✓	✓	✓	⊘	⊘
TOXIC INGESTIONS *(<2% of exam)*					
High osmolar gap					
Ethanol	⊘	⊘	⊘	⊘	⊘
Methanol **LF**	⊘	⊘	⊘	⊘	⊘
Isopropyl alcohol **LF**	⊘	⊘	⊘	⊘	✗
Ethylene glycol **LF**	✓	✓	✓	⊘	⊘
Propylene glycol **LF**	⊘	⊘	⊘	⊘	✗
Normal osmolar gap					
Salicylates **LF**	✓	✓	✓	⊘	⊘
CALCIUM, PHOSPHATE, AND MAGNESIUM DISORDERS *(<2% of exam)*					
Hyperphosphatemia	⊘	⊘	⊘	✗	✗
Hypophosphatemia	⊘	⊘	⊘	⊘	✗
Hypercalcemia	⊘	⊘	⊘	⊘	⊘
Hypocalcemia	✓	✓	✓	⊘	⊘
Hypermagnesemia **LF**	⊘	⊘	⊘	✗	✗
Hypomagnesemia	✓	✓	✓	⊘	✗

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RENAL, ENDOCRINE, AND METABOLIC DISORDERS *continued…* *(15% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
HYPERAMMONEMIA *<2% of exam)*					
Hyperammonemia	✓	✓	✓	✓	✓
DIABETES MELLITUS (EXCLUDING DIABETIC KETOACIDOSIS) AND ENERGY METABOLISM *(<2% of exam)*					
Hyperglycemic hyperosmolar state	✓	✓	✓	✓	✓
Hyperglycemia	✓	✓	✓	✓	✓
Hypoglycemia	✓	✓	✓	✓	✓
THYROID DISORDERS *(<2% of exam)*					
Hypothyroidism	✓	✓	✓	✓	✓
Hyperthyroidism LF	✓	✓	✓	✓	✓
Nonthyroidal illness syndrome	✓	✓	✓	✓	✓
PARATHYROID DISORDERS *(<2% of exam)*					
Parathyroid disorders LF	✓	✓	✓	✗	✗
ADRENAL DISORDERS *(<2% of exam)*					
Adrenal insufficiency					
Relative adrenal insufficiency in critical illness	✓	✓	✓	✓	✓
Adrenal excess LF	✓	✓	✓	✓	✗
Addison's disease* LF	✓	✓	✓	✗	✗
PITUITARY DISORDERS *(<2% of exam)*					
Pituitary disorders LF	✓	✓	✓	✗	✗
TUMOR-RELATED SYNDROMES *(<2% of exam)*					
Tumor-related syndromes	✓	✓	✓	✗	✗
ACUTE KIDNEY INJURY *(<2% of exam)*					
Contrast-induced	✓	✓	✓	✓	✓
Pigment-induced LF	✓	✓	✓	✗	✗
Oncology-related LF	✓	✓	✓	✓	✗

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RENAL, ENDOCRINE, AND METABOLIC DISORDERS *continued…* *(15% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
ACUTE KIDNEY INJURY *continued… (<2% of exam)*					
Pre-renal disease	✓	✓	✓	⊘	⊘
Intrinsic disease					
Glomerulonephritis **LF**	⊘	⊘	⊘	⊘	✗
Interstitial nephritis	⊘	⊘	⊘	⊘	⊘
Rhabdomyolysis	✓	✓	✓	⊘	⊘
Acute tubular necrosis	✓	✓	✓	✓	⊘
Renal replacement therapy	✓	✓	✓	✓	⊘

CARDIOVASCULAR DISORDERS *(17.5% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
ACUTE CORONARY SYNDROMES *(<2% of exam)*					
Unstable angina pectoris and non-ST-segment elevation myocardial infarction (NSTEMI)					
Unstable angina pectoris	✓	✓	✓	⊘	⊘
NSTEMI	✓	✓	✓	✓	⊘
ST-segment-elevation myocardial infarction (STEMI)					
Diagnosis	✓	✓	*Not Applicable*		
Complications					
Heart failure, cardiogenic shock	✓	✓	✓	✓	⊘
Ventricular septal defect **LF**	⊘	⊘	⊘	⊘	⊘
Acute mitral regurgitation	✓	✓	⊘	⊘	⊘
Ventricular wall rupture **LF**	✓	⊘	⊘	⊘	⊘
Electrical conduction abnormalities	✓	✓	✓	⊘	⊘
Right ventricular failure	✓	✓	✓	⊘	⊘
Arrhythmias	✓	✓	✓	✓	⊘
Management of STEMI	*Not Applicable*	✓	✓	✓	⊘

