



# 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](http://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

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/exam-information/medical-oncology/exam-tutorial.aspx](http://abim.org/maintenance-of-certification/exam-information/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%
<b>Total</b>	<b>100%</b>

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 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 20% of questions will address low-frequency content (indicated by “LF” following the topic description).

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









































 – <b>High Importance:</b> At least 75% of questions will address topics and tasks with this designation.	 – <b>Medium Importance:</b> No more than 25% of questions will address topics and tasks with this designation.	 – <b>Low Importance:</b> No questions will address topics and tasks with this designation.
<b>LF – Low Frequency:</b> No more than 20% of questions will address topics with this designation, regardless of task or importance.		

<b>ANTICANCER THERAPEUTICS, CLINICAL RESEARCH METHODOLOGY, AND ETHICS</b> (9.5% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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### PRINCIPLES OF ALLIED DISCIPLINES (<2% of exam)

Surgical oncology					
Radiation oncology					
Interventional radiology					
Pathology					

### ANTICANCER THERAPEUTICS (8% of exam)

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

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ANTICANCER THERAPEUTICS, CLINICAL RESEARCH METHODOLOGY, AND ETHICS <i>continued...</i> (9.5% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**ANTICANCER THERAPEUTICS** *continued...* (8% of exam)

Hormonal therapies					
Estrogens and selective estrogen response modifiers	✔	✔	✔	✔	✔
Progestins and antiprogestins	◐	◐	◐	◐	◐
Aromatase inhibitors	✔	✔	✔	✔	✔
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	✔	✔	✔	✔	◐
BRAF inhibitors	✔	✔	✔	◐	◐
Anaplastic lymphoma kinase (ALK) and mesenchymal epithelial transition (MET) growth factor inhibitors	LF ◐	◐	✔	◐	◐
RET, ROS1, and NTRK inhibitors	LF ◐	◐	◐	◐	✘
Mitogen-activated protein kinase (MEK) inhibitors	LF ◐	◐	◐	◐	◐
Bruton's tyrosine kinase (BTK) inhibitors	◐	◐	✔	◐	◐
Janus kinase (JAK) inhibitors	✔	◐	✔	◐	◐
Phosphoinositide-3 kinase (PI3K) inhibitors	LF ◐	◐	◐	◐	◐
Mammalian target of rapamycin (mTOR) inhibitors	◐	◐	◐	◐	◐
Cyclin-dependent kinase (CDK) inhibitors	LF ◐	◐	◐	◐	◐

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**ANTICANCER THERAPEUTICS** *continued...* (8% of exam)

Agents with epigenetic activity					
Histone deacetylase (HDAC) inhibitors	LF	⚠	⚠	⚠	⚠
DNA methyltransferase inhibitors	LF	⚠	⚠	⚠	⚠
Metabolic inhibitors other than antimetabolites	LF	⚠	⚠	⚠	✘
Monoclonal antibodies and antibody conjugates other than immune checkpoint inhibitors					
Monoclonal antibodies targeting EGFR, HER2, HER3, HER4		✔	✔	✔	✔
Monoclonal antibodies targeting VEGFR pathway		✔	✔	✔	⚠
Monoclonal antibodies targeting B cell antigens (including CD20)		✔	✔	✔	⚠
Monoclonal antibodies targeting interleukin-6 (IL6)	LF	✘	✘	✘	✘
Bispecific monoclonal antibodies	LF	⚠	⚠	⚠	⚠
Monoclonal antibody immune checkpoint inhibitors					
Agents targeting cytotoxic T-lymphocyte-associated antigen 4 (CTLA4)	LF	⚠	⚠	⚠	⚠
Agents targeting programmed cell death protein 1 (PD-1) and programmed cell death ligand 1 (PD-L1)		✔	✔	✔	⚠
Tumor vaccines and viral-based immunotherapeutics	LF	⚠	⚠	⚠	✘
Cytokines	LF	⚠	⚠	⚠	✘
Agents with other novel or specific targets					
Proteasome inhibitors		✔	✔	✔	⚠
Immunomodulatory drugs (IMiDs)		✔	✔	✔	⚠
Hedgehog (Hh) inhibitors	LF	⚠	⚠	⚠	✘
Poly(ADP-ribose) polymerase (PARP) inhibitors	LF	⚠	⚠	⚠	⚠
Arsenicals	LF	⚠	⚠	⚠	✘

