

MEDICAL ONCOLOGY Blueprint

For traditional, 10-year Maintenance of Certification (MOC) exam and Longitudinal Knowledge Assessment (LKA)

ABIM invites diplomates to help develop the Medical Oncology 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 medical oncologists 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 over 300 medical oncologists, similar to the total invited population of medical oncologists in age, gender, geographic region, and time spent in direct patient care, provided the blueprint topic ratings. ABIM used this feedback to update the blueprint for the MOC assessment (beginning with the Fall 2016 administration).

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. A second source of information was the relative frequency of patient conditions in the content categories, as seen by certified medical oncologists and documented by national health care data (described further under *Content distribution* below).

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 Medical Oncology MOC Assessments

The MOC assessment is designed to evaluate whether a certified medical oncologist has maintained competence and currency in the knowledge and judgment required for practice. The MOC assessment emphasizes 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, future 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 will be on recognition rather than on management.

Assessment format

The traditional, 10-year MOC exam is composed of 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 assessment will have access to an external resource (i.e., UpToDate*) for the entire exam.

The LKA for MOC, 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 exams 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

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ABIM is committed to working toward health equity and believes that board-certified physicians should have an understanding of health care disparities. Therefore, health equity content that is clinically important to each discipline will be included in assessments, and the use of gender, race, and ethnicity identifiers will be re-evaluated.

Reflecting the overall predominance of office-based practice, most questions describe patient encounters that take place in outpatient settings; some encounters will occur in hospital or other inpatient settings because most medical oncologists provide patient care in these settings as well.

Clinical information presented may include patient photographs, radiographs, computed tomograms, photomicrographs, magnetic resonance images, an equianalgesic table, bone scans, family pedigree charts, nomograms, and other media to illustrate relevant patient findings.

Exam tutorials, including examples of question format, can be found at abim.org/maintenance-of-certification/examinformation/medical-oncology/exam-tutorial.aspx.

Content distribution

Listed below are the major medical content categories that define the domain for the Medical Oncology traditional, 10-year MOC and LKA. The relative distribution of content is expressed as a percentage of the total assessment. To determine the content distribution, ABIM considered the average respondent

CONTENT CATEGORY	TARGET %
Anticancer Therapeutics, Clinical Research Methodology, and Ethics	9.5%
Palliative Care, Survivorship, and Communication	11%
Genetics, Genomics, and Tumor Biology	2%
Hematologic Neoplasms	14%
Thoracic Cancer	11%
Breast Cancer	13%
Genitourinary Cancer	12%
Gynecologic Cancer	4%
Gastrointestinal Cancer	13.5%
Skin Cancer, Sarcomas, and Unknown Primary Site	6%
Head, Neck, Thyroid, and Central Nervous System Malignancies	4%
Total	100%

ratings of topic frequency and importance. To cross-validate these self-reported ratings, ABIM also considered the relative frequency of conditions seen in Medicare patients by a cohort of certified medical oncologists. Informed by these data, the Medical Oncology Approval Committee and Board have determined the content category targets shown below.

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 Medical Oncology Approval Committee and Medical Oncology 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 75% of questions will address high-importance content (indicated in green)
- No more than 25% of questions will address mediumimportance 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 20% of questions will address low-frequency content (indicated by "LF" following the topic description).

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The content selection priorities below are applicable beginning with the Fall 2016 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 Medical Oncology traditional, 10-year MOC exam and LKA



— **High Importance**: At least 75% of questions will address topics and tasks with this designation.

/ – **Medium Importance**: No more than 25% of questions will address topics and tasks with this designation.

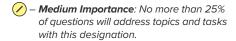
— Low Importance: No questions will address topics and tasks with this designation.

LF - Low Frequency: No more than 20% of questions will address topics with this designation, regardless of task or importance.

ANTICANCER THERAPEUTICS, CLINICAL RESEARCH METHODOLOGY, AND ETHICS (9.5% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
PRINCIPLES OF ALLIED DISCIPLINES (<2%	of exam)				
Surgical oncology	⊘	⊘	⊘	⊘	⊘
Radiation oncology	⊘	⊘	⊘	⊘	⊘
Interventional radiology	⊘	⊘	⊘	⊘	⊘
Pathology	\bigcirc	⊘	⊘	⊘	⊘
ANTICANCER THERAPEUTICS (8% of exam)				

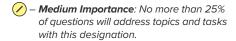
ANTICANCER THERAPEUTICS (8% of exam)

Cytotoxic chemotherapy agents					
Alkylating agents	⊘	⊘	\bigcirc	⊘	⊘
Antimetabolites	⊘	⊘	⊘	⊘	⊘
Antitubulin agents	⊘	⊘	\bigcirc	\bigcirc	⊘
Anthracyclines	⊘	⊘	\bigcirc	\bigcirc	⊘
Topoisomerase I inhibitors	⊘	⊘	\bigcirc	⊘	⊘
Topoisomerase II inhibitors	⊘	⊘	\bigcirc	⊘	⊘
Bleomycin and other DNA-damaging agents		⊘	\bigcirc	⊘	⊘
Chemotherapy-drug interactions	⊘	\bigcirc	\bigcirc	⊘	✓



Low Importance: No questions will address topics and tasks with this designation.

