Purpose of the assessment
The assessment is designed to evaluate the knowledge, diagnostic reasoning, and clinical judgment skills expected of the certified medical oncologist. The ability to make appropriate diagnostic and management decisions that have important consequences for patients will be assessed.

Assessment content
Assessment content is determined by a pre-established blueprint, or table of specifications. The blueprint is developed by ABIM and ASCO and is reviewed annually and updated as needed for currency. Trainees, training program directors, and certified practitioners in the discipline are surveyed periodically to provide feedback and inform the blueprinting process. The primary and secondary medical content categories of the blueprint are shown below, with the percentage assigned to each for a typical assessment:

<table>
<thead>
<tr>
<th>Medical Content Category</th>
<th>% of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematologic Malignancies</td>
<td>75%</td>
</tr>
<tr>
<td>Leukemias</td>
<td>30%</td>
</tr>
<tr>
<td>Lymphoid malignancies</td>
<td>30%</td>
</tr>
<tr>
<td>Multiple myeloma and plasma cell dyscrasias</td>
<td>9%</td>
</tr>
<tr>
<td>Cellular therapy</td>
<td>6%</td>
</tr>
<tr>
<td>Medical Oncology Core*</td>
<td>25%</td>
</tr>
<tr>
<td>Palliative care, survivorship, and communication</td>
<td>11%</td>
</tr>
<tr>
<td>Anticancer therapeutics, clinical research methodology, and ethics</td>
<td>10%</td>
</tr>
<tr>
<td>Genetics, genomics, and tumor Biology</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

*Medical Oncology Core content includes topics relevant to all medical oncologists, regardless of what disease(s) they focus on in practice.
Assessment format
The assessment is composed of multiple-choice questions, predominantly describing patient scenarios. All questions will be in the single-best-answer format.

Questions ask about the work done (that is, tasks performed) by physicians in the course of practice:

- Making a diagnosis
- Ordering and interpreting results of tests
- Recommending treatment or other patient care
- Assessing risk, determining prognosis, and applying principles from epidemiologic studies

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.

A tutorial including examples of ABIM assessment question format can be found at http://www.abim.org/certification/exam-information/medical-oncology/exam-tutorial.aspx.

The blueprint can be expanded for additional detail as shown below. Each of the medical content categories is listed, and below each major category are the content subsections and specific topics that may appear in the assessment. Please note: actual assessment content may vary.

<table>
<thead>
<tr>
<th>Hematologic Malignancies</th>
<th>75% of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leukemias</td>
<td>30%</td>
</tr>
<tr>
<td>Acute leukemia and myelodysplasia</td>
<td></td>
</tr>
<tr>
<td>Acute myeloid leukemia (AML)</td>
<td></td>
</tr>
<tr>
<td>Acute promyelocytic leukemia (APL)</td>
<td></td>
</tr>
<tr>
<td>AML with recurrent genetic abnormalities</td>
<td></td>
</tr>
<tr>
<td>AML with myelodysplasia-related changes</td>
<td></td>
</tr>
<tr>
<td>Therapy-related myeloid neoplasms</td>
<td></td>
</tr>
<tr>
<td>AML not otherwise specified</td>
<td></td>
</tr>
<tr>
<td>Myeloid sarcoma</td>
<td></td>
</tr>
</tbody>
</table>
Acute lymphoblastic leukemia
   B-cell acute lymphoblastic leukemia/lymphoma (B-ALL)
   T-cell acute lymphoblastic leukemia/lymphoma (T-ALL)
Myelodysplastic syndromes
   Chronic myelomonocytic leukemia

**Chronic myeloid leukemia and myeloproliferative neoplasms**
   Chronic myeloid leukemia
   Myeloproliferative neoplasms
   Myeloid and lymphoid neoplasms with eosinophilia and abnormalities of PDGFRA, PDGFRB, or FGFR1
   Chronic neutrophilic leukemia

**Lymphoid malignancies**

**Hodgkin lymphoma**
   Classical Hodgkin lymphoma
   Nodular lymphocyte-predominant Hodgkin lymphoma

**Non-Hodgkin lymphoma**
   Diffuse large B-cell lymphoma
   Follicular lymphoma
   Burkitt lymphoma
   Mantle cell lymphoma
   NK-T cell lymphoma
   Anaplastic large cell lymphoma
   Extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue (MALT lymphoma)
   Nodal marginal zone lymphoma
   Human immunodeficiency virus (HIV)-associated lymphoma
   Human T-cell lymphotrophic virus type 1-associated lymphoma (adult T-cell leukemia/lymphoma)
   Cutaneous T-cell lymphoma (mycosis fungoides and Sézary syndrome)
   Primary central nervous system lymphoma
   Post-transplantation lymphoproliferative syndromes
   Peripheral T-cell lymphoma
   Lymphoplasmacytic lymphoma (including Waldenström macroglobulinemia)

**General lymphoma issues (not specific to lymphoma type)**

**Lymphoproliferative disorders associated with iatrogenic immunodeficiency**

**Chronic lymphoproliferative leukemias**
   Chronic lymphocytic leukemia/small lymphocytic lymphoma
   Hairy cell leukemia
   T-cell prolymphocytic leukemia
T-cell large granular lymphocytic leukemia  
Monoclonal B-cell lymphocytosis  

**Multiple myeloma and plasma cell dyscrasias**  
9%  
Multiple myeloma/plasma cell leukemia  
Solitary plasmacytoma  
Primary amyloidosis  
Cryoglobulinemia  
Monoclonal gammopathy of undetermined significance (MGUS)  

**Cellular therapy**  
6%  
Autologous hematopoietic cell transplantation (HCT)  
Allogeneic HCT  
HCT Conditioning regimens  
Supportive care  
Graft-versus-host disease  
Other complications after HCT  
  Engraftment failure or rejection  
  Infections  
  Organ toxicity  
  Transplant-associated thrombotic microangiopathy  
  Late effects  
Chimeric antigen receptor (CAR) T-cell therapy  

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Anticancer Therapeutics,  
Clinical Research Methodology, and Ethics  
10% of Assessment  

**Note:** The Hematologic Malignancies assessment will only test knowledge of drugs that are used to treat hematologic malignancies and their symptoms.

