

ACGME Program Requirements for Graduate Medical Education in Musculoskeletal