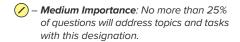
ANTICANCER THERAPEUTICS, CLINICAL RESEARCH METHODOLOGY, AND ETHICS continued (9.5% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
ANTICANCER THERAPEUTICS continued				, , , , , , , , , , , , , , , , , , , ,	
Hormonal therapies					
Estrogens and selective estrogen response modifiers	⊗	⊘	⊘	⊗	⊗
Progestins and antiprogestins	⊘	⊘	⊘	⊘	⊘
Aromatase inhibitors	⊘	\bigcirc	⊘	⊘	⊘
Androgens and antiandrogens	⊘	⊘	⊘	⊘	⊘
Gonadotropin-releasing hormone analogues	⊘	⊗	⊘	⊘	⊘
Glucocorticoids	⊘	⊘	⊘	⊘	⊘
Small molecule kinase inhibitors					
BCR-ABL1 inhibitors	⊘	⊘	⊘	⊘	⊘
Epidermal growth factor receptor (EGFR) inhibitors	⊘	⊘	⊘	⊘	⊘
Vascular endothelial growth factor receptor (VEGFR)/multitargeted inhibitors	\bigcirc	\bigcirc	⊘	\bigcirc	⊘
BRAF inhibitors	⊘	⊘	⊘	⊘	⊘
Anaplastic lymphoma kinase (ALK) and mesenchymal epithelial transition (MET) growth factor inhibitors	⊘	⊘	⊘	⊘	⊘
RET, ROS1, and NTRK inhibitors LF	⊘	⊘	⊘	⊘	×
Mitogen-activated protein kinase (MEK) inhibitors	(⊘	⊘	(⊘
Bruton's tyrosine kinase (BTK) inhibitors			\bigcirc		⊘
Janus kinase (JAK) inhibitors	\bigcirc	⊘	⊘	⊘	⊘
Phosphoinositide-3 kinase (PI3K) inhibitors	⊘	(⊘	⊘	⊘
Mammalian target of rapamycin (mTOR) inhibitors	⊘		⊘	⊘	✓
Cyclin-dependent kinase (CDK) inhibitors					⊘



Low Importance: No questions will address topics and tasks with this designation.

ANTICANCER THERAPEUTICS, CLINICAL RESEARCH METHODOLOG AND ETHICS continued (9.5% of exam)	i Y, Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science				
ANTICANCER THERAPEUTICS continued (8% of exam)									
Agents with epigenetic activity									
Histone deacetylase (HDAC) inhibitors	_F	⊘	⊘	⊘	⊘				
DNA methyltransferase inhibitors	_F 🗸	⊘	⊘	⊘	⊘				
Metabolic inhibitors other than antimetabolites	_F	⊘	⊘	⊘	×				
Monoclonal antibodies and antibody of	onjugates other tha	an immune check	point inhibitors						
Monoclonal antibodies targeting EGFR, HER2, HER3, HER4	⊘	⊘	⊘	⊘	⊘				
Monoclonal antibodies targeting VEGFR pathway	⊘	⊘	⊘	⊘	⊘				
Monoclonal antibodies targeting B cell antigens (including CD20)	⊘	\bigcirc	\bigcirc	⊘	⊘				
Monoclonal antibodies targeting interleukin-6 (IL6)	_F ×	\otimes	×	×	×				
Bispecific monoclonal antibodies	_F 🗸		⊘	⊘					
Monoclonal antibody immune checkpe	oint inhibitors								
Agents targeting cytotoxic T-lymphocyte-associated antigen 4 (CTLA4)	_F	⊘			⊘				
Agents targeting programmed cell death protein 1 (PD-1) and programme cell death ligand 1 (PD-L1)	ed 🗸	⊘	⊘	⊘	⊘				
Tumor vaccines and viral-based immunotherapeutics	_F	⊘	⊘	×	×				
Cytokines	_F 🕜	⊘	⊘	×	×				
Agents with other novel or specific tar	gets								
Proteasome inhibitors	⊘	⊘	⊘	⊘	⊘				
Immunomodulatory drugs (IMiDs)	⊘	⊘	⊘	⊘	⊘				
Hedgehog (Hh) inhibitors	_F	⊘	⊘	⊘	×				
Poly(ADP-ribose) polymerase (PARP) inhibitors	_F 🕜	⊘	⊘	⊘	⊘				
Arsenicals	_F 🗸	⊘			×				





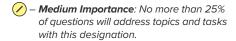
Low Importance: No questions will address topics and tasks with this designation.

