



ACGME International

**Advanced Specialty Program Requirements for
Graduate Medical Education in
Medical Oncology
(Internal Medicine)**

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I Introduction

I.A. Definition and Scope of Specialty

The medical specialty of medical oncology focuses on the etiology, diagnosis, prevention, and treatment of tumors (cancer).

I.B. Duration of Education

I.B.1. The education program in medical oncology must be 24 or 36 months in length.

II Institutions

II.A. Sponsoring Institutions

II.A.1. A medical oncology fellowship must function as an integral part of an ACGME-I-accredited residency in internal medicine.

II.B. Participating Sites

See International Subspecialty Foundational Requirements, Section I.B.

III Program Personnel and Resources

III.A. Program Director

See International Subspecialty Foundational Requirements, Section II.A.

III.B. Faculty

III.B.1. Faculty members must teach and supervise the fellows in the performance and interpretation of procedures, and this must be documented in each fellow's record, including indications, outcomes, diagnoses, and supervisor(s).

III.C. Other Program Personnel

III.C.1. Clinical specialists certified in endocrinology, gastroenterology, hematology, infectious disease, nephrology, and pulmonary disease must participate in the education of fellows.

III.C.2. Clinical specialists, including dermatologists, gynecologists, neurological surgeons, neurologists, orthopaedic surgeons, otolaryngologists, radiation oncologists, and urologists must participate in the education of fellows.

- III.C.3. Surgeons in general surgery and surgical specialties, including those with a special interest in oncology, must participate in the education of fellows.
- III.C.4. Expertise in the following disciplines should be available to the program to provide multidisciplinary patient care and fellow education:
- III.C.4.a) genetic counseling;
 - III.C.4.b) hospice and palliative care;
 - III.C.4.c) oncologic nursing;
 - III.C.4.d) pain management;
 - III.C.4.e) psychiatry; and,
 - III.C.4.f) rehabilitation medicine.

III.D. Resources

- III.D.1. Laboratory and imaging services must be available, including:
- III.D.1.a) radiation oncology facilities;
 - III.D.1.b) a hematology laboratory located at the primary clinical site;
 - III.D.1.c) a specialized coagulation laboratory; and,
 - III.D.1.d) imaging services, including:
 - III.D.1.d).(1) nuclear medicine imaging;
 - III.D.1.d).(2) cross-sectional imaging, including computed tomography (CT) and magnetic resonance imaging (MRI); and,
 - III.D.1.d).(3) positron emission tomography (PET) scan imaging.
- III.D.2. There must be advanced pathology services, including:
- III.D.2.a) blood banking;
 - III.D.2.b) immunopathology; and,
 - III.D.2.c) transfusion and apheresis.
- III.D.3. There must be a hematology clinical program with which fellows may interact.

IV Fellow Appointment

IV.A. Eligibility Criteria

- IV.A.1. Prior to appointment in the program, fellows should have completed an ACGME International (ACGME-I)-accredited core specialty program in internal medicine.

IV.B. Number of Fellows

See International Subspecialty Foundational Requirements, Section III.B.

V Specialty-Specific Educational Program

V.A. Regularly Scheduled Didactic Sessions

- V.A.1. Fellows must participate in multidisciplinary case management or tumor board conferences and in protocol studies.

V.B. Clinical Experiences

- V.B.1. At least 12 months of education must be devoted to clinical experience.
- V.B.2. At least 50 percent of the clinical experience must occur in the outpatient setting.
- V.B.3. The program must provide at least one month of clinical experience in autologous bone marrow transplantation.
- V.B.4. Fellows must participate in training using simulation.
- V.B.5. Inpatient assignments should be of sufficient duration to permit continuing care of a majority of the patients throughout their hospitalization.
- V.B.6. Fellows should have a structured continuity ambulatory clinic experience that exposes them to the breadth and depth of medical oncology.
- V.B.6.a) This experience should include an appropriate distribution of patients of each gender and a diversity of ages
- V.B.6.b) This experience should average one half-day each week throughout the education program.
- V.B.6.c) Each fellow should, on average, be responsible for four to eight patients during each half-day session.
- V.B.6.c).(1) Each fellow should, on average, be responsible for no more than eight to 12 patients during each half-day ambulatory session.
- V.B.6.d) The continuing patient care experience should not be interrupted by more than one month, excluding a fellow's vacation.

V.C. Fellows' Scholarly Activity

See International Subspecialty Foundational Requirements, Section IV.C.

V.D. Duty Hour and Work Limitations

V.D.1. Direct supervision of procedures performed by each fellow must occur until proficiency has been acquired and documented by the program director.

VI ACGME-I Competencies

VI.A. Patient Care

Fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Fellows must demonstrate proficiency in:

VI.A.1. the practice of health promotion, disease prevention, diagnosis, care, and treatment of patients of each gender, from adolescence to old age, during health and all stages of illness;

VI.A.2. assuming continuing responsibility for acutely- and chronically-ill patients with medical oncology disorders in both inpatient and outpatient settings, as well as the natural history of their cancers, and the benefits and adverse effects of their therapies;

VI.A.3. prevention, evaluation, diagnosis, cancer staging, and management of patients with neoplastic disorders of the:

VI.A.3.a) breast;

VI.A.3.b) cancer family syndromes;

VI.A.3.c) central nervous system;

VI.A.3.d) gastrointestinal tract (esophagus, stomach, colon, rectum, anus);

VI.A.3.e) genitourinary tract;

VI.A.3.f) gynecologic malignancies;

VI.A.3.g) head and neck;

VI.A.3.h) hematopoietic system;

VI.A.3.i) liver;

VI.A.3.j) lung;

VI.A.3.k) lymphoid organs;

- VI.A.3.l) pancreas;
- VI.A.3.m) skin, including melanoma;
- VI.A.3.n) testes; and,
- VI.A.3.o) thyroid and other endocrine organs, including multiple endocrine neoplasia (MEN) syndromes.

