



## **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, including the Knowledge Check-In, to be introduced in 2020. 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. The ABIM Critical Care Medicine Exam Committee and Board have used this feedback to update the blueprint for MOC assessments (beginning with the Spring 2017 administration of the 10-year MOC exam).

To inform how exam 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 exam 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 exam**

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.

## **Exam format**

The ten-year MOC exam contains up to 220 single-best-answer multiple-choice questions, of which up to 50 are new questions that do not count in the examinee's score (more information on how exams are developed can be found at [abim.org/about/exam-information/exam-development.aspx](http://abim.org/about/exam-information/exam-development.aspx)). Examinees taking the traditional MOC exam will have access to an external resource (e.g., UpToDate®) for the entire exam. 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 traditional ten-year MOC exam, including examples of ABIM exam question format, can be found at [abim.org/maintenance-of-certification/exam-information/critical-care-medicine/exam-tutorial.aspx](http://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 MOC 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 Exam 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%
<b>Total</b>	<b>100%</b>

Exam 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 exam

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 *Exam 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 Exam Committee and Board, in partnership with the physician community, have set the following parameters for selecting MOC exam questions according to the blueprint review ratings:




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

Independent of the importance and task ratings, no more than 15% of exam 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 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 MOC exam

-  – **High Importance:** At least 70% of exam questions will address topics and tasks with this designation.
  – **Medium Importance:** No more than 30% of exam questions will address topics and tasks with this designation.
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**LF – Low Frequency:** No more than 15% of exam questions will address topics with this designation, regardless of task or importance.

<b>RENAL, ENDOCRINE, AND METABOLIC DISORDERS</b> (15% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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### SODIUM-WATER BALANCE (2% of exam)

Hyponatremia					
Syndrome of inappropriate antidiuretic hormone secretion					
Cerebral salt wasting <b>LF</b>					
Psychogenic polydipsia <b>LF</b>					
Hypothyroidism					
Iatrogenic					
Exercise-induced <b>LF</b>					
Hypernatremia					
Central diabetes insipidus <b>LF</b>					
Nephrogenic diabetes insipidus <b>LF</b>					
Osmotic diuresis					
Primary hypodipsia <b>LF</b>					
Dehydration					
Gastrointestinal fluid losses					
Hypervolemia					
Hypovolemia					

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<b>RENAL, ENDOCRINE, AND METABOLIC DISORDERS</b> <i>continued...</i> (15% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**POTASSIUM DISORDERS** (<2% of exam)

Hyperkalemia					
Pseudohyperkalemia	⚠	⚠	⚠	⚠	⚠
Drug-induced	⚠	⚠	✔	⚠	⚠
Adrenal insufficiency	✔	✔	✔	⚠	⚠
Renal tubular acidosis	⚠	⚠	⚠	⚠	⚠
Hypokalemia					
Vomiting	✔	⚠	✔	⚠	✘
Diarrhea	✔	✔	✔	⚠	✘
Renal losses					
<i>Drug-induced</i>	✔	⚠	⚠	⚠	⚠
<i>Renal tubular acidosis</i>	⚠	⚠	⚠	✘	✘

**ACID-BASE DISORDERS** (4.5% of exam)

Metabolic acidosis					
Increased anion gap					
<i>Lactic acidosis</i>	✔	✔	✔	✔	✔
<i>Ketoacidosis</i>	✔	✔	✔	✔	✔
<i>Hypoalbuminemia</i>	⚠	⚠	⚠	⚠	⚠
Normal anion gap					
<i>Diarrhea</i>	⚠	⚠	⚠	⚠	⚠
<i>Saline resuscitation-associated</i>	✔	✔	✔	⚠	⚠
<i>Drug-induced</i>	⚠	⚠	⚠	⚠	⚠
<i>Renal tubular acidosis</i>	⚠	⚠	⚠	✘	✘
Decreased anion gap in multiple myeloma	LF	⚠	⚠	✘	✘

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<b>RENAL, ENDOCRINE, AND METABOLIC DISORDERS</b> <i>continued...</i> (15% of exam)	<b>Diagnosis</b>	<b>Testing</b>	<b>Treatment/ Care Decisions</b>	<b>Risk Assessment/ Prognosis/ Epidemiology</b>	<b>Pathophysiology/ Basic Science</b>
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**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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**HYPERAMMONEMIA** (<2% of exam)

Hyperammonemia	⚠	⚠	⚠	⚠	⚠
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**DIABETES MELLITUS (EXCLUDING DIABETIC KETOACIDOSIS) AND ENERGY METABOLISM** (<2% of exam)