ANTICANCER THERAPEUTICS, CLINICAL RESEARCH METHODOLOGY, AND ETHICS continued (9.5% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
ANTICANCER THERAPEUTICS continued	(8% of exam)				
Cellular therapeutics					
High-dose therapy with stem cell rescue (autologous and allogeneic)	⊘	⊘	⊘	⊘	⊘
Chimeric antigen receptor (CAR) T-cell therapy	×	\otimes	\otimes	×	×
CLINICAL RESEARCH METHODOLOGY AN	D ETHICS (<2% o	of exam)			
Clinical research methodology					
Design and interpretation of clinical trials		Not Applicable		⊘	⊘
Tumor assessment, imaging, and end points	\bigcirc	\bigcirc	⊘	⊘	⊘
Surrogate end points	⊘	⊘	⊘	⊘	⊘
Ethics					
Human subjects and regulatory and legal issues	(⊘	⊘	⊘	Not Applicable
Physician behavior and conflict of interest					Not Applicable
PALLIATIVE CARE, SURVIVORSHIP, AND COMMUNICATION (11% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
CLINICAL MANIFESTATIONS OF ADVANCE	D CANCER AND	ITS TREATMENT	(4.5% of exam)		
Cutaneous and mucosal manifestations	⊘	⊘	⊘	⊘	⊘
Endocrine manifestations	⊘	⊘	⊘	⊘	⊘
Gastrointestinal manifestations					
Ascites and peritoneal metastases	\bigcirc	\bigcirc	\bigcirc	⊘	⊘
Liver manifestations	\bigcirc	⊘	⊘	⊘	⊘
Constipation	\bigcirc	⊘	⊘	⊘	⊘
Diarrhea	\bigcirc	⊘	⊘	⊘	⊘

designation.

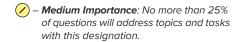
Low Importance: No questions will address topics and tasks with this designation.

PALLIATIVE CARE, SURVIVORSHIP, AND COMMUNICATION continued (11% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science					
CLINICAL MANIFESTATIONS OF ADVANCED CANCER AND ITS TREATMENT continued (4.5% of exam)										
Gastrointestinal manifestations continued.										
Nausea and vomiting	⊘	⊘	⊘	⊘	⊘					
Bowel obstruction	⊘	⊘	⊘	⊘	⊘					
Esophagitis	⊘	⊘	⊘	⊘	⊘					
Hematologic manifestations										
Bleeding	⊘	⊘	⊘	⊘	⊘					
Thrombosis	⊘	⊘	⊘	⊘	⊘					
Neutropenia	⊘	⊘	⊘	⊘	⊘					
Anemia	⊘	⊘	⊘	⊘	⊘					
Transfusion reactions LF	⊘	⊘	⊘	⊘	⊘					
Musculoskeletal manifestations	\bigcirc	⊘	\bigcirc	⊘	⊘					
Neurologic manifestations*										
Spinal cord compression	*	*	*	*	*					
Neuropathy	*	⊘ *	*	*	X *					
Increased intracranial pressure	*	⊘ *	*	*	/ *					
Progressive multifocal leukoencephalopathy	*	*	*	*	*					
Radiation-related toxicity	*	*	*	⊘ *	X *					
Renal, metabolic, and nutritional manifes	tations*									
Tumor lysis syndrome	*	*	*	✓ *	⊘ *					
Hypercalcemia	*	*	*	*	⊘ *					
Hyponatremia	*	⊘ *	*	⊘ *	/ *					
Nutritional support	*	*	*	⊘ *	*					
Paraneoplastic syndromes LF	⊘	⊘	⊘	⊘	⊘					



Low Importance: No questions will address topics and tasks with this designation.

PALLIATIVE CARE, SURVIVORSHIP, AND COMMUNICATION continued (11% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
CLINICAL MANIFESTATIONS OF ADVANCE	D CANCER AND I	TS TREATMENT	continued (4.5%	of exam)	
Cardiothoracic manifestations					
Pleural and pericardial effusions	⊘	\bigcirc	⊘	⊘	⊘
Pneumonitis	⊘	\bigcirc	⊘	⊘	⊘
Dyspnea	⊘	\bigcirc	⊘	⊘	⊘
Cough	⊘	\bigcirc	⊘	⊘	⊘
Superior vena cava syndrome	⊘	⊘	⊘	⊘	×
Fatigue	⊘	⊘	⊘	⊘	⊘
Psychiatric manifestations					
Depression	⊘	⊘	⊘	⊘	×
Anxiety	⊘	(⊘	⊘	×
Delirium LF	⊘	⊘	Ø	⊘	×
Infectious risks and complications					
Infections	⊘	\bigcirc	⊘	✓	⊘
Febrile neutropenia	⊘	\bigcirc	⊘	⊘	⊘
Lymphedema	*	*	*	✓ *	*
CANCER PAIN (2% of exam)					
Use of opioids	⊘	\bigcirc	⊘	⊘	⊘
Use of nonopioids	⊘	✓	⊘	⊘	⊘
SURVIVORSHIP ISSUES (<2% of exam)					
Fertility	⊘	<u>/</u>	⊘	⊘	×
Second primary cancers	⊘	\bigcirc	⊘	⊘	⊘
Secondary cancer prevention	⊘	\bigcirc	⊘	⊘	⊘
Nonmalignant sequelae	⊘	⊘	⊘	⊘	⊘
Surveillance	⊘	\bigcirc	⊘	⊘	×



Low Importance: No questions will address topics and tasks with this designation.