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<b>ANTICANCER THERAPEUTICS, CLINICAL RESEARCH METHODOLOGY, AND ETHICS</b> <i>continued...</i> (9.5% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**ANTICANCER THERAPEUTICS** *continued...* (8% of exam)































Cellular therapeutics					
High-dose therapy with stem cell rescue (autologous and allogeneic) <b>LF</b>					
Chimeric antigen receptor (CAR) T-cell therapy <b>LF</b>					

**CLINICAL RESEARCH METHODOLOGY AND ETHICS** (<2% of exam)

Clinical research methodology					
Design and interpretation of clinical trials	<i>Not Applicable</i>				
Tumor assessment, imaging, and end points					
Surrogate end points					
Ethics					
Human subjects and regulatory and legal issues					<i>Not Applicable</i>
Physician behavior and conflict of interest					<i>Not Applicable</i>

<b>PALLIATIVE CARE, SURVIVORSHIP, AND COMMUNICATION</b> (11% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**CLINICAL MANIFESTATIONS OF ADVANCED CANCER AND ITS TREATMENT** (4.5% of exam)

Cutaneous and mucosal manifestations					
Endocrine manifestations					
Gastrointestinal manifestations					
Ascites and peritoneal metastases					
Liver manifestations					
Constipation					
Diarrhea					

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PALLIATIVE CARE, SURVIVORSHIP, AND COMMUNICATION <i>continued...</i> (11% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**CLINICAL MANIFESTATIONS OF ADVANCED CANCER AND ITS TREATMENT** *continued...* (4.5% of exam)

Gastrointestinal manifestations <i>continued...</i>					
Nausea and vomiting	✔	✔	✔	◐	◐
Bowel obstruction	✔	✔	✔	◐	◐
Esophagitis	✔	✔	✔	◐	◐
Hematologic manifestations					
Bleeding	✔	✔	✔	◐	◐
Thrombosis	✔	✔	✔	✔	◐
Neutropenia	✔	✔	✔	✔	◐
Anemia	✔	✔	✔	✔	◐
Transfusion reactions LF	✔	✔	✔	◐	◐
Musculoskeletal manifestations	✔	◐	✔	◐	◐
Neurologic manifestations*					
Spinal cord compression	✔*	✔*	✔*	✔*	✘*
Neuropathy	✔*	✔*	✔*	◐*	✘*
Increased intracranial pressure	✔*	✔*	✔*	◐*	◐*
Progressive multifocal leukoencephalopathy LF	✘*	✘*	✘*	✘*	✘*
Radiation-related toxicity	✔*	✔*	✔*	◐*	✘*
Renal, metabolic, and nutritional manifestations*					
Tumor lysis syndrome	✔*	✔*	✔*	◐*	◐*
Hypercalcemia	✔*	✔*	✔*	✔*	◐*
Hyponatremia	✔*	✔*	✔*	◐*	◐*
Nutritional support	✔*	✔*	✔*	◐*	✘*
Paraneoplastic syndromes LF	✔	◐	✔	◐	◐

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PALLIATIVE CARE, SURVIVORSHIP, AND COMMUNICATION <i>continued...</i> (11% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**CLINICAL MANIFESTATIONS OF ADVANCED CANCER AND ITS TREATMENT** *continued...* (4.5% of exam)