- VI.A.4. assessment of tumor burden (and response as measured by physical and radiologic exam) and tumor markers;
- VI.A.5. assessment of tumor imaging by CT, MRI, PET scanning, and nuclear imaging techniques;
- VI.A.6. care and management of the geriatric patient with malignancy and hematologic disorders;
- VI.A.7. care and management of venous access devices;
- VI.A.8. care of patients with human immunodeficiency virus (HIV)-related malignancies;
- VI.A.9. correlation of clinical information with cytology, histology, and immunodiagnostic imaging techniques;
- VI.A.10. indications and application of imaging techniques in patients with neoplastic disorders;
- VI.A.11. intrathecal administration of chemotherapeutic agents;
- VI.A.12. management of pain, anxiety, and depression in patients with cancer;
- VI.A.13. management of the neutropenic and the immunocompromised patient;
- VI.A.14. palliative care, including hospice and home care;
- VI.A.15. performance of bone marrow aspiration and biopsy;
- VI.A.16. performance of lumbar puncture and interpreting cerebrospinal fluid;
- VI.A.17. performance of thoracentesis, paracentesis, skin and lesion biopsies;
- VI.A.18. rehabilitation and psychosocial care of patients with cancer;
- VI.A.19. specific cancer prevention and screening for high-risk individuals, including genetic testing;
- VI.A.20. treatment and diagnosis of recognition and management of paraneoplastic disorders;

- VI.A.21. use of chemotherapeutic agents and biological products through all therapeutic routes;
- VI.A.22. use of chemotherapeutic drugs, biologic products, and growth factors, their mechanisms of action, pharmacokinetics, clinical indications, and limitations, including their effects, toxicity, and interactions;
- VI.A.23. use of hematologic, infectious disease, and nutrition support; and,
- VI.A.24. use of multi-agent chemotherapeutic protocols and combined modality therapy of neoplastic disorders.

VI.B. Medical Knowledge

Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care. Fellows must demonstrate proficiency in knowledge of:

- VI.B.1. the scientific method of problem solving and evidence-based decision making;
- VI.B.2. indications, contraindications, and techniques for, and limitations, complications, and interpretation of results of those diagnostic and therapeutic procedures integral to the discipline, including the appropriate indications for and use of screening tests and procedures;
- VI.B.3. pathogenesis, diagnosis, and treatment of disease, including:
 - VI.B.3.a) basic molecular and pathophysiologic mechanisms, diagnosis, and therapy of diseases of the blood, to include anemias, diseases of white blood cells and stem cells, and disorders of hemostasis and thrombosis; and,
 - VI.B.3.b) etiology, epidemiology, natural history, diagnosis, pathology, staging, and management of neoplastic diseases of the blood, blood-forming organs, and lymphatic tissues.
- VI.B.4. genetics and developmental biology, including:
 - VI.B.4.a) cytogenetics;
 - VI.B.4.b) molecular genetics; and,
 - VI.B.4.c) the nature of oncogenes and their products.
- VI.B.5. physiology and pathophysiology, including:
 - VI.B.5.a) basic and clinical pharmacology, pharmacokinetics, and toxicity;
 - VI.B.5.b) cell and molecular biology;

- VI.B.5.c) hematopoiesis;
- VI.B.5.d) molecular mechanisms of hematopoietic and lymphopoietic malignancies;
- VI.B.5.e) pathophysiology and patterns of tumor metastases;
- VI.B.5.f) principles of oncogenesis; and,
- VI.B.5.g) tumor immunology.
- VI.B.6. clinical epidemiology and biostatistics, including clinical study and experimental protocol design, data collection, and analysis;
- VI.B.7. the basic principles of laboratory and clinical testing, quality control, quality assurance, and proficiency standards;
- VI.B.8. immune markers, immunophenotyping, flow cytometry, cytochemical studies, and cytogenetic and DNA analysis of neoplastic disorders;
- VI.B.9. malignant and hematologic complications of organ transplantation;
- VI.B.10. gene therapy;
- VI.B.11. principles of, indications for, and limitations of:
 - VI.B.11.a) surgery in the treatment of cancer; and,
 - VI.B.11.b) radiation therapy in the treatment of cancer.
- VI.B.12. principles of, indications for, and complications of autologous and allogeneic bone marrow or peripheral blood stem cell transplantation;
- VI.B.13. principles of, indications for, and complications of peripheral stem cell harvests;
- VI.B.14. management of post-transplant complications;
- VI.B.15. indications for, complications of, and risks and limitations associated with:
 - VI.B.15.a) lesion biopsies;
 - VI.B.15.b) lumbar puncture;
 - VI.B.15.c) paracentesis;
 - VI.B.15.d) skin biopsies; and,
 - VI.B.15.e) thoracentesis.

VI.B.16. mechanisms of action, pharmacokinetics, clinical indications for, and limitations of chemotherapeutic drugs, biologic products, and growth factors, including their effects, toxicity, and interactions.

VI.C. Practice-based Learning and Improvement

Fellows must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.

VI.D. Interpersonal and Communication Skills

Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. Fellows must demonstrate:

VI.D.1. team leadership skills and the ability to work with an interdisciplinary team by:

VI.D.1.a) identifying essential team members;

VI.D.1.b) defining the roles of team members; and,

VI.D.1.c) evaluating the role of the interdisciplinary team.

VI.E. Professionalism

Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Fellows must demonstrate:

VI.E.1. personal development, attitudes, and coping skills of physicians who care for critically-ill patients.

VI.F. Systems-based Practice

Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.