PALLIATIVE CARE, SURVIVORSHIP, AND COMMUNICATION continued (11% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
END-OF-LIFE ISSUES (2% of exam)					
Hospice	\bigcirc	\bigcirc	\bigcirc	\bigcirc	×
Feeding and nutrition	⊘	⊘	⊘	⊘	⊘
Decision making	\bigcirc	\bigcirc	⊘	⊘	⊘
PROCEDURE-RELATED ISSUES (<2% of exa	am)				
Chemotherapy administration	\bigcirc	\bigcirc	⊘	⊘	⊘
Bone marrow aspiration, biopsy, and interpretation	⊘	\bigcirc	⊘	⊘	⊘
Tumor assessment	⊘	\bigcirc	⊘	⊘	⊘
Thoracentesis	⊘		⊘	⊘	×
Paracentesis	\bigcirc		⊘	⊘	⊘
Feeding tubes	⊘	⊘	⊘	⊘	×
COMMUNICATION (<2% of exam)					
Communicating prognosis and other clinical information	Not App	olicable	⊘	Not Ap	plicable
Discussing goals of care	Not Ард	olicable	⊘	Not Applicable	
Discussing survivorship issues	Not App	olicable	\bigcirc	Not Applicable	
GENETICS, GENOMICS, AND TUMOR BIOLOGY (2% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
CANCER BIOLOGY AND GENETICS (<2% of	exam)				
Carcinogenesis LF	⊘	⊘	⊘	⊘	⊘
Genomics	⊘	⊘	⊘	⊘	⊘
TUMOR IMMUNOLOGY (<2% of exam)			,		
Tumor immunology	⊘	⊘	⊘	×	⊘
HERITABLE CANCER SYNDROMES (<2% of	exam)				
Li-Fraumeni syndrome (TP53)	<u>/</u>	<u>/</u>	/		×

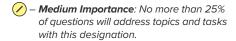




Low Importance: No questions will address topics and tasks with this designation.

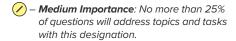
GENETICS, GENOMICS, AND TUMO BIOLOGY continued (2% of exam)	OR	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
HERITABLE CANCER SYNDROMES con	ntinued	d (<2% of exan	n)			
BRCA1 and BRCA2 syndromes		\bigcirc	\bigcirc	⊘	⊘	⊘
Familial colorectal cancer						
Familial adenomatous polyposis	LF	⊘	⊘	⊘	⊘	⊘
Lynch syndrome (hereditary nonpolyposis colorectal cancer)		\bigcirc	\bigcirc	⊘	⊘	⊘
Multiple endocrine neoplasia and familial medullary thyroid cancer syndromes	LF	⊘	⊘	⊘	⊘	×
CANCER EPIDEMIOLOGY AND STATIST	TICS (<2% of exam)				
Cancer epidemiology		⊘	⊘	⊘	⊘	⊘
HEMATOLOGIC NEOPLASMS (14% of exam)				Treatment/	Risk Assessment/ Prognosis/	Pathophysiology/
ACLITE I ELIKEMIA AND MYELODYSPI	ASIA /	Diagnosis (3% of exam)	Testing	Care Decisions	Epidemiology	Basic Science
ACUTE LEUKEMIA AND MYELODYSPL Acute myeloid leukemia (AML)	ASIA (Testing	Care Decisions	Epidemiology	Basic Science
ACUTE LEUKEMIA AND MYELODYSPL Acute myeloid leukemia (AML) Acute promyelocytic leukemia (APL)			Testing	Care Decisions	Epidemiology	Basic Science
Acute myeloid leukemia (AML) Acute promyelocytic leukemia (APL) AML with recurrent genetic		(3% of exam)				
Acute myeloid leukemia (AML) Acute promyelocytic leukemia (APL) AML with recurrent genetic	LF	(3% of exam)				
Acute myeloid leukemia (AML) Acute promyelocytic leukemia (APL) AML with recurrent genetic abnormalities AML with myelodysplasia-related	LF LF	(3% of exam)	✓✓	✓✓	✓✓	✓✓
Acute myeloid leukemia (AML) Acute promyelocytic leukemia (APL) AML with recurrent genetic abnormalities AML with myelodysplasia-related changes Therapy-related myeloid neoplasms	LF LF	(3% of exam)		✓✓✓		✓✓✓
Acute myeloid leukemia (AML) Acute promyelocytic leukemia (APL) AML with recurrent genetic abnormalities AML with myelodysplasia-related changes Therapy-related myeloid neoplasms AML not otherwise specified	LF LF	(3% of exam)		 ✓ ✓ ✓ ✓ 		
Acute myeloid leukemia (AML) Acute promyelocytic leukemia (APL) AML with recurrent genetic abnormalities AML with myelodysplasia-related changes Therapy-related myeloid neoplasms AML not otherwise specified Myeloid sarcoma Acute lymphoblastic	LF LF LF	(3% of exam)				
Acute myeloid leukemia (AML) Acute promyelocytic leukemia (APL) AML with recurrent genetic abnormalities AML with myelodysplasia-related changes Therapy-related myeloid neoplasms AML not otherwise specified Myeloid sarcoma	LF LF LF	(3% of exam)			 ✓ ✓ ✓ ✓ ✓ ✓ 	 ✓ ✓ ✓ ✓ ✓ ✓





Low Importance: No questions will address topics and tasks with this designation.