Cardiothoracic manifestations					
Pleural and pericardial effusions	✔	✔	✔	◐	◐
Pneumonitis	✔	✔	✔	◐	◐
Dyspnea	✔	✔	✔	◐	◐
Cough	✔	✔	✔	◐	◐
Superior vena cava syndrome	◐	◐	✔	◐	✘
Fatigue	✔	✔	✔	◐	◐
Psychiatric manifestations					
Depression	✔	◐	✔	◐	✘
Anxiety	✔	◐	✔	◐	✘
Delirium <span style="float: right;">LF</span>	✔	◐	◐	◐	✘
Infectious risks and complications					
Infections	✔	✔	✔	◐	◐
Febrile neutropenia	✔	✔	✔	✔	◐
Lymphedema	✔*	✔*	✔*	◐*	✘*

**CANCER PAIN** (2% of exam)

Use of opioids	✔	✔	✔	◐	◐
Use of nonopioids	✔	◐	✔	◐	◐

**SURVIVORSHIP ISSUES** (<2% of exam)

Fertility	◐	◐	✔	◐	✘
Second primary cancers	✔	✔	✔	◐	◐
Secondary cancer prevention	✔	✔	✔	◐	◐
Nonmalignant sequelae	◐	◐	◐	◐	◐
Surveillance	✔	✔	✔	✔	✘



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**END-OF-LIFE ISSUES** (2% of exam)

Hospice	✔	✔	✔	✔	✘
Feeding and nutrition	✔	◐	✔	◐	◐
Decision making	✔	✔	✔	✔	◐

**PROCEDURE-RELATED ISSUES** (<2% of exam)

Chemotherapy administration	✔	✔	✔	✔	◐
Bone marrow aspiration, biopsy, and interpretation	✔	✔	✔	✔	◐
Tumor assessment	✔	✔	✔	◐	◐
Thoracentesis	◐	◐	◐	◐	✘
Paracentesis	◐	◐	◐	◐	◐
Feeding tubes	◐	◐	◐	◐	✘

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

Communicating prognosis and other clinical information	<i>Not Applicable</i>		✔		<i>Not Applicable</i>
Discussing goals of care	<i>Not Applicable</i>		✔		<i>Not Applicable</i>
Discussing survivorship issues	<i>Not Applicable</i>		✔		<i>Not Applicable</i>

<b>GENETICS, GENOMICS, AND TUMOR BIOLOGY</b> (2% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**CANCER BIOLOGY AND GENETICS** (<2% of exam)

Carcinogenesis	LF	◐	◐	◐	◐
Genomics		◐	◐	◐	◐

**TUMOR IMMUNOLOGY** (<2% of exam)

Tumor immunology		◐	◐	✔	✘
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**HERITABLE CANCER SYNDROMES** (<2% of exam)

Li-Fraumeni syndrome (TP53)	LF	◐	◐	◐	✘
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**HERITABLE CANCER SYNDROMES** *continued...* (<2% of exam)

BRCA1 and BRCA2 syndromes	✔	✔	✔	✔	⚠
Familial colorectal cancer					
Familial adenomatous polyposis LF	⚠	⚠	⚠	⚠	⚠
Lynch syndrome (hereditary nonpolyposis colorectal cancer)	✔	✔	✔	⚠	⚠
Multiple endocrine neoplasia and familial medullary thyroid cancer syndromes LF	⚠	⚠	⚠	⚠	✘

**CANCER EPIDEMIOLOGY AND STATISTICS** (<2% of exam)

Cancer epidemiology	⚠	⚠	⚠	⚠	⚠
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<b>HEMATOLOGIC NEOPLASMS</b> (14% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**ACUTE LEUKEMIA AND MYELOYDYSPLASIA** (3% of exam)