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CARDIOVASCULAR DISORDERS *continued…* *(17.5% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
ACUTE CORONARY SYNDROMES *continued… (<2% of exam)*					
Cocaine-related ischemia **LF**	⊘	⊘	⊘	⊘	⊘
ARRHYTHMIAS *(<2% of exam)*					
Supraventricular tachycardia					
Atrial fibrillation	✓	✓	✓	✓	⊘
Atrial flutter	✓	✓	✓	⊘	⊘
Multifocal atrial tachycardia	✓	⊘	⊘	⊘	⊘
Pre-excitation syndromes **LF**	⊘	⊘	⊘	✗	✗
Paroxysmal supraventricular tachycardia (atrioventricular [AV] nodal reentrant tachycardia)	⊘	⊘	⊘	⊘	⊘
Ventricular arrhythmias					
Nonsustained ventricular tachycardia	✓	✓	✓	⊘	⊘
Monomorphic ventricular tachycardia	✓	✓	✓	⊘	⊘
Polymorphic ventricular tachycardia	✓	✓	✓	⊘	⊘
Ventricular fibrillation	✓	✓	✓	⊘	⊘
Accelerated idioventricular rhythm	⊘	⊘	⊘	⊘	⊘
Long QT syndrome	✓	⊘	⊘	⊘	⊘
Brugada syndrome **LF**	⊘	⊘	⊘	✗	✗
Bradyarrhythmias					
Sinus bradycardia	✓	✓	✓	⊘	⊘
Sinoatrial exit block **LF**	⊘	⊘	⊘	✗	✗
Atrioventricular block	✓	⊘	⊘	⊘	⊘
Pacemakers and defibrillators	⊘	⊘	⊘	⊘	⊘

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CARDIOVASCULAR DISORDERS *continued…* *(17.5% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
HEART FAILURE *(3.5% of exam)*					
Heart failure with reduced ejection fraction (HFrEF)	✓	✓	✓	✓	⊘
Heart failure with preserved ejection fraction (HFpEF)	✓	✓	✓	⊘	⊘
HEMODYNAMIC MONITORING *(5.5% of exam)*					
Interpretation of arterial catheterization	⊘	⊘	⊘	⊘	⊘
Pulmonary arterial catheterization **LF**	⊘	⊘	⊘	✗	⊘
Central venous catheterization	✓	✓	✓	⊘	⊘
Non-invasive hemodynamic monitoring	✓	✓	✓	✗	✗
VASCULAR DISORDERS *(<2% of exam)*					
Aortic dissection and aneurysm					
Aortic dissection **LF**	✓	✓	✓	⊘	⊘
Aortic aneurysm and transection **LF**	✓	✓	✓	⊘	⊘
Shock	✓	✓	✓	✓	✓
Hypertensive emergency and urgency	✓	✓	✓	✓	⊘
VALVULAR HEART DISEASE *(<2% of exam)*					
Mitral stenosis **LF**	⊘	⊘	⊘	⊘	⊘
Aortic stenosis	✓	✓	✓	⊘	⊘
Aortic regurgitation	✓	⊘	⊘	⊘	⊘
Mitral regurgitation	✓	✓	⊘	⊘	⊘
Endocarditis	✓	✓	✓	⊘	⊘
Structural defects					
Atrial **LF**	⊘	⊘	⊘	⊘	✗
Ventricular **LF**	⊘	⊘	⊘	⊘	✗

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CARDIOVASCULAR DISORDERS *continued…* *(17.5% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
PERICARDIAL DISEASE *(<2% of exam)*					
Pericarditis	✓	⁄	⁄	⁄	⁄
Cardiac tamponade	✓	✓	✓	⁄	⁄
MYOCARDIAL DISEASE *(<2% of exam)*					
Myocarditis **LF**	⁄	⁄	⁄	⁄	✗
Hypertrophic cardiomyopathy **LF**	⁄	⁄	⁄	⁄	⁄
Peripartum cardiomyopathy **LF**	⁄	⁄	⁄	⁄	✗
Stress cardiomyopathy	⁄	⁄	⁄	⁄	⁄
MECHANICAL CIRCULATORY SUPPORT *(<2% of exam)*					
Intraaortic balloon pump (IABP) counterpulsation	✓	✓	✓	⁄	⁄
Extracorporeal membrane oxygenation (ECMO) **LF**	⁄	⁄	⁄	⁄	⁄
Ventricular assist devices (VADs) **LF**	⁄	⁄	⁄	⁄	⁄
TRANSPLANTED HEART *(<2% of exam)*					
Transplanted heart **LF**	⁄	⁄	⁄	⁄	✗

PULMONARY DISEASE *(20% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
RESPIRATORY FAILURE *(2% of exam)*					
Hypoxemic	✓	✓	✓	✓	✓
Hypercapnic	✓	✓	✓	✓	✓
MECHANICAL VENTILATION *(6% of exam)*					
Initiation and maintenance of mechanical ventilation					
Endotracheal intubation and tracheostomy	✓	✓	✓	✓	⁄
Modes	✓	✓	✓	⁄	✓
Oxygenation	✓	✓	✓	⁄	✓

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PULMONARY DISEASE *continued…* *(20% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
MECHANICAL VENTILATION *continued… (6% of exam)*					
Initiation and maintenance of mechanical ventilation *continued…*					
Ventilation (CO_2)	✓	✓	✓	⊘	⊘
Waveforms	⊘	⊘	⊘	⊘	⊘
Respiratory system compliance (lung mechanics)	✓	⊘	⊘	⊘	⊘
Complications of mechanical ventilation					
Barotrauma	✓	✓	✓	⊘	⊘
Bronchopleural fistula	✓	✓	✓	⊘	⊘
Ventilator-induced lung injury	✓	✓	✓	✓	⊘
Dynamic hyperinflation (auto-PEEP)	✓	✓	✓	✓	✓
Intracardiac shunt **LF**	⊘	⊘	⊘	⊘	⊘
Complications of endotracheal tubes and tracheostomy	✓	✓	✓	⊘	⊘
Liberation from mechanical ventilation	✓	✓	✓	✓	✓
Noninvasive ventilation	✓	✓	✓	✓	✓
AIRWAY DISEASE *(2% of exam)*					
Upper airway disease					
Upper airway obstruction	✓	✓	✓	⊘	⊘
Tracheoesophageal fistula **LF**	✓	✓	✓	⊘	⊘
Intubation-related laryngeal edema	✓	✓	✓	⊘	⊘
Anaphylactic airway edema and increased negative inspiratory pressure **LF**	✓	✓	✓	⊘	⊘
Airway control	✓	✓	✓	⊘	⊘
Asthma	✓	✓	✓	✓	⊘
Chronic obstructive pulmonary disease (COPD)	✓	✓	✓	✓	⊘