Hyperglycemic hyperosmolar state	✔	✔	✔	✔	⚠
Hyperglycemia	✔	✔	✔	✔	⚠
Hypoglycemia	✔	✔	✔	⚠	⚠

**THYROID DISORDERS** (<2% of exam)

Hypothyroidism	✔	✔	✔	⚠	⚠
Hyperthyroidism	LF	✔	✔	⚠	⚠
Euthyroid sick syndrome		⚠	⚠	⚠	⚠

**PARATHYROID DISORDERS** (<2% of exam)

Parathyroid disorders	LF	⚠	⚠	⚠	✘
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**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	⚠	⚠	⚠	✘
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**TUMOR-RELATED SYNDROMES** (<2% of exam)

Tumor-related syndromes		⚠	⚠	⚠	✘
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**ACUTE RENAL FAILURE** (<2% of exam)

Contrast-induced		✔	✔	✔	⚠
Pigment-induced	LF	⚠	⚠	⚠	✘
Oncology-related	LF	⚠	⚠	⚠	✘

\*This topic was added or revised after the blueprint was reviewed by the Critical Care Medicine diplomates; it has been provisionally rated by the Critical Care Medicine Exam Committee, pending the next blueprint review.

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**ACUTE RENAL FAILURE** *continued...* (<2% of exam)

Pre-renal disease	✔	✔	✔	⚠	⚠
Intrinsic disease					
Glomerulonephritis <b>LF</b>	⚠	⚠	⚠	⚠	✘
Interstitial nephritis	⚠	⚠	⚠	⚠	⚠
Rhabdomyolysis	✔	✔	✔	⚠	⚠
Acute tubular necrosis	✔	✔	✔	✔	⚠
Renal replacement therapy	✔	✔	✔	✔	⚠

<b>CARDIOVASCULAR DISORDERS</b> (17.5% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**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	✔	✔	<i>Not Applicable</i>		
Complications					
<i>Heart failure, cardiogenic shock</i>	✔	✔	✔	✔	⚠
<i>Ventricular septal defect</i> <b>LF</b>	⚠	⚠	⚠	⚠	⚠
<i>Acute mitral regurgitation</i>	✔	✔	⚠	⚠	⚠
<i>Ventricular wall rupture</i> <b>LF</b>	✔	⚠	⚠	⚠	⚠
<i>Electrical conduction abnormalities</i>	✔	✔	✔	⚠	⚠
<i>Right ventricular failure</i>	✔	✔	✔	⚠	⚠
<i>Arrhythmias</i>	✔	✔	✔	✔	⚠
Management of STEMI	<i>Not Applicable</i>	✔	✔	✔	⚠

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<b>CARDIOVASCULAR DISORDERS</b> <i>continued...</i> (17.5% of exam)		<b>Diagnosis</b>	<b>Testing</b>	<b>Treatment/ Care Decisions</b>	<b>Risk Assessment/ Prognosis/ Epidemiology</b>	<b>Pathophysiology/ Basic Science</b>
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**ACUTE CORONARY SYNDROMES** *continued...* (<2% of exam)

Cocaine-related ischemia	LF	⚠	⚠	⚠	⚠	⚠
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**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	⚠	⚠	⚠	✘	✘
Bradycardias						
Sinus bradycardia		✔	✔	✔	⚠	⚠
Sinoatrial exit block	LF	⚠	⚠	⚠	✘	✘
Atrioventricular block		✔	⚠	⚠	⚠	⚠
Pacemakers and defibrillators		⚠	⚠	⚠	⚠	⚠



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<b>CARDIOVASCULAR DISORDERS</b> <i>continued...</i> (17.5% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**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 <b>LF</b>	⚡	⚡	⚡	✘	⚡
Central venous catheterization	✔	✔	✔	⚡	⚡
Non-invasive hemodynamic monitoring	✔	✔	✔	✘	✘

**VASCULAR DISORDERS** (<2% of exam)

Aortic dissection and aneurysm					
Aortic dissection <b>LF</b>	✔	✔	✔	⚡	⚡
Aortic aneurysm and transection <b>LF</b>	✔	✔	✔	⚡	⚡
Shock	✔	✔	✔	✔	✔
Hypertensive emergency and urgency	✔	✔	✔	✔	⚡