Acute myeloid leukemia (AML)					
Acute promyelocytic leukemia (APL) LF	✔	✔	✔	⚠	⚠
AML with recurrent genetic abnormalities LF	✔	✔	⚠	⚠	⚠
AML with myelodysplasia-related changes	✔	⚠	✔	⚠	⚠
Therapy-related myeloid neoplasms LF	⚠	⚠	⚠	⚠	⚠
AML not otherwise specified LF	✔	✔	⚠	⚠	⚠
Myeloid sarcoma LF	⚠	⚠	⚠	✘	✘
Acute lymphoblastic leukemia/lymphoma LF	✔	✔	⚠	⚠	⚠
Myelodysplastic syndromes	✔	✔	✔	✔	⚠
Chronic myelomonocytic leukemia	✔	⚠	⚠	⚠	⚠

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<b>HEMATOLOGIC NEOPLASMS</b> <i>continued...</i> (14% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**CHRONIC MYELOID LEUKEMIA AND MYELOPROLIFERATIVE NEOPLASMS (2% of exam)**

Chronic myeloid leukemia	✔	✔	✔	✔	⚠
Myeloproliferative neoplasms	✔	✔	✔	⚠	⚠

**CHRONIC LYMPHOPROLIFERATIVE LEUKEMIAS (2% of exam)**

Chronic lymphocytic leukemia/ small lymphocytic lymphoma	✔	✔	✔	✔	⚠
Hairy cell leukemia <b>LF</b>	✔	⚠	✔	⚠	⚠
T-cell prolymphocytic leukemia <b>LF</b>	⚠	⚠	⚠	✘	✘
T-cell large granular lymphocytic leukemia <b>LF</b>	⚠	⚠	⚠	✘	✘
Monoclonal B-cell lymphocytosis	⚠	⚠	⚠	⚠	✘

**HODGKIN LYMPHOMA (<2% of exam)**

Early-stage disease	✔	✔	✔	✔	⚠
Advanced disease	✔	✔	✔	⚠	⚠

**MULTIPLE MYELOMA AND PLASMA CELL DYSCRASIAS (2% of exam)**

Multiple myeloma/plasma cell leukemia	✔	✔	✔	✔	⚠
Solitary plasmacytoma <b>LF</b>	⚠	⚠	✔	⚠	⚠
Primary amyloidosis <b>LF</b>	⚠	⚠	⚠	⚠	✘
Cryoglobulinemia <b>LF</b>	⚠	⚠	⚠	✘	✘
Monoclonal gammopathy of undetermined significance (MGUS)	✔	✔	✔	✔	⚠
Lymphoplasmacytic lymphoma (including Waldenstrom macroglobulinemia) <b>LF</b>	✔	✔	✔	⚠	⚠

**NON-HODGKIN LYMPHOMA (4% of exam)**

Low-grade disease	✔	✔	✔	✔	⚠
Intermediate-grade disease	✔	✔	✔	✔	⚠
High-grade disease	✔	✔	✔	✔	⚠

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HEMATOLOGIC NEOPLASMS <i>continued...</i> (14% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**NON-HODGKIN LYMPHOMA** *continued...* (4% of exam)

Less common histologies					
Mantle cell lymphoma	✔	✔	✔	⚠	⚠
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 ⚠	⚠	⚠	⚠	✘
Cutaneous T-cell lymphoma	LF ⚠	⚠	⚠	⚠	✘
Primary central nervous system lymphoma	LF ⚠	⚠	⚠	⚠	✘
Post-transplantation lymphoproliferative syndromes	LF ⚠	⚠	⚠	✘	✘
Peripheral T-cell lymphoma	LF ⚠	⚠	⚠	⚠	✘

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<b>THORACIC CANCER</b> (11% 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>NON-SMALL CELL LUNG CANCER</b> (9% of exam)						
Early-stage disease		✔	✔	✔	✔	⚠
Locally advanced disease						
Stage IIIA disease		✔	✔	✔	✔	⚠
Stage IIIB disease		✔	✔	✔	✔	⚠
Pancoast tumor	LF	✔	✔	✔	⚠	⚠
Metastatic disease						
Adenocarcinoma						
<i>Treatable driver mutation present</i>		✔*	✔*	✔*	⚠*	⚠*
<i>Treatable driver mutation not present</i>		✔*	✔*	✔*	⚠*	⚠*
Squamous cell carcinoma		✔*	✔*	✔*	⚠*	⚠*
<b>SMALL CELL LUNG CANCER</b> (<2% of exam)						
Limited disease		✔	✔	✔	✔	⚠
Extensive disease		✔	✔	✔	✔	⚠
<b>MESOTHELIOMA AND THYMUS CANCER</b> (<2% of exam)						
Mesothelioma	LF	✔	✔	✔	⚠	⚠
Thymus cancer	LF	⚠	⚠	⚠	⚠	✘