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PULMONARY DISEASE *continued…* *(20% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
PARENCHYMAL LUNG DISEASE *(5% of exam)*					
Acute respiratory distress syndrome (ARDS)	✓	✓	✓	✓	✓
Pneumonia					
Community-acquired pneumonia (CAP)					
Typical bacterial	✓	✓	✓	✓	⊘
Atypical bacterial	✓	✓	✓	⊘	⊘
Aspiration	✓	✓	✓	✓	⊘
Viral	✓	✓	✓	⊘	✗
Fungal **LF**	⊘	⊘	⊘	⊘	⊘
Hospital-acquired pneumonias and immunocompromised hosts					
Ventilator-associated pneumonia (VAP)	✓	✓	✓	✓	⊘
Hematogenous pneumonia **LF**	⊘	⊘	⊘	⊘	✗
Aspergillus pneumonia **LF**	⊘	⊘	⊘	⊘	✗
Non-Aspergillus pneumonia **LF**	⊘	⊘	⊘	⊘	✗
Pneumocystis jirovecii pneumonia **LF**	✓	✓	✓	⊘	⊘
Viral pneumonia	⊘	⊘	⊘	⊘	✗
Noncardiogenic pulmonary edema					
Neurogenic **LF**	✓	⊘	⊘	⊘	⊘
Tocolytic **LF**	⊘	⊘	⊘	✗	✗
Negative-pressure **LF**	⊘	⊘	⊘	⊘	✗
High-altitude **LF**	⊘	⊘	⊘	✗	✗
Interstitial lung disease **LF**	✓	⊘	✓	⊘	⊘
Diffuse alveolar hemorrhage	✓	✓	✓	⊘	⊘
Atelectasis	✓	✓	✓	⊘	⊘

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PULMONARY DISEASE *continued…* *(20% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
PULMONARY VASCULAR DISORDERS *(2% of exam)*					
Pulmonary thromboembolism					
Deep venous thrombosis (DVT)	✓	✓	✓	✓	✓
Pulmonary embolism (PE)	✓	✓	✓	✓	✓
Nonthrombotic embolism					
Air **LF**	✓	✓	✓	⁄	✗
Tumor **LF**	⁄	⁄	⁄	⁄	✗
Septic	✓	✓	✓	⁄	✗
Pulmonary hypertension	✓	✓	✓	⁄	⁄
Acute chest syndrome in sickle cell disease **LF**	⁄	⁄	⁄	⁄	✗
Pulmonary vasculitis	⁄	⁄	⁄	⁄	⁄
Hepatopulmonary syndrome	✓	⁄	⁄	⁄	⁄
HEMOPTYSIS *(<2% of exam)*					
Massive **LF**	✓	✓	✓	⁄	⁄
Submassive	✓	✓	✓	⁄	⁄
PLEURAL DISORDERS *(2% of exam)*					
Pleural effusion					
Infectious (empyema)	✓	✓	✓	✓	⁄
Noninfectious	✓	✓	✓	⁄	⁄
Pneumothorax	✓	✓	✓	✓	⁄
Hemothorax	✓	✓	✓	⁄	⁄

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INFECTIOUS DISEASE *(12% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
SYSTEMIC INFECTIONS *(<2% of exam)*					
Sepsis and septic shock	✓	✓	✓	✓	⁄
Bacterial infections (typical and atypical)					
Tuberculosis **LF**	✓	✓	✓	⁄	⁄
Atypical mycobacterial infections	✓	✓	✓	⁄	⁄
Nocardiosis **LF**	⁄	⁄	⁄	⁄	✗
Listeriosis **LF**	⁄	⁄	⁄	⁄	✗
Brucellosis **LF**	✗	✗	✗	✗	✗
Typhoid fever **LF**	⁄	⁄	⁄	✗	✗
Tularemia **LF**	✗	✗	✗	✗	✗
Plague **LF**	⁄	⁄	⁄	✗	✗
Rickettsial or Rickettsial-like infections					
Rocky Mountain spotted fever **LF**	⁄	⁄	⁄	⁄	✗
Erlichiosis/Anaplasmosis **LF**	⁄	✗	✗	✗	✗
Spirochetal infections					
Lyme disease **LF**	⁄	⁄	⁄	⁄	✗
Leptospirosis **LF**	✗	✗	✗	✗	✗
Fungal infections	✓	✓	✓	✓	⁄
Viral infections	✓	✓	✓	⁄	⁄
Parasitic diseases					
Malaria **LF**	⁄	⁄	✗	✗	✗
Babesiosis **LF**	⁄	⁄	⁄	✗	✗
Strongyloides hyperinfection syndrome **LF**	⁄	✗	✗	✗	✗
Giardiasis **LF**	⁄	⁄	⁄	✗	✗