**VALVULAR HEART DISEASE** (<2% of exam)

Mitral stenosis <b>LF</b>	⚡	⚡	⚡	⚡	⚡
Aortic stenosis	✔	✔	✔	⚡	⚡
Aortic regurgitation	✔	⚡	⚡	⚡	⚡
Mitral regurgitation	✔	✔	⚡	⚡	⚡
Endocarditis	✔	✔	✔	⚡	⚡
Structural defects					
Atrial <b>LF</b>	⚡	⚡	⚡	⚡	✘
Ventricular <b>LF</b>	⚡	⚡	⚡	⚡	✘

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**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	⚠	⚠	⚠	⚠	✘
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<b>PULMONARY DISEASE</b> (20% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**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 <i>continued...</i> (20% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**MECHANICAL VENTILATION** *continued...* (6% of exam)

Initiation and maintenance of mechanical ventilation <i>continued...</i>					
Ventilation (CO2)	✔	✔	✔	⚠	⚠
Waveforms	⚠	⚠	⚠	⚠	⚠
Respiratory system compliance (lung mechanics)	✔	⚠	⚠	⚠	⚠
Complications of mechanical ventilation					
Barotrauma	✔	✔	✔	⚠	⚠
Bronchopleural fistula	✔	✔	✔	⚠	⚠
Ventilator-induced lung injury	✔	✔	✔	✔	⚠
Dynamic hyperinflation (auto-PEEP)	✔	✔	✔	✔	✔
Intracardiac shunt <span style="float: right;">LF</span>	⚠	⚠	⚠	⚠	⚠
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 <span style="float: right;">LF</span>	✔	✔	✔	⚠	⚠
Intubation-related laryngeal edema	✔	✔	✔	⚠	⚠
Anaphylactic airway edema and increased negative inspiratory pressure <span style="float: right;">LF</span>	✔	✔	✔	⚠	⚠
Airway control	✔	✔	✔	⚠	⚠
Asthma	✔	✔	✔	✔	⚠
Chronic obstructive pulmonary disease (COPD)	✔	✔	✔	✔	⚠

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PULMONARY DISEASE <i>continued...</i> (20% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**PARENCHYMAL LUNG DISEASE** (5% of exam)

Acute respiratory distress syndrome (ARDS)	✔	✔	✔	✔	✔
Pneumonia					
Community-acquired pneumonia (CAP)					
Typical bacterial	✔	✔	✔	✔	⚠
Atypical bacterial	✔	✔	✔	⚠	⚠
Aspiration	✔	✔	✔	✔	⚠
Viral	✔	✔	✔	⚠	✘
Fungal <span style="float: right;">LF</span>	⚠	⚠	⚠	⚠	⚠
Hospital-acquired pneumonias and immunocompromised hosts					
Ventilator-associated pneumonia (VAP)	✔	✔	✔	✔	⚠
Hematogenous pneumonia <span style="float: right;">LF</span>	⚠	⚠	⚠	⚠	✘
Aspergillus pneumonia <span style="float: right;">LF</span>	⚠	⚠	⚠	⚠	✘
Non-Aspergillus pneumonia <span style="float: right;">LF</span>	⚠	⚠	⚠	⚠	✘
Pneumocystis jirovecii pneumonia <span style="float: right;">LF</span>	✔	✔	✔	⚠	⚠
Viral pneumonia	⚠	⚠	⚠	⚠	✘
Pulmonary edema					
Neurogenic <span style="float: right;">LF</span>	✔	⚠	⚠	⚠	⚠
Tocolytic <span style="float: right;">LF</span>	⚠	⚠	⚠	✘	✘
Negative-pressure <span style="float: right;">LF</span>	⚠	⚠	⚠	⚠	✘
High-altitude <span style="float: right;">LF</span>	⚠	⚠	⚠	✘	✘
Hypersensitivity pneumonitis <span style="float: right;">LF</span>	✔	⚠	✔	⚠	⚠
Diffuse alveolar hemorrhage	✔	✔	✔	⚠	⚠
Atelectasis	✔	✔	✔	⚠	⚠

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PULMONARY DISEASE <i>continued...</i> (20% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**PULMONARY VASCULAR DISORDERS** (2% of exam)

Pulmonary thromboembolism					
Deep venous thrombosis (DVT)	✔	✔	✔	✔	✔
Pulmonary embolism (PE)	✔	✔	✔	✔	✔

Nonthrombotic embolism					
Air	✔	✔	✔	⚠	✘
Tumor	⚠	⚠	⚠	⚠	✘
Septic	✔	✔	✔	⚠	✘

Pulmonary hypertension	✔	✔	✔	⚠	⚠
Acute chest syndrome in sickle cell disease	⚠	⚠	⚠	⚠	✘
Pulmonary vasculitis	⚠	⚠	⚠	⚠	⚠
Hepatopulmonary syndrome	✔	⚠	⚠	⚠	⚠