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<b>BREAST CANCER</b> (13% 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>PREMALIGNANT CONDITIONS AND HIGH-RISK FACTORS (&lt;2% of exam)</b>						
High-risk histologies (including atypical ductal hyperplasia and atypical lobular hyperplasia)		✔	✔	✔	✔	⚠
Genetic predispositions and other high-risk features		⚠	✔	✔	✔	⚠
<b>CARCINOMA IN SITU (&lt;2% of exam)</b>						
Carcinoma in situ		✔	✔	✔	✔	⚠
<b>EARLY-STAGE AND LOCALLY ADVANCED INVASIVE CARCINOMA (4.5% of exam)</b>						
HER2-positive disease		✔*	✔*	✔*	⚠*	⚠*
HER2-negative, hormone receptor-positive disease		✔*	✔*	✔*	⚠*	⚠*
HER2-negative, hormone receptor-negative (triple-negative) disease		✔*	✔*	✔*	✔*	✔*
<b>INFLAMMATORY DISEASE (&lt;2% of exam)</b>						
Inflammatory disease		✔	✔	✔	✔	⚠
<b>LOCALLY RECURRENT DISEASE (&lt;2% of exam)</b>						
In-breast recurrence		✔	✔	✔	✔	⚠
Chest wall recurrence	LF	✔	✔	✔	⚠	⚠
<b>METASTATIC DISEASE (4.5% of exam)</b>						
HER2-positive metastatic disease		✔*	✔*	✔*	⚠*	⚠*
HER2-negative, hormone receptor-positive metastatic disease		✔*	✔*	✔*	⚠*	⚠*
HER2-negative, hormone receptor-negative (triple-negative) metastatic disease		✔*	✔*	✔*	✔*	✔*
<b>LESS COMMON CLINICAL SCENARIOS (&lt;2% of exam)</b>						
Tubular carcinoma	LF	⚠	⚠	⚠	⚠	✘
Male breast cancer	LF	✔	✔	✔	✔	⚠
Pregnancy-associated breast cancer		✔*	✔*	✔*	⚠*	✘*

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<b>GENITOURINARY CANCER</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>
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**GERM CELL TUMORS (<2% of exam)**

Seminoma	LF	✔	✔	✔	✔	◐
Nonseminoma	LF	✔	✔	✔	✔	◐
Germ cell tumor type not specified	LF	✔	✔	✔	◐	◐

**PROSTATE CANCER (5% of exam)**

Localized disease		✔	✔	✔	◐	◐
Locally advanced disease		✔	✔	✔	◐	◐

Prostate-specific antigen-only nonmetastatic disease

Castration-sensitive disease		✔*	✔*	✔*	◐*	◐*
Castration-resistant disease		✔*	✔*	✔*	◐*	◐*

Metastatic disease

Metastatic castration-sensitive disease		✔	✔	✔	✔	◐
Metastatic castration-resistant disease		✔	✔	✔	✔	◐

Special issues in prostate cancer

Small cell carcinoma	LF	◐	◐	✔	◐	✘
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**RENAL CELL CANCER (2.5% of exam)**

Localized disease		◐	◐	◐	◐	◐
Metastatic disease		✔	✔	✔	◐	◐

Special issues in renal cell cancer

Bilateral renal tumors	LF	◐	◐	◐	◐	✘
Non-clear cell histologies	LF	◐	◐	◐	◐	✘

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<b>GENITOURINARY CANCER</b> <i>continued...</i> (12% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**UROTHELIAL AND OTHER GENITOURINARY CANCERS** (2.5% of exam)