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INFECTIOUS DISEASE *continued…* *(12% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
CENTRAL NERVOUS SYSTEM INFECTIONS *(<2% of exam)*					
Meningitis					
Bacterial					
Meningococcal	✓	✓	✓	✓	⊘
Pneumococcal	✓	✓	✓	✓	⊘
Syphilitic **LF**	⊘	⊘	⊘	⊘	✗
Listerial **LF**	✓	✓	✓	✗	✗
Fungal **LF**	⊘	⊘	✓	⊘	✗
Mycobacterial **LF**	⊘	⊘	⊘	⊘	✗
Encephalitis					
Viral					
Herpes simplex virus	✓	✓	✓	⊘	✗
West Nile virus **LF**	⊘	⊘	⊘	✗	✗
Rabies **LF**	⊘	⊘	⊘	✗	✗
Parasitic **LF**	⊘	⊘	✗	✗	✗
Brain abscess **LF**	⊘	⊘	⊘	⊘	✗
Epidural abscess **LF**	✓	✓	✓	⊘	✗
HEAD, NECK, AND UPPER AIRWAY INFECTIONS *(<2% of exam)*					
Eye and orbit **LF**	⊘	⊘	✗	✗	✗
Septic cavernous sinus thrombosis **LF**	⊘	⊘	⊘	✗	✗
Soft tissue infections of the head and neck	⊘	⊘	⊘	✗	✗
Sinusitis **LF**	✓	✓	✗	✗	✗
Epiglottitis **LF**	✓	✓	✓	⊘	✗

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INFECTIOUS DISEASE *continued…* *(12% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
CARDIOVASCULAR INFECTIONS *(<2% of exam)*					
Pericarditis	✓	✓	✓	⁄	⁄
Endocarditis	✓	✓	✓	✓	⁄
Device-related infections	✓	✓	✓	✓	⁄
Catheter-related infections (peripheral, central venous, arterial, pulmonary artery)	✓	✓	✓	✓	⁄
GASTROINTESTINAL AND INTRA-ABDOMINAL INFECTIONS *(<2% of exam)*					
Esophageal LF	⁄	⁄	⁄	✗	✗
Liver LF	⁄	⁄	⁄	⁄	✗
Gallbladder and biliary	✓	✓	✓	⁄	⁄
Pancreatitis					
Necrotizing (infected)	✓	✓	✓	⁄	⁄
Pancreatic abscess LF	⁄	✓	⁄	⁄	✗
Gastroenteritis					
Community-acquired bacterial	✓	✓	✓	⁄	⁄
Colitis and diverticulitis					
Clostridioides (Clostridium) *difficile*-associated	✓	✓	✓	✓	⁄
Parasitic LF	⁄	⁄	✗	✗	✗
Necrotizing enterocolitis (typhlitis) LF	⁄	⁄	⁄	⁄	✗
Cytomegalovirus colitis LF	⁄	⁄	⁄	⁄	✗
Peritonitis	✓	✓	✓	⁄	⁄
Small intestine and appendix	⁄	⁄	⁄	⁄	✗
GENITOURINARY TRACT INFECTIONS *(<2% of exam)*					
Cystitis, including catheter-related	✓	✓	✓	⁄	✗
Pyelonephritis	✓	✓	✓	⁄	⁄
Perinephric abscess LF	⁄	⁄	⁄	⁄	✗

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INFECTIOUS DISEASE *continued…* *(12% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
SOFT TISSUE, BONE, AND JOINT INFECTIONS *(<2% of exam)*					
Bites LF	✓	✓	✓	✓	✗
Septic arthritis LF	✓	✓	✓	✓	✗
INFECTIONS ASSOCIATED WITH NONVASCULAR TRANSCUTANEOUS CATHETERS *(<2% of exam)*					
Infections associated with nonvascular transcutaneous catheters LF	✓	✓	✓	✓	✗
ANTIMICROBIAL THERAPY AND RESISTANCE *(<2% of exam)*					
Nonallergic toxicity	✓	✓	✓	✓	✗
Allergic reactions	✓	✓	✓	✓	✓
Resistant organisms					
Gram-positive organisms	✓	✓	✓	✓	✓
Gram-negative organisms	✓	✓	✓	✓	✓
Fungi and inherent susceptibility patterns and resistance	✓	✓	✓	✓	✗
PHARMACOKINETICS *(<2% of exam)*					
Pharmacokinetics	*Not Applicable*	✓	✓	✓	✓
INFECTIONS IN IMMUNOCOMPROMISED HOSTS *(<2% of exam)*					
Opportunistic infections in human immunodeficiency virus (HIV) infection	✓	✓	✓	✓	✓
Neutropenia	✓	✓	✓	✓	✓
Transplantation					
Solid organ LF	✓	✓	✓	✓	✗
Hematopoietic cell LF	✓	✓	✓	✓	✗
Asplenia LF	✓	✓	✓	✓	✗
Corticosteroid immunosuppression	✓	✓	✓	✓	✓

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INFECTIOUS DISEASE *continued…* *(12% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
VIRULENCE FACTORS *(<2% of exam)*					
Toxic shock	✓	✓	✓	/	/
BIOTERRORISM *(<2% of exam)*					
Bioterrorism **LF**	✓	/	/	/	✗
HOSPITAL INFECTION CONTROL *(<2% of exam)*					
Hospital infection control	✓	✓	✓	✓	/