HEMATOLOGIC NEOPLASMS continued (14% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
CHRONIC MYELOID LEUKEMIA AND I	MYELOP	ROLIFERATIVI	E NEOPLASMS	(2% of exam)	•	
Chronic myeloid leukemia		\bigcirc	\bigcirc	\bigcirc	\bigcirc	✓
Myeloproliferative neoplasms		⊘	\bigcirc	⊘	⊘	⊘
CHRONIC LYMPHOPROLIFERATIVE LI	EUKEMI	AS (2% of exam	n)			
Chronic lymphocytic leukemia/ small lymphocytic lymphoma		\bigcirc	\bigcirc	⊘	⊘	⊘
Hairy cell leukemia	LF	\bigcirc		⊘		⊘
T-cell prolymphocytic leukemia	LF	✓			×	×
T-cell large granular lymphocytic leukemia	LF	⊘	⊘		\otimes	×
Monoclonal B-cell lymphocytosis				⊘	⊘	×
HODGKIN LYMPHOMA (<2% of exam)						
Early-stage disease		\bigcirc	\bigcirc	⊘	⊘	✓
Advanced disease		\bigcirc	\bigcirc	⊘	⊘	⊘
MULTIPLE MYELOMA AND PLASMA C	ELL DY	SCRASIAS (2%	of exam)			
Multiple myeloma/plasma cell leuken	nia	\bigcirc	\bigcirc	⊘	⊘	⊘
Solitary plasmacytoma	LF	⊘	⊘	⊘	⊘	⊘
Primary amyloidosis	LF	⊘	<u>/</u>	⊘	⊘	×
Cryoglobulinemia	LF	⊘	⊘	⊘	×	×
Monoclonal gammopathy of undetermined significance (MGUS)		\bigcirc	\bigcirc	⊘	⊘	⊘
Lymphoplasmacytic lymphoma (including Waldenstrom macroglobulinemia)	LF	⊘	\bigcirc	⊘	⊘	⊘
NON-HODGKIN LYMPHOMA (4% of exa	am)					
Low-grade disease		\bigcirc	\bigcirc	⊘	⊘	⊘
Intermediate-grade disease		⊘	\bigcirc	⊘	⊘	⊘
High-grade disease		\bigcirc	\bigcirc	⊘	⊘	⊘



Low Importance: No questions will address topics and tasks with this designation.

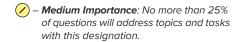
HEMATOLOGIC NEOPLASMS continued (14% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
NON-HODGKIN LYMPHOMA continued	d (4%	of exam)				
Less common histologies						
Mantle cell lymphoma		\bigcirc	\bigcirc	⊘	⊘	⊘
NK-T cell lymphoma	LF	⊘	⊘	⊘	×	×
Anaplastic large cell lymphoma	LF	⊘	⊘	⊘	⊘	⊘
Extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue (MALT lymphoma)		⊗	⊘	⊘	⊘	⊘
Nodal marginal zone lymphoma		⊘	⊘	⊘	⊘	⊘
Human immunodeficiency virus (HIV)-associated lymphoma	LF	(⊘	⊘		⊘
Human T-cell lymphotropic virus type 1-associated lymphoma (adult T-cell leukemia/lymphoma)	LF	\bigcirc	⊘			×
Cutaneous T-cell lymphoma	LF	<u>/</u>	⊘	⊘	⊘	×
Primary central nervous system lymphoma	LF		⊘	⊘		×
Post-transplantation lymphoproliferative syndromes	LF		⊘	⊘	×	×
Peripheral T-cell lymphoma	LF	⊘				×



— Medium Importance: No more than 25% of questions will address topics and tasks with this designation. Low Importance: No questions will address topics and tasks with this designation.

THORACIC CANCER (11% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
NON-SMALL CELL LUNG CANCER (9% of ex	(am)				
Early-stage disease	\bigcirc	\bigcirc	⊘	⊘	⊘
Locally advanced disease					
Stage IIIA disease	\bigcirc	\bigcirc	⊘	⊘	⊘
Stage IIIB disease	\bigcirc	\bigcirc	⊘	⊘	⊘
Pancoast tumor LF	\bigcirc	\bigcirc	⊘	⊘	⊘
Metastatic disease					
Adenocarcinoma					
Treatable driver mutation present	*	*	*	✓ *	⊘ *
Treatable driver mutation not present	*	*	⊘ *	⊘ *	⊘ *
Squamous cell carcinoma	*	*	*	⊘ *	⊘ *
SMALL CELL LUNG CANCER (<2% of exam)					
Limited disease	\bigcirc	\bigcirc	⊘	⊘	⊘
Extensive disease	\bigcirc	\bigcirc	⊘	⊘	⊘
MESOTHELIOMA AND THYMUS CANCER (<	2% of exam)				
Mesothelioma LF	\bigcirc	\bigcirc	⊘	⊘	⊘
Thymus cancer LF	⊘	<u>/</u>	⊘	⊘	×





Low Importance: No questions will address topics and tasks with this designation.