**HEMOPTYSIS** (<2% of exam)

Massive	✔	✔	✔	⚠	⚠
Submassive	✔	✔	✔	⚠	⚠

**PLEURAL DISORDERS** (2% of exam)

Pleural effusion					
Infectious (empyema)	✔	✔	✔	✔	⚠
Noninfectious	✔	✔	✔	⚠	⚠
Pneumothorax	✔	✔	✔	✔	⚠
Hemothorax	✔	✔	✔	⚠	⚠

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<b>INFECTIOUS DISEASE</b> (12% of exam)		<b>Diagnosis</b>	<b>Testing</b>	<b>Treatment/ Care Decisions</b>	<b>Risk Assessment/ Prognosis/ Epidemiology</b>	<b>Pathophysiology/ Basic Science</b>
<b>SYSTEMIC INFECTIONS (&lt;2% of exam)</b>						
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						
<i>Rocky Mountain spotted fever</i>	LF	⚠	⚠	⚠	⚠	✘
<i>Ehrlichiosis/Anaplasmosis</i>	LF	⚠	✘	✘	✘	✘
Spirochetal infections						
<i>Lyme disease</i>	LF	⚠	⚠	⚠	⚠	✘
<i>Leptospirosis</i>	LF	✘	✘	✘	✘	✘
Fungal infections		✔	✔	✔	✔	⚠
Viral infections		✔	✔	✔	⚠	⚠
Parasitic diseases						
Malaria	LF	⚠	⚠	✘	✘	✘
Babesiosis	LF	⚠	⚠	⚠	✘	✘
Strongyloides hyperinfection syndrome	LF	⚠	✘	✘	✘	✘
Giardiasis	LF	⚠	⚠	⚠	✘	✘

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INFECTIOUS DISEASE <i>continued...</i> (12% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**CENTRAL NERVOUS SYSTEM INFECTIONS (<2% of exam)**

Meningitis					
Bacterial					
<i>Meningococcal</i>		✔	✔	✔	✔
<i>Pneumococcal</i>		✔	✔	✔	✔
<i>Syphilitic</i>	LF	⚠	⚠	⚠	✘
<i>Listerial</i>	LF	✔	✔	✔	✘
Fungal	LF	⚠	⚠	✔	✘
Mycobacterial	LF	⚠	⚠	⚠	✘

Encephalitis					
Viral					
<i>Herpes simplex virus</i>		✔	✔	✔	⚠
<i>West Nile virus</i>	LF	⚠	⚠	⚠	✘
<i>Rabies</i>	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 <i>continued...</i> (12% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**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) <i>difficile</i> -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 <i>continued...</i> (12% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**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	⚠	⚠	⚠	⚠	✘
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**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	<i>Not Applicable</i>	⚠	⚠	⚠	⚠	⚠
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**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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**VIRULENCE FACTORS** (<2% of exam)

Toxic shock	✔	✔	✔	⚠	⚠
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**BIOTERRORISM** (<2% of exam)

Bioterrorism	LF	✔	⚠	⚠	⚠	✘
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**HOSPITAL INFECTION CONTROL** (<2% of exam)

Hospital infection control	✔	✔	✔	✔	⚠
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<b>GASTROINTESTINAL DISORDERS</b> (5% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**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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**LARGE INTESTINE** (<2% of exam)

Perforation	✔	✔	✔	⚡	✘
Hemorrhage	✔	✔	✔	⚡	✘
Mechanical and motility disorders	⚡	⚡	⚡	✘	✘
Colonic ischemia	✔	✔	✔	⚡	⚡

**LIVER** (<2% of exam)

<b>Hepatitis</b>					
Viral	⚡	⚡	⚡	⚡	✘
Autoimmune	LF	⚡	⚡	✘	✘
Alcohol- and drug-induced		✔	✔	⚡	⚡
Toxin and solvent exposure	LF	⚡	⚡	✘	✘
Ischemic (shock liver)		✔	✔	⚡	⚡
Budd-Chiari syndrome	LF	⚡	⚡	✘	✘
<b>Portal hypertension</b>					
Esophageal variceal hemorrhage		✔	✔	✔	⚡
Gastric variceal hemorrhage		✔	✔	⚡	⚡
Spontaneous bacterial peritonitis		✔	✔	⚡	✘
Hepatorenal syndrome		✔	✔	⚡	⚡
Hepatopulmonary syndrome	LF	⚡	⚡	⚡	⚡
Portopulmonary hypertension		⚡	⚡	⚡	✘