GASTROINTESTINAL DISORDERS *(5% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
ESOPHAGUS *(<2% of exam)*					
Corrosive injury **LF**	/	/	/	/	✗
Perforation and rupture	✓	✓	✓	/	✗
Fistula **LF**	/	/	/	✗	✗
STOMACH *(<2% of exam)*					
Peptic ulcer disease	✓	✓	✓	/	/
Non-peptic ulcer disease	/	/	/	/	/
Perforation **LF**	✓	✓	✓	/	✗
Mechanical disorders	/	/	/	/	✗
SMALL INTESTINE *(<2% of exam)*					
Perforation	✓	✓	✓	/	✗
Hemorrhage	✓	✓	✓	/	✗
Mechanical and motility disorders	/	/	/	✗	✗
Inflammatory bowel diseases	/	/	/	/	✗

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GASTROINTESTINAL DISORDERS *continued…* *(5% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
LARGE INTESTINE *(<2% of exam)*					
Perforation	✓	✓	✓	/	✗
Hemorrhage	✓	✓	✓	/	✗
Mechanical and motility disorders	/	/	/	✗	✗
Colonic ischemia	✓	✓	✓	/	/
LIVER *(<2% of exam)*					
Hepatitis					
Viral	/	/	/	/	✗
Autoimmune **LF**	/	/	/	✗	✗
Alcohol- and drug-induced	✓	✓	✓	/	/
Toxin and solvent exposure **LF**	/	/	/	✗	✗
Ischemic (shock liver)	✓	✓	✓	/	/
Budd-Chiari syndrome **LF**	/	/	/	✗	✗
Portal hypertension					
Esophageal variceal hemorrhage	✓	✓	✓	✓	/
Gastric variceal hemorrhage	✓	✓	✓	/	/
Spontaneous bacterial peritonitis	✓	✓	✓	/	✗
Hepatorenal syndrome	✓	✓	✓	/	/
Hepatopulmonary syndrome **LF**	/	/	/	/	/
Portopulmonary hypertension	/	/	/	/	✗

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GASTROINTESTINAL DISORDERS *continued…* *(5% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
LIVER *continued… (<2% of exam)*					
Fulminant hepatic failure					
Infection **LF**	✓	✓	/	/	✗
Alcohol- and drug-induced	✓	✓	✓	/	/
Tumor **LF**	/	/	/	✗	✗
Infiltrative diseases and nonalcoholic steatohepatitis (NASH)	/	/	/	/	✗
Toxin exposure **LF**	/	/	/	✗	✗
Encephalopathy	✓	✓	✓	/	/
Cerebral edema	✓	✓	✓	/	/
Hypotension	✓	✓	✓	/	/
PANCREAS *(<2% of exam)*					
Pancreatitis					
Infectious **LF**	/	/	/	✗	✗
Gallbladder disease	✓	✓	✓	/	✗
Tumor **LF**	/	/	/	✗	✗
Alcohol- and drug-induced	✓	✓	✓	/	/
Toxin exposure **LF**	/	/	/	✗	✗
Hypertriglyceridemia-induced **LF**	/	/	/	✗	✗
Complications	✓	✓	✓	/	✗
GALLBLADDER AND BILIARY TRACT *(<2% of exam)*					
Cholecystitis, calculous and acalculous	✓	✓	✓	/	/
Cholangitis	✓	✓	✓	/	✗

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NEUROLOGIC DISORDERS *(9.5% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
BRAIN DEATH *(<2% of exam)*					
Brain death	✓	✓	✓	✓	/
CEREBROVASCULAR DISEASE *(2.5% of exam)*					
Ischemic stroke	✓	✓	✓	✓	/
Intracerebral hemorrhage	✓	✓	✓	✓	/
Subarachnoid hemorrhage and aneurysm					
Complications					
Vasospasm	✓	✓	✓	/	/
Other subarachnoid hemorrhage and aneurysm topics (hydrocephalus)	✓	✓	✓	/	/
Cerebral vein and sinus thrombosis **LF**	/	/	/	/	✗
SEIZURES AND STATUS EPILEPTICUS *(<2% of exam)*					
Seizures complicating critical illness					
Seizures during critical illness	✓	✓	✓	/	/
Pre-existing epilepsy in critically ill patients	/	/	/	/	✗
Status epilepticus					
Generalized convulsive status epilepticus	✓	✓	✓	/	/
Nonconvulsive status epilepticus	✓	✓	✓	/	/
Electroencephalogram (EEG) monitoring in the intensive care unit (ICU)	/	/	/	/	✗
Repetitive seizures	/	/	/	/	✗
NEUROGENIC PULMONARY EDEMA *(<2% of exam)*					
Neurogenic pulmonary edema **LF**	/	/	/	/	✗