BREAST CANCER (13% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
PREMALIGNANT CONDITIONS AND HIGH	H-RISK FACTORS (<	2% of exam)		•	•
High-risk histologies (including atypical ductal hyperplasia and atypical lobular hyperplasia)	⊘	⊘	⊘	⊘	Ø
Genetic predispositions and other high-risk features	⊘	\bigcirc	⊘	⊘	
CARCINOMA IN SITU (<2% of exam)					
Carcinoma in situ	⊘	\bigcirc	⊘	⊘	⊘
EARLY-STAGE AND LOCALLY ADVANCED	INVASIVE CARCIN	OMA (4.5% of e	exam)		
HER2-positive disease	*	*	*	/ *	*
HER2-negative, hormone receptor- positive disease	⊘ *	*	*	*	*
HER2-negative, hormone receptor- negative (triple-negative) disease	*	*	⊘ *	⊘ *	⊘ *
INFLAMMATORY DISEASE (<2% of exam)					
Inflammatory disease	⊘	\bigcirc	⊘	⊘	⊘
LOCALLY RECURRENT DISEASE (<2% of	exam)				
In-breast recurrence	⊘	\bigcirc	⊘	⊘	⊘
Chest wall recurrence L	F 🔗	\bigcirc	⊘	Ø	⊘
METASTATIC DISEASE (4.5% of exam)					
HER2-positive metastatic disease	*	*	*	⊘ *	*
HER2-negative, hormone receptor- positive metastatic disease	⊘ *	*	*	⊘ *	⊘ *
HER2-negative, hormone receptor- negative (triple-negative) metastatic disease	*	*	⊘ *	*	*
LESS COMMON CLINICAL SCENARIOS (<2% of exam)				
Tubular carcinoma L	F /	⊘	⊘	⊘	×
Male breast cancer L	F 🔗	\bigcirc	⊘	⊘	⊘
Pregnancy-associated breast cancer	*	*	*	/ *	*

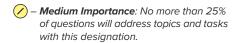


— Medium Importance: No more than 25% of questions will address topics and tasks with this designation.

Low Importance: No questions will address topics and tasks with this designation.

GENITOURINARY CANCER (12% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
GERM CELL TUMORS (<2% of exam)						
Seminoma	LF	\bigcirc	\bigcirc	\bigcirc	\bigcirc	⊘
Nonseminoma	LF	\bigcirc	\bigcirc	\bigcirc	\bigcirc	⊘
Germ cell tumor type not specified	LF	\bigcirc	\bigcirc	\bigcirc	⊘	⊘
PROSTATE CANCER (5% of exam)						
Localized disease		⊘	\bigcirc	⊘	⊘	⊘
Locally advanced disease		\bigcirc	\bigcirc	\bigcirc	⊘	⊘
Prostate-specific antigen-only nonm	etasti	c disease				
Castration-sensitive disease		*	⊘ *	*	⊘ *	⊘ *
Castration-resistant disease		*	*	*	⊘ *	⊘ *
Metastatic disease						
Metastatic castration-sensitive disease		⊘	\bigcirc	⊘	⊘	⊘
Metastatic castration-resistant disease		\bigcirc	⊘	⊘	②	⊘
Special issues in prostate cancer						
Small cell carcinoma	LF	⊘	⊘	⊘	⊘	×
RENAL CELL CANCER (2.5% of exam)						
Localized disease		⊘	⊘	⊘	⊘	⊘
Metastatic disease		\bigcirc	\bigcirc	⊘	⊘	⊘
Special issues in renal cell cancer						
Bilateral renal tumors	LF	⊘	⊘	⊘	⊘	×
Non-clear cell histologies	LF	⊘	⊘	⊘	⊘	×

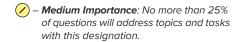




Low Importance: No questions will address topics and tasks with this designation.

GENITOURINARY CANCER continued (12% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
UROTHELIAL AND OTHER GENITOU	RINAR	Y CANCERS (2.59	% of exam)			
Bladder cancer	,					
Non-muscle invasive disease	LF	⊘	⊘	⊘	⊘	×
Muscle-invasive disease		\bigcirc	\bigcirc	⊘	⊘	⊘
Metastatic disease		\bigcirc	\bigcirc	⊘	⊘	⊘
Other urothelial cancers						
Upper tract urothelial cancer	LF	⊘	/	⊘	⊘	×
Urethral cancer	LF	⊘	/	⊘	×	×
GYNECOLOGIC CANCER (4% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
CERVICAL CANCER (<2% of exam)	'					
Local-regional disease (Stages II and III)	LF	⊘	⊘	⊘	⊘	\otimes
Recurrent and metastatic disease	LF				⊘	×
OVARIAN, FALLOPIAN TUBE, AND PI	RIMAR	Y PERITONEAL C	CANCERS (2% or	exam)		
Epithelial ovarian, fallopian tube, an	d prim	nary peritoneal ca	ancers			
Stage I	LF	/	/	\bigcirc	⊘	/
Stages II-IV		\bigcirc	\bigcirc	⊘	⊘	⊘
Nonepithelial ovarian cancers	LF	⊘	⊘	⊘	⊘	×
Low malignant potential (borderline) cancers	LF	⊘	×	⊘	×	×
OTHER GYNECOLOGIC MALIGNANC	SIES (<	2% of exam)				
Endometrial cancer		⊘	⊘	⊘	⊘	⊘
Uterine sarcoma	LF	⊘	/	⊘	⊘	×
Gestational trophoblastic disease	LF	⊘	⊘	⊘	⊘	×
Cancers of the vulva and vagina	LF	⊘	⊘	⊘	⊘	×