Bladder cancer					
Non-muscle invasive disease	LF	⚠	⚠	⚠	✘
Muscle-invasive disease		✔	✔	⚠	⚠
Metastatic disease		✔	✔	⚠	⚠
Other urothelial cancers					
Upper tract urothelial cancer	LF	⚠	⚠	⚠	✘
Urethral cancer	LF	⚠	⚠	✘	✘

<b>GYNECOLOGIC CANCER</b> (4% of exam)	Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**CERVICAL CANCER** (<2% of exam)

Local-regional disease (Stages II and III)	LF	⚠	⚠	⚠	✘
Recurrent and metastatic disease	LF	⚠	⚠	⚠	✘

**OVARIAN, FALLOPIAN TUBE, AND PRIMARY PERITONEAL CANCERS** (2% of exam)

Epithelial ovarian, fallopian tube, and primary peritoneal cancers					
Stage I	LF	⚠	⚠	✔	⚠
Stages II–IV		✔	✔	⚠	⚠
Nonepithelial ovarian cancers	LF	⚠	⚠	⚠	✘
Low malignant potential (borderline) cancers	LF	⚠	✘	✘	✘

**OTHER GYNECOLOGIC MALIGNANCIES** (<2% of exam)

Endometrial cancer		⚠	⚠	⚠	⚠
Uterine sarcoma	LF	⚠	⚠	⚠	✘
Gestational trophoblastic disease	LF	⚠	⚠	⚠	✘
Cancers of the vulva and vagina	LF	⚠	⚠	⚠	✘



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<b>GASTROINTESTINAL CANCER</b> (13.5% 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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**ANAL CANCER** (<2% of exam)

Local-regional disease	LF	✔	✔	✔	⚠	⚠
Recurrent and metastatic disease	LF	⚠	⚠	✔	⚠	✘

**BILIARY TREE AND GALLBLADDER CANCER** (<2% of exam)

Local-regional disease	LF	⚠	✔	✔	⚠	⚠
Recurrent and metastatic disease	LF	⚠	⚠	✔	⚠	✘

**COLORECTAL CANCER** (4.5% of exam)

Colon cancer						
Local-regional disease		✔	✔	✔	✔	⚠
Recurrent and metastatic disease		✔	✔	✔	✔	⚠

Rectal cancer						
Local-regional disease		✔	✔	✔	✔	⚠
Recurrent and metastatic disease		✔	✔	✔	✔	⚠

**ESOPHAGEAL CANCER** (<2% of exam)

Local-regional disease		✔	✔	✔	⚠	⚠
Recurrent and metastatic disease		✔	✔	✔	⚠	⚠

**GASTRIC CANCER** (<2% of exam)

Resectable disease		✔	✔	✔	⚠	⚠
Unresectable and metastatic disease		✔	✔	✔	⚠	⚠

**HEPATOCELLULAR CANCER** (<2% of exam)

Resectable disease	LF	✔	✔	✔	⚠	⚠
Unresectable, liver-only disease		✔	✔	✔	⚠	⚠
Metastatic disease	LF	✔	✔	✔	⚠	✘

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<b>GASTROINTESTINAL CANCER</b> <i>continued...</i> (13.5% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**GASTROINTESTINAL NEUROENDOCRINE TUMORS** (<2% of exam)

Gastrointestinal neuroendocrine tumors	LF	✔	✔	✔	⚠	⚠
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**PANCREATIC CANCER** (3% of exam)

Resectable disease		✔	✔	✔	⚠	⚠
Unresectable disease		✔	✔	✔	⚠	⚠
Metastatic and recurrent disease		✔	✔	✔	⚠	⚠