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**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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<b>NEUROLOGIC DISORDERS</b> (9.5% of exam)	<b>Diagnosis</b>	<b>Testing</b>	<b>Treatment/ Care Decisions</b>	<b>Risk Assessment/ Prognosis/ Epidemiology</b>	<b>Pathophysiology/ Basic Science</b>
<b>BRAIN DEATH</b> (<2% of exam)					
Brain death	✔	✔	✔	✔	⚠
<b>CEREBROVASCULAR DISEASE</b> (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 <b>LF</b>	⚠	⚠	⚠	⚠	✘
<b>SEIZURES AND STATUS EPILEPTICUS</b> (<2% of exam)					
Seizures complicating critical illness					
Seizures caused by 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	⚠	⚠	⚠	⚠	✘
<b>NEUROGENIC PULMONARY EDEMA</b> (<2% of exam)					
Neurogenic pulmonary edema <b>LF</b>	⚠	⚠	⚠	⚠	✘

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NEUROLOGIC DISORDERS <i>continued...</i> (9.5% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**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		✔	✔	✔	⚡	⚡
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**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 brain injury		✔	✔	✔	✔	✘
Metabolic encephalopathy		✔	✔	✔	✔	⚡
Drug-induced encephalopathy		✔	✔	✔	⚡	⚡
Drug and alcohol withdrawal		✔	✔	✔	✔	⚡
ICU-related delirium		✔	✔	✔	✔	⚡

**ANALGESIA, SEDATION, AND NEUROMUSCULAR JUNCTION BLOCKADE (2% of exam)**

Analgesia		✔	✔	✔	✔	⚡
Sedation		✔	✔	✔	✔	⚡
Neuromuscular junction blockade		✔	✔	✔	⚡	⚡

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<b>HEMATOLOGIC AND ONCOLOGIC DISORDERS</b> (5.5% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**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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<b>HEMATOLOGIC AND ONCOLOGIC DISORDERS</b> <i>continued...</i> (5.5% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**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	⚠	⚠	⚠	⚠	✘
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**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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**COMPLICATIONS OF IMMUNOSUPPRESSIVE DRUGS AND CHEMOTHERAPY** *continued...* (<2% of exam)

Sirolimus	LF	⚠	✘	✘	✘	✘
Tacrolimus	LF	⚠	⚠	⚠	✘	✘
Mycophenolate mofetil	LF	⚠	⚠	⚠	✘	✘
Azathioprine	LF	⚠	⚠	⚠	✘	✘

<b>SURGERY, TRAUMA, AND TRANSPLANTATION</b> (7% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**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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<b>SURGERY, TRAUMA, AND TRANSPLANTATION</b> <i>continued...</i> (7% of exam)		<b>Diagnosis</b>	<b>Testing</b>	<b>Treatment/ Care Decisions</b>	<b>Risk Assessment/ Prognosis/ Epidemiology</b>	<b>Pathophysiology/ Basic Science</b>
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**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		✔	✔	✔	⚡	⚡
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**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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**TRANSPLANTATION** (<2% of exam)

Heart	LF	⚠	✘	⚠	✘	✘
Lung	LF	⚠	⚠	⚠	✘	✘
Liver	LF	⚠	⚠	⚠	✘	✘
Kidney		⚠	⚠	⚠	✘	✘
Pancreas and intestines	LF	✘	✘	✘	✘	✘
Organ donation		✔	⚠	✔	⚠	✘

<b>PHARMACOLOGY AND TOXICOLOGY</b> (4.5% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**BASIC PHARMACOLOGIC PRINCIPLES** (<2% of exam)

Pharmacokinetics	<i>Not Applicable</i>		⚠	✔	⚠	⚠
Dosing adjustments for disease states		✔	✔	✔	⚠	⚠

**DRUG-DRUG INTERACTIONS** (<2% of exam)

Drug-drug interactions		✔	⚠	✔	⚠	⚠
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**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 <i>continued...</i> (4.5% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**TOXICOLOGY, DRUG OVERDOSE, AND POISONING (<2% of exam)**