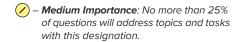




Low Importance: No questions will address topics and tasks with this designation.

GASTROINTESTINAL CANCER (13.5% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
ANAL CANCER (<2% of exam)						
Local-regional disease	LF	\bigcirc	⊘	⊘	⊘	⊘
Recurrent and metastatic disease	LF	⊘	⊘	\bigcirc	⊘	×
BILIARY TREE AND GALLBLADDER C	ANCE	ER (<2% of exam)				
Local-regional disease	LF		⊘	⊘	⊘	⊘
Recurrent and metastatic disease	LF	⊘	⊘	⊘	⊘	×
COLORECTAL CANCER (4.5% of exam,)					
Colon cancer						
Local-regional disease		\bigcirc	⊘	⊘	⊘	⊘
Recurrent and metastatic disease		\bigcirc	⊘	⊘	⊘	⊘
Rectal cancer						
Local-regional disease		\bigcirc	⊘	⊘	⊘	⊘
Recurrent and metastatic disease		\bigcirc	⊘	⊘	⊘	⊘
ESOPHAGEAL CANCER (<2% of exam)						
Local-regional disease		⊘	⊘	⊘	Ø	⊘
Recurrent and metastatic disease		\bigcirc	⊘	⊘	⊘	⊘
GASTRIC CANCER (<2% of exam)				-		
Resectable disease		\bigcirc	⊘	⊘	⊘	⊘
Unresectable and metastatic disease		⊘	⊘	⊘	⊘	⊘
HEPATOCELLULAR CANCER (<2% of 6	exam)					
Resectable disease	LF	⊘	⊘	⊘	⊘	⊘
Unresectable, liver-only disease		\bigcirc	⊘	⊘	⊘	⊘
Metastatic disease	LF	\bigcirc	⊘	⊘	⊘	×





Low Importance: No questions will address topics and tasks with this designation.

GASTROINTESTINAL CANCER continued				Treatment/	Risk Assessment/ Prognosis/	Pathophysiology/
(13.5% of exam)		Diagnosis	Testing	Care Decisions	Epidemiology	Basic Science
GASTROINTESTINAL NEUROENDOCI	RINE T	TUMORS (<2% of	exam)			
Gastrointestinal neuroendocrine tumors	LF	\bigcirc	\bigcirc	⊘	⊘	⊘
PANCREATIC CANCER (3% of exam)						
Resectable disease		\bigcirc	\bigcirc	⊘	⊘	⊘
Unresectable disease		⊘	⊘	⊘	⊘	⊘
Metastatic and recurrent disease		\bigcirc	\bigcirc	\bigcirc		
SMALL BOWEL AND APPENDICEAL O	CANCE	ER (<2% of exam)				
Small bowel cancer	LF	⊘	⊘	⊘	⊘	×
Appendiceal cancer	LF	⊘	(⊘	⊘	×
SKIN CANCER, SARCOMAS, AND UNKNOWN PRIMARY SITE (6% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
MELANOMA (2% of exam)						
Invasive melanoma		\bigcirc	\bigcirc	⊘	⊘	⊘
Regional nodal and in-transit metastasis		(⊘	⊘	⊘	⊘
Metastatic disease		\bigcirc	\bigcirc	\bigcirc	⊘	✓
OTHER SKIN CANCERS (<2% of exam)					
Squamous cell and basal cell cance	r of th	e skin				
Squamous cell and basal cell cance Local-regional disease	r of th	e skin	⊘	⊘	×	×
•			✓	✓	⊗	⊗
Local-regional disease	LF	⊘				-
Local-regional disease Recurrent and metastatic disease	LF LF	⊘✓	Ø	Ø	Ø	×
Local-regional disease Recurrent and metastatic disease Merkel cell carcinoma	LF LF	⊘✓	Ø	Ø	Ø	×





Low Importance: No questions will address topics and tasks with this designation.

