ABIM/ASCO Medical Oncology: Learning & Assessment

Breast Cancer

Maintenance of Certification Assessment Blueprint

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>Breast Cancer</td>
<td>75%</td>
</tr>
<tr>
<td>Pre-malignant conditions and high-risk factors</td>
<td>3%</td>
</tr>
<tr>
<td>Carcinoma in situ</td>
<td>6%</td>
</tr>
<tr>
<td>Early-stage and locally advanced invasive carcinoma</td>
<td>25%</td>
</tr>
<tr>
<td>Inflammatory disease</td>
<td>6%</td>
</tr>
<tr>
<td>Locally recurrent disease</td>
<td>6%</td>
</tr>
<tr>
<td>Metastatic disease</td>
<td>26%</td>
</tr>
<tr>
<td>Less common histologies and clinical scenarios</td>
<td>3%</td>
</tr>
<tr>
<td>Medical Oncology Core*</td>
<td>25%</td>
</tr>
<tr>
<td>Anticancer therapeutics, clinical research methodology, and ethics</td>
<td>10%</td>
</tr>
<tr>
<td>Palliative care, survivorship, and communication</td>
<td>11%</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.


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>Breast Cancer</th>
<th>75% of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premalignant conditions and high-risk factors</td>
<td>3%</td>
</tr>
<tr>
<td>High-risk histologies (including atypical ductal hyperplasia and atypical lobular hyperplasia)</td>
<td></td>
</tr>
<tr>
<td>Genetic predispositions and other high-risk features</td>
<td></td>
</tr>
<tr>
<td>Carcinoma in situ</td>
<td>6%</td>
</tr>
<tr>
<td>Early-stage and locally advanced invasive carcinoma</td>
<td>25%</td>
</tr>
<tr>
<td>HER2-positive disease</td>
<td></td>
</tr>
<tr>
<td>HER2-negative, hormone receptor–positive disease</td>
<td></td>
</tr>
<tr>
<td>HER2-negative, hormone receptor–negative (triple-negative) disease</td>
<td></td>
</tr>
<tr>
<td>Inflammatory disease</td>
<td>6%</td>
</tr>
</tbody>
</table>
Locally recurrent disease 6%
   In-breast recurrence
   Chest wall recurrence

Metastatic disease 26%
   HER2-positive metastatic disease
   HER2-negative, hormone receptor–positive metastatic disease
   HER2-negative, hormone receptor–negative (triple-negative) metastatic disease

Less common clinical scenarios 3%
   Tubular carcinoma
   Male breast cancer
   Pregnancy-associated breast cancer

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

Note: The Breast Cancer assessment will only test knowledge of drugs that are used to treat breast cancer and its symptoms.

Principles of allied disciplines <2%
   Surgical oncology
   Radiation oncology
   Interventional radiology
   Pathology

Anticancer therapeutics 7.5%
   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

July, 2020
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 <2%

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 11% of Assessment

Clinical manifestations of advanced cancer and its treatment 4.5%

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
Cardiothoracic manifestations
  Pleural and pericardial effusions
  Pneumonitis
  Dyspnea
  Cough
  Superior vena cava syndrome
Fatigue
Psychiatric manifestations
  Depression
  Anxiety
  Delirium
Infectious risks and complications
  Infections
  Febrile neutropenia
Lymphedema

**Cancer pain** 2%
  Use of opioids
  Use of nonopioids

**Survivorship issues** <2%
  Fertility and sexual health
  Second primary cancers
  Secondary cancer prevention
  Nonmalignant sequelae
  Surveillance

**End-of-life issues** 2%
  Hospice
  Feeding and nutrition
  Decision making
Procedure-related issues <2%
Chemotherapy administration
Bone marrow aspiration, biopsy, and interpretation
Tumor assessment
Thoracentesis
Paracentesis
Feeding tubes

Communication <2%
Communicating prognosis and other clinical information
Discussing goals of care
Discussing survivorship issues

Genetics, Genomics, and Tumor Biology 4% of Assessment

Note: The Breast Cancer assessment will only test knowledge of heritable cancer syndromes that are related to breast cancer.

Cancer biology and genetics <2%
Carcinogenesis
Genomics

Tumor immunology <2%

Heritable cancer syndromes <2%
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 <2%