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NEUROLOGIC DISORDERS *continued…* *(9.5% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
NEUROMUSCULAR RESPIRATORY FAILURE *(<2% of exam)*					
Guillain-Barre syndrome LF	✓	✓	✓	/	/
Critical illness myopathy	✓	✓	✓	✓	/
Critical illness polyneuropathy	✓	✓	✓	/	/
Tetanus LF	/	/	/	/	✗
Myasthenia gravis LF	✓	✓	/	/	✗
Botulism LF	/	/	/	✗	✗
INCREASED INTRACRANIAL PRESSURE *(<2% of exam)*					
Increased intracranial pressure	✓	✓	✓	/	/
HEAD TRAUMA *(<2% of exam)*					
Nonpenetrating head trauma	/	/	/	/	✗
Penetrating head trauma LF	/	/	/	✗	✗
SPINAL CORD INJURY *(<2% of exam)*					
Cervical spine injury LF	/	/	/	/	✗
Thoracic spine injury LF	/	/	/	/	✗
COMA, ENCEPHALOPATHY, AND DELIRIUM *(<2% of exam)*					
Anoxic/hypoxic brain injury	✓	✓	✓	✓	✗
Metabolic encephalopathy	✓	✓	✓	✓	/
Drug-induced encephalopathy	✓	✓	✓	/	/
Drug and alcohol withdrawal	✓	✓	✓	✓	/
ICU-related delirium	✓	✓	✓	✓	/
Targeted temperature management*	✓	✓	✓	✓	✓
ANALGESIA, SEDATION, AND NEUROMUSCULAR JUNCTION BLOCKADE *(2% of exam)*					
Analgesia	✓	✓	✓	✓	/
Sedation	✓	✓	✓	✓	/
Neuromuscular junction blockade	✓	✓	✓	/	/

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HEMATOLOGIC AND ONCOLOGIC DISORDERS *(5.5% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
RED BLOOD CELL DISEASES *(<2% of exam)*					
Anemias	✓	✓	✓	⁄	⁄
Polycythemias LF	⁄	⁄	⁄	⁄	✗
Hemoglobinopathies LF	⁄	⁄	⁄	✗	✗
WHITE BLOOD CELL DISEASES *(<2% of exam)*					
Leukopenia (immune, drug-related)	⁄	⁄	⁄	⁄	✗
Leukemias LF	⁄	⁄	⁄	⁄	✗
Lymphoma	⁄	⁄	⁄	⁄	✗
Multiple myeloma LF	⁄	⁄	⁄	⁄	✗
PLATELET DISORDERS *(<2% of exam)*					
Thrombocytosis	⁄	⁄	⁄	⁄	✗
Thrombocytopenia	✓	✓	✓	✓	⁄
Platelet dysfunction	⁄	⁄	⁄	⁄	⁄
COAGULOPATHIES *(<2% of exam)*					
Disseminated intravascular coagulation (DIC)	✓	✓	✓	✓	⁄
Factor deficiencies LF	⁄	⁄	⁄	⁄	✗
Antithrombotic agents and reversal of coagulopathy	✓	✓	✓	✓	⁄
Hypothermia	⁄	⁄	⁄	⁄	⁄
Hemorrhagic shock	✓	✓	✓	✓	⁄
HYPERCOAGULABLE STATES *(<2% of exam)*					
Proteins C and S, and antithrombin deficiency LF	✓	✓	✓	⁄	✗
Factor V Leiden mutation	⁄	⁄	⁄	⁄	⁄
Malignancy	✓	✓	✓	⁄	✗
Hormone replacement therapy and oral contraceptives LF	⁄	⁄	⁄	✗	✗
Antiphospholipid antibody syndrome LF	⁄	⁄	⁄	⁄	✗

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HEMATOLOGIC AND ONCOLOGIC DISORDERS *continued…* *(5.5% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
TRANSFUSION MEDICINE *(<2% of exam)*					
Blood products	✓	✓	✓	✓	✓
Apheresis LF	✓	✓	✓	✓	✗
Adverse effects	✓	✓	✓	✓	✓
Massive blood transfusion	✓	✓	✓	✓	✓
Transfusion refusal LF	✗	✗	✓	✗	*Not Applicable*
SOLID TUMORS *(<2% of exam)*					
Solid tumors	✓	✓	✓	✓	✗
ONCOLOGIC SYNDROMES *(<2% of exam)*					
Superior vena cava syndrome LF	✓	✓	✓	✓	✓
Tumor lysis syndrome LF	✓	✓	✓	✓	✓
Spinal cord compression LF	✓	✓	✓	✓	✓
Hyperviscosity syndrome LF	✓	✓	✓	✓	✗
Hypercalcemia	✓	✓	✓	✓	✓
HEMATOPOIETIC CELL TRANSPLANTATION *(<2% of exam)*					
Graft-versus-host disease LF	✓	✓	✓	✗	✗
Hepatic sinusoidal obstruction syndrome (veno-occlusive disease) LF	✓	✓	✓	✗	✗
Respiratory distress	✓	✓	✓	✓	✓
COMPLICATIONS OF IMMUNOSUPPRESSIVE DRUGS AND CHEMOTHERAPY *(<2% of exam)*					
Cyclosporine LF	✓	✓	✓	✗	✗
Corticosteroids	✓	✓	✓	✓	✓
Alkylating agents LF	✓	✗	✗	✗	✗
Methotrexate LF	✓	✓	✓	✓	✗