SKIN CANCER, SARCOMAS,					
AND UNKNOWN PRIMARY SITE continued			Treatment/	Risk Assessment/ Prognosis/	Pathophysiology/
(6% of exam)	Diagnosis	Testing	Care Decisions	Epidemiology	Basic Science
BONE AND SOFT-TISSUE SARCOMAS cont	tinued (<2% of ex	(am)			
Metastatic disease LF	⊘	⊘	⊘	⊘	×
Gastrointestinal stromal tumor (GIST)					
Local-regional disease LF	⊘	⊘	⊘	⊘	⊘
Recurrent and metastatic disease LF	⊘	⊘	⊘	⊘	⊘
UNKNOWN PRIMARY SITE (2% of exam)					
Unknown primary site	⊘	⊘	⊘	⊘	×
HEAD, NECK, THYROID, AND					
CENTRAL NERVOUS SYSTEM MALIGNANCIES (4% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
MALIGNANCIES				Prognosis/	
MALIGNANCIES (4% of exam)				Prognosis/	
MALIGNANCIES (4% of exam) SQUAMOUS CELL CARCINOMA OF THE H				Prognosis/	
MALIGNANCIES (4% of exam) SQUAMOUS CELL CARCINOMA OF THE H Human papillomavirus–positive disease	EAD AND NECK (<2% of exam)	Care Decisions	Prognosis/ Epidemiology	Basic Science
MALIGNANCIES (4% of exam) SQUAMOUS CELL CARCINOMA OF THE H Human papillomavirus-positive disease Local-regional disease	EAD AND NECK (<2% of exam)	Care Decisions	Prognosis/ Epidemiology	Basic Science
MALIGNANCIES (4% of exam) SQUAMOUS CELL CARCINOMA OF THE H Human papillomavirus—positive disease Local-regional disease Recurrent and metastatic disease	EAD AND NECK (<2% of exam)	Care Decisions	Prognosis/ Epidemiology	Basic Science
MALIGNANCIES (4% of exam) SQUAMOUS CELL CARCINOMA OF THE H Human papillomavirus-positive disease Local-regional disease Recurrent and metastatic disease Human papillomavirus-negative disease	EAD AND NECK (<2% of exam)	Care Decisions	Prognosis/ Epidemiology	Basic Science
MALIGNANCIES (4% of exam) SQUAMOUS CELL CARCINOMA OF THE H Human papillomavirus—positive disease Local-regional disease Recurrent and metastatic disease Human papillomavirus—negative disease Local-regional disease	EAD AND NECK (-	<2% of exam)	Care Decisions	Prognosis/ Epidemiology	Basic Science
MALIGNANCIES (4% of exam) SQUAMOUS CELL CARCINOMA OF THE H Human papillomavirus—positive disease Local-regional disease Recurrent and metastatic disease Human papillomavirus—negative disease Local-regional disease Recurrent and metastatic disease	EAD AND NECK (-	<2% of exam)	Care Decisions	Prognosis/ Epidemiology	Basic Science
MALIGNANCIES (4% of exam) SQUAMOUS CELL CARCINOMA OF THE H Human papillomavirus-positive disease Local-regional disease Recurrent and metastatic disease Human papillomavirus-negative disease Local-regional disease Recurrent and metastatic disease SALIVARY GLAND TUMORS (<2% of exam)	EAD AND NECK (<2% of exam) O O O	Care Decisions	Prognosis/ Epidemiology	Basic Science
MALIGNANCIES (4% of exam) SQUAMOUS CELL CARCINOMA OF THE H Human papillomavirus—positive disease Local-regional disease Recurrent and metastatic disease Human papillomavirus—negative disease Local-regional disease Recurrent and metastatic disease Recurrent and metastatic disease SALIVARY GLAND TUMORS (<2% of exam) Salivary Gland Tumors LF	EAD AND NECK (<2% of exam) O O O	Care Decisions	Prognosis/ Epidemiology	Basic Science
MALIGNANCIES (4% of exam) SQUAMOUS CELL CARCINOMA OF THE H Human papillomavirus—positive disease Local-regional disease Recurrent and metastatic disease Human papillomavirus—negative disease Local-regional disease Recurrent and metastatic disease Recurrent and metastatic disease SALIVARY GLAND TUMORS (<2% of exam) Salivary Gland Tumors LF THYROID CANCER (<2% of exam)	EAD AND NECK (2% of exam) Ø Ø Ø Ø Ø Ø	Care Decisions	Prognosis/ Epidemiology	Basic Science

Meningeal metastases

 High Importance: At least 75% of questions will address topics and tasks with this designation. — Medium Importance: No more than 25% of questions will address topics and tasks with this designation. Low Importance: No questions will address topics and tasks with this designation.

HEAD, NECK, THYROID, AND CENTRAL NERVOUS SYSTEM MALIGNANCIES continued (4% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
NASOPHARYNGEAL CARCINOMA (<2% of	exam)				
Local and regional disease LF	⊘	⊘	⊘	⊘	⊘
Metastatic disease LF	⊘	⊘	⊘	⊘	×
CENTRAL NERVOUS SYSTEM MALIGNANO	CIES (<2% of exam	n)			
Primary central nervous system lesions					
High-grade gliomas (astrocytoma and glioblastoma)	⊘	⊘	⊘	Ø	(
Oligodendroglioma and other central nervous system lesions			⊘	⊘	×
Metastatic central nervous system lesions					
Parenchymal metastases	⊘	⊘	⊘	⊘	\otimes
-		_			