**Principles of allied disciplines**  
Surgical oncology  
Radiation oncology  
Interventional radiology  
Pathology  

**Anticancer therapeutics**  
Cytotoxic chemotherapy agents  
  Alkylating agents  
  Antimetabolites  
  Antitubulin agents  
  Anthracyclines
Topoisomerase I inhibitors
Topoisomerase II inhibitors
Bleomycin and other DNA-damaging agents

Chemotherapy-drug interactions

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
- RET, ROS1, and NTRK inhibitors
- Mitogen-activated protein kinase (MEK) inhibitors
- Bruton tyrosine kinase (BTK) inhibitors
- Janus kinase (JAK) inhibitors
- Phosphoinositide-3 kinase (PI3K) inhibitors
- Mammalian target of rapamycin (mTOR) inhibitors
- Cyclin-dependent kinase (CDK) inhibitors

Agents with epigenetic activity
- Histone deacetylase (HDAC) inhibitors
- DNA methyltransferase inhibitors

Metabolic inhibitors other than antimetabolites

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 (IL-6)
- Bispecific monoclonal antibodies
Monoclonal antibody immune checkpoint inhibitors
   Agents targeting cytotoxic T-lymphocyte-associated antigen 4 (CTLA4)
   Agents targeting programmed cell death protein 1 (PD-1) and programmed cell death ligand 1 (PD-L1)
Tumor vaccines and viral-based immunotherapeutics
Cytokines
Agents with other novel or specific targets
   Proteasome inhibitors
   Immunomodulatory drugs (IMiDs)
   Hedgehog (Hh) inhibitors
   Poly(ADP-ribose) polymerase (PARP) inhibitors
   Arsenicals
Cellular therapeutics
   High-dose therapy with stem cell rescue (autologous and allogeneic)
   Chimeric antigen receptor (CAR) T-cell therapy

Clinical research methodology and ethics
   Clinical research methodology
   Design and interpretation of clinical trials
   Tumor assessment, imaging, and end points
   Surrogate end points
   Ethics
   Human subjects and regulatory and legal issues
   Physician behavior and conflict of interest

Palliative Care, Survivorship, and Communication

Clinical manifestations of advanced cancer and its treatment
   Cutaneous and mucosal manifestations
      Oral mucositis
      Rash
      Xerostomia
   Endocrine manifestations
   Gastrointestinal manifestations
      Ascites and peritoneal metastases
      Liver manifestations
      Constipation
Diarrhea
Nausea and vomiting
Bowel obstruction
Esophagitis
Dysphagia
Hematologic manifestations
Bleeding
Thrombosis
Cytopenia (Neutropenia)
Anemia
Transfusion reactions
Musculoskeletal manifestations
Neurologic manifestations
Spinal cord compression
Neuropathy
Increased intracranial pressure
 Progressive multifocal leukoencephalopathy
 Radiation-related toxicity
Renal, metabolic, and nutritional manifestations
Tumor lysis syndrome
Hypercalcemia
Hyponatremia
Nutritional support
Paraneoplastic syndromes
Thoracic manifestations
Pleural and pericardial effusions
Pneumonitis
Dyspnea
Cough
Fatigue
Psychiatric manifestations
Depression
Anxiety
Delirium
Infectious risks and complications
Infections
Febrile neutropenia
Lymphedema
Cardiac manifestations
  Pericardial effusions
  Cardiac tamponade
  Superior vena cava syndrome

Cancer pain
  Use of opioids
  Use of nonopioids

Survivorship issues
  Fertility and sexual health
  Second primary cancers
  Secondary cancer prevention
  Nonmalignant sequelae
  Surveillance

End-of-life issues
  Hospice
  Feeding and nutrition
  Decision making

Procedure-related issues
  Chemotherapy administration
  Bone marrow aspiration, biopsy, and interpretation
  Tumor assessment
  Thoracentesis
  Paracentesis
  Feeding tubes

Communication
  Communicating prognosis and other clinical information
  Discussing goals of care
  Discussing survivorship issues

<table>
<thead>
<tr>
<th>Genetics, Genomics, and Tumor Biology</th>
<th>4% of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note: The Hematologic Malignancies assessment will only test knowledge of heritable cancer syndromes that are related to hematologic malignancies.</td>
<td></td>
</tr>
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</table>

Cancer biology and genetics
  Carcinogenesis
  Genomics
  Tumor immunology
Heritable cancer syndromes

Li-Fraumeni syndrome (TP53)
BRCA1 and BRCA2 syndromes
Familial colorectal cancer
   Familial adenomatous polyposis
   Lynch syndrome (hereditary nonpolyposis colorectal cancer)
Multiple endocrine neoplasia and familial medullary
   thyroid cancer syndromes

Cancer epidemiology

August, 2019