Acetaminophen	✔	✔	✔	⚡	⚡
Beta-adrenergic blockers	✔	✔	✔	⚡	⚡
Calcium channel blockers	✔	⚡	✔	⚡	⚡
Cyanide <span style="float: right;">LF</span>	⚡	⚡	✔	⚡	✘
Tricyclic antidepressants	⚡	⚡	✔	⚡	⚡
Nitroprusside <span style="float: right;">LF</span>	⚡	⚡	⚡	✘	✘
Oral antihyperglycemic agents	✔	✔	✔	⚡	⚡
Organophosphates <span style="float: right;">LF</span>	⚡	⚡	⚡	⚡	✘
Salicylates <span style="float: right;">LF</span>	✔	✔	✔	⚡	⚡
Sarin (nerve) gas <span style="float: right;">LF</span>	✘	✘	✘	✘	✘
Selective serotonin reuptake inhibitors (SSRIs)	✔	✔	✔	⚡	⚡
Additional psychotropic drugs	⚡	⚡	⚡	⚡	⚡
Scombroid food poisoning <span style="float: right;">LF</span>	✘	✘	✘	✘	✘
Muscle relaxants <span style="float: right;">LF</span>	⚡	⚡	⚡	⚡	✘
Xanthines <span style="float: right;">LF</span>	✘	✘	✘	✘	✘
Iron toxicity <span style="float: right;">LF</span>	✘	✘	✘	✘	✘
Antibiotic toxicity	✔	✔	✔	⚡	⚡
Carbon monoxide <span style="float: right;">LF</span>	✔	✔	✔	⚡	⚡
Methemoglobinemia <span style="float: right;">LF</span>	✔	⚡	✔	⚡	⚡

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<b>RESEARCH, ADMINISTRATION, AND ETHICS</b> (2% of exam)	<b>Diagnosis</b>	<b>Testing</b>	<b>Treatment/ Care Decisions</b>	<b>Risk Assessment/ Prognosis/ Epidemiology</b>	<b>Pathophysiology/ Basic Science</b>
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**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
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**ETHICAL CONSIDERATIONS (<2% of exam)**

Patient autonomy	✔	✔	✔	✔	⚠
Legal surrogates	✔	✔	✔	⚠	⚠
Informed consent for medical procedures	✔	✔	✔	✔	⚠

**BRAIN DEATH (<2% of exam)**

Brain death	✔	✔	✔	✔	⚠
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**CONFLICT OF INTEREST (<2% of exam)**

Conflict of interest	LF	⚠	⚠	⚠	⚠	⚠
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**ADVANCE DIRECTIVES (<2% of exam)**

Advance directives		✔	✔	✔	✔	⚠
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**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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<b>END-OF-LIFE ISSUES</b> (<2% of exam)						
End-of-life issues		✔	✔	✔	✔	✔
<b>ORGAN DONATION</b> (<2% of exam)						
Organ donation		⚠	⚠	⚠	⚠	⚠
<b>MEDICAL FUTILITY</b> (<2% of exam)						
Medical futility		✔	✔	✔	✔	⚠
<b>MEDICAL RESEARCH</b> (<2% of exam)						
Clinical trial design	LF	⚠	⚠	⚠	⚠	⚠
Statistical analysis	LF	⚠	⚠	⚠	⚠	⚠
Institutional review boards	LF	⚠	⚠	⚠	⚠	⚠
<b>TEACHING AND EDUCATION</b> (<2% of exam)						
Teaching formats	LF	⚠ – Task not otherwise specified				
<b>PSYCHOSOCIAL ISSUES</b> (<2% of exam)						
Professionalism		⚠	⚠	✔	⚠	Not Applicable
Intensive care unit (ICU) burnout		⚠	⚠	✔	⚠	Not Applicable
Impaired health-care professional	LF	⚠	⚠	⚠	⚠	Not Applicable

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<b>CRITICAL CARE ULTRASOUND SCANNING</b> (2% of exam)		<b>Diagnosis</b>	<b>Testing</b>	<b>Treatment/ Care Decisions</b>	<b>Risk Assessment/ Prognosis/ Epidemiology</b>	<b>Pathophysiology/ Basic Science</b>
<b>CARDIAC</b> (<2% of exam)						
Cardiac		✔	✔	✔	⚠	⚠
<b>PULMONARY</b> (<2% of exam)						
Pulmonary		✔	⚠	⚠	✘	⚠
<b>ABDOMINAL</b> (<2% of exam)						
Abdominal		⚠	⚠	⚠	⚠	✘
<b>NEUROLOGIC</b> (<2% of exam)						
Neurologic	LF	✘	✘	✘	✘	✘
<b>VASCULAR</b> (<2% of exam)						
Vascular		✔	✔	✔	⚠	⚠