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HEMATOLOGIC AND ONCOLOGIC DISORDERS *continued…* *(5.5% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
COMPLICATIONS OF IMMUNOSUPPRESSIVE DRUGS AND CHEMOTHERAPY *continued… (<2% of exam)*					
Sirolimus LF	⊘	✗	✗	✗	✗
Tacrolimus LF	⊘	⊘	⊘	✗	✗
Mycophenolate mofetil LF	⊘	⊘	⊘	✗	✗
Azathioprine LF	⊘	⊘	⊘	✗	✗
SURGERY, TRAUMA, AND TRANSPLANTATION *(7% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
CARDIOVASCULAR AND VASCULAR SURGERY *(<2% of exam)*					
Cardiac	✓	✓	✓	⊘	⊘
Mediastinal disease	⊘	⊘	⊘	⊘	✗
Vascular, aortic and peripheral	⊘	⊘	⊘	⊘	✗
Thoracic	✓	⊘	⊘	⊘	✗
ABDOMINAL AND GASTROINTESTINAL *(<2% of exam)*					
Acute abdomen	✓	✓	✓	⊘	⊘
Postoperative complications	✓	✓	✓	⊘	⊘
Mesenteric ischemia and ischemic colitis	✓	✓	✓	⊘	✗
Abdominal compartment syndrome LF	✓	✓	✓	⊘	⊘
GENITOURINARY AND OBSTETRIC EMERGENCIES *(<2% of exam)*					
Urologic	⊘	⊘	⊘	✗	✗
Obstetric LF	⊘	⊘	⊘	✗	✗
SKIN AND SOFT TISSUES AND EXTREMITIES *(<2% of exam)*					
Soft tissue infections	✓	✓	✓	⊘	✗
Crush injury, myonecrosis, and rhabdomyolysis	✓	⊘	✓	⊘	✗
Necrotizing fasciitis LF	✓	✓	✓	⊘	⊘
Acute compartment syndrome LF	✓	✓	✓	⊘	✗

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SURGERY, TRAUMA, AND TRANSPLANTATION *continued…* *(7% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
ENVIRONMENTAL INJURY *(3.5% of exam)*					
Inhalation injury **LF**	✓	⊘	✓	⊘	✗
Hypothermia **LF**	✓	✓	✓	⊘	⊘
Submersion injury, near-drowning, and diving trauma **LF**	⊘	⊘	⊘	✗	✗
Altitude injury **LF**	⊘	⊘	⊘	✗	✗
Electrical injury and lightning strike **LF**	⊘	✗	⊘	✗	✗
Radiation injury **LF**	⊘	⊘	⊘	✗	✗
Bioterrorism, noninfectious **LF**	⊘	⊘	⊘	✗	✗
Heatstroke **LF**	⊘	⊘	⊘	⊘	✗
Burn injury **LF**	⊘	⊘	⊘	⊘	⊘
GENERAL POSTOPERATIVE MANAGEMENT *(<2% of exam)*					
General postoperative management	✓	✓	✓	⊘	⊘
TRAUMA *(<2% of exam)*					
Flail chest **LF**	✓	✓	✓	⊘	⊘
Pulmonary contusion	✓	⊘	⊘	⊘	⊘
Hemothorax	✓	✓	✓	⊘	✗
Great vessel injury **LF**	✓	⊘	✓	⊘	✗
Airway injury, tracheobronchial laceration and rupture **LF**	✓	✓	✓	⊘	⊘
Foreign body aspiration **LF**	✓	✓	✓	⊘	⊘
Blunt myocardial injury **LF**	⊘	⊘	⊘	✗	✗
Fat embolism syndrome **LF**	⊘	⊘	⊘	⊘	✗
Intra-abdominal injury **LF**	⊘	⊘	⊘	⊘	✗
Massive bleeding	✓	✓	✓	⊘	⊘
Shock	✓	✓	✓	✓	✓

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SURGERY, TRAUMA, AND TRANSPLANTATION *continued…* *(7% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
TRANSPLANTATION *(<2% of exam)*					
Heart **LF**	⊘	✗	⊘	✗	✗
Lung **LF**	⊘	⊘	⊘	✗	✗
Liver **LF**	⊘	⊘	⊘	✗	✗
Kidney	⊘	⊘	⊘	✗	✗
Pancreas and intestines **LF**	✗	✗	✗	✗	✗
Organ donation	✓	⊘	✓	⊘	✗

PHARMACOLOGY AND TOXICOLOGY *(4.5% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
BASIC PHARMACOLOGIC PRINCIPLES *(<2% of exam)*					
Pharmacokinetics	*Not Applicable*	⊘	✓	⊘	⊘
Dosing adjustments for disease states	✓	✓	✓	⊘	⊘
DRUG-DRUG INTERACTIONS *(<2% of exam)*					
Drug-drug interactions	✓	⊘	✓	⊘	⊘
ADVERSE EFFECTS OF DRUGS *(<2% of exam)*					
Immunologic allergic reactions					
Anaphylaxis **LF**	✓	⊘	✓	⊘	⊘
Thrombotic thrombocytopenic purpura **LF**	✓	⊘	✓	⊘	⊘
Stevens-Johnson syndrome **LF**	✓	⊘	✓	⊘	✗
Nonimmunologic adverse effects of drugs					
Electrolyte and metabolic	✓	✓	✓	✓	✓
Hyperthermia **LF**	✓	⊘	✓	⊘	⊘
Neurologic	✓	✓	✓	⊘	⊘
Renal	✓	✓	✓	✓	⊘
Hematologic	✓	✓	✓	⊘	⊘
Cardiac	✓	✓	✓	✓	⊘

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PHARMACOLOGY AND TOXICOLOGY *continued…* *(4.5% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
TOXICOLOGY, DRUG OVERDOSE, AND POISONING *(<2% of exam)*					
Acetaminophen	✓	✓	✓	⁄	⁄
Beta-adrenergic blockers	✓	✓	✓	⁄	⁄
Calcium channel blockers	✓	⁄	✓	⁄	⁄
Cyanide **LF**	⁄	⁄	✓	⁄	✗
Tricyclic antidepressants	⁄	⁄	✓	⁄	⁄
Nitroprusside **LF**	⁄	⁄	⁄	✗	✗
Oral antihyperglycemic agents	✓	✓	✓	⁄	⁄
Organophosphates **LF**	⁄	⁄	⁄	⁄	✗
Salicylates **LF**	✓	✓	✓	⁄	⁄
Sarin (nerve) gas **LF**	✗	✗	✗	✗	✗
Selective serotonin reuptake inhibitors (SSRIs)	✓	✓	✓	⁄	⁄
Additional psychotropic drugs	⁄	⁄	⁄	⁄	⁄
Scombroid food poisoning **LF**	✗	✗	✗	✗	✗
Muscle relaxants **LF**	⁄	⁄	⁄	⁄	✗
Xanthines **LF**	✗	✗	✗	✗	✗
Iron toxicity **LF**	✗	✗	✗	✗	✗
Antibiotic toxicity	✓	✓	✓	⁄	⁄
Carbon monoxide **LF**	✓	✓	✓	⁄	⁄
Methemoglobinemia **LF**	✓	⁄	✓	⁄	⁄

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RESEARCH, ADMINISTRATION, AND ETHICS *(2% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
INTENSIVE CARE UNIT (ICU) ADMINISTRATION *(<2% of exam)*					
Regulatory issues	⊘ – Task not otherwise specified				
Intensive care unit (ICU) physical design **LF**	⊘ – Task not otherwise specified				
Continuous quality improvement and patient safety	✓ – Task not otherwise specified				
Isolation	✓	✓	✓	⊘	✗
STAFFING ISSUES *(<2% of exam)*					
Physician extenders in the intensive care unit (ICU)	⊘ – Task not otherwise specified				
Interactions between hospitalists and intensivists	✓ – Task not otherwise specified				
MEDICOLEGAL INTERACTIONS *(<2% of exam)*					
Medicolegal interactions	✓ – Task not otherwise specified				
ETHICAL CONSIDERATIONS *(<2% of exam)*					
Patient autonomy	✓	✓	✓	✓	⊘
Legal surrogates	✓	✓	✓	⊘	⊘
Informed consent for medical procedures	✓	✓	✓	✓	⊘
BRAIN DEATH *(<2% of exam)*					
Brain death	✓	✓	✓	✓	⊘
CONFLICT OF INTEREST *(<2% of exam)*					
Conflict of interest **LF**	⊘	⊘	⊘	⊘	⊘
ADVANCE DIRECTIVES *(<2% of exam)*					
Advance directives	✓	✓	✓	✓	⊘
PATIENT CONFIDENTIALITY AND HEALTH INSURANCE PORTABILITY AND ACCOUNTABILITY ACT (HIPAA) REGULATIONS *(<2% of exam)*					
Patient confidentiality and Health Insurance Portability and Accountability Act (HIPAA) regulations	✓	✓	✓	✓	⊘

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RESEARCH, ADMINISTRATION, AND ETHICS *continued…* *(2% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
END-OF-LIFE ISSUES *(<2% of exam)*					
End-of-life issues	✓	✓	✓	✓	✓
ORGAN DONATION *(<2% of exam)*					
Organ donation	⊘	⊘	⊘	⊘	⊘
MEDICAL FUTILITY *(<2% of exam)*					
Medical futility	✓	✓	✓	✓	⊘
MEDICAL RESEARCH *(<2% of exam)*					
Clinical trial design **LF**	⊘	⊘	⊘	⊘	⊘
Statistical analysis **LF**	⊘	⊘	⊘	⊘	⊘
Institutional review boards **LF**	⊘	⊘	⊘	⊘	⊘
TEACHING AND EDUCATION *(<2% of exam)*					
Teaching formats **LF**	⊘ – Task not otherwise specified				
PSYCHOSOCIAL ISSUES *(<2% of exam)*					
Professionalism	⊘	⊘	✓	⊘	*Not Applicable*
Intensive care unit (ICU) burnout	⊘	⊘	✓	⊘	*Not Applicable*
Impaired health-care professional **LF**	⊘	⊘	⊘	⊘	*Not Applicable*

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CRITICAL CARE ULTRASOUND SCANNING *(2% of exam)*	**Diagnosis**	**Testing**	**Treatment/ Care Decisions**	**Risk Assessment/ Prognosis/ Epidemiology**	**Pathophysiology/ Basic Science**
CARDIAC *(<2% of exam)*					
Cardiac	✓	✓	✓	⁄	⁄
PULMONARY *(<2% of exam)*					
Pulmonary	✓	⁄	⁄	✗	⁄
ABDOMINAL *(<2% of exam)*					
Abdominal	⁄	⁄	⁄	⁄	✗
NEUROLOGIC *(<2% of exam)*					
Neurologic **LF**	✗	✗	✗	✗	✗
VASCULAR *(<2% of exam)*					
Vascular	✓	✓	✓	⁄	⁄

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