**SMALL BOWEL AND APPENDICEAL CANCER** (<2% of exam)

Small bowel cancer	LF	⚠	⚠	✔	⚠	✘
Appendiceal cancer	LF	⚠	⚠	⚠	⚠	✘

<b>SKIN CANCER, SARCOMAS, AND UNKNOWN PRIMARY SITE</b> (6% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**MELANOMA** (2% of exam)

Invasive melanoma		✔	✔	✔	⚠	⚠
Regional nodal and in-transit metastasis		⚠	⚠	✔	⚠	⚠
Metastatic disease		✔	✔	✔	⚠	⚠

**OTHER SKIN CANCERS** (<2% of exam)

Squamous cell and basal cell cancer of the skin						
Local-regional disease	LF	⚠	⚠	⚠	✘	✘
Recurrent and metastatic disease	LF	⚠	⚠	⚠	⚠	✘
Merkel cell carcinoma	LF	⚠	⚠	⚠	✘	✘

**BONE AND SOFT-TISSUE SARCOMAS** (<2% of exam)

Localized primary disease	LF	⚠	⚠	⚠	⚠	✘
Local disease recurrence	LF	⚠	⚠	⚠	⚠	✘

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<b>SKIN CANCER, SARCOMAS, AND UNKNOWN PRIMARY SITE</b> <i>continued...</i> (6% 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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**BONE AND SOFT-TISSUE SARCOMAS** *continued...* (<2% of exam)

Metastatic disease	LF	⚠	⚠	✔	⚠	✘
<b>Gastrointestinal stromal tumor (GIST)</b>						
Local-regional disease	LF	⚠	⚠	✔	⚠	⚠
Recurrent and metastatic disease	LF	⚠	⚠	✔	⚠	⚠

**UNKNOWN PRIMARY SITE** (2% of exam)

Unknown primary site		✔	✔	✔	⚠	✘
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<b>HEAD, NECK, THYROID, AND CENTRAL NERVOUS SYSTEM MALIGNANCIES</b> (4% 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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**SQUAMOUS CELL CARCINOMA OF THE HEAD AND NECK** (<2% of exam)

<b>Human papillomavirus–positive disease</b>						
Local-regional disease		⚠	⚠	✔	⚠	✘
Recurrent and metastatic disease		⚠	⚠	✔	⚠	✘
<b>Human papillomavirus–negative disease</b>						
Local-regional disease		⚠	⚠	✔	⚠	✘
Recurrent and metastatic disease		⚠	⚠	✔	⚠	✘

**SALIVARY GLAND TUMORS** (<2% of exam)

Salivary Gland Tumors	LF	⚠	⚠	⚠	⚠	✘
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**THYROID CANCER** (<2% of exam)

Papillary	LF	⚠	⚠	⚠	⚠	⚠
Medullary	LF	⚠	⚠	⚠	⚠	⚠
Anaplastic	LF	⚠	⚠	⚠	⚠	✘

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<b>HEAD, NECK, THYROID, AND CENTRAL NERVOUS SYSTEM MALIGNANCIES</b> <i>continued...</i> (4% of exam)		Diagnosis	Testing	Treatment/ Care Decisions	Risk Assessment/ Prognosis/ Epidemiology	Pathophysiology/ Basic Science
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**NASOPHARYNGEAL CARCINOMA** (<2% of exam)

Local and regional disease	LF	⚠	⚠	✔	⚠	⚠
Metastatic disease	LF	⚠	⚠	⚠	⚠	✘

**CENTRAL NERVOUS SYSTEM MALIGNANCIES** (<2% of exam)

Primary central nervous system lesions						
High-grade gliomas (astrocytoma and glioblastoma)		✔	✔	✔	⚠	⚠
Oligodendroglioma and other central nervous system lesions	LF	⚠	⚠	⚠	⚠	✘
Metastatic central nervous system lesions						
Parenchymal metastases		✔	✔	✔	⚠	✘
Meningeal metastases	LF	⚠	⚠	⚠	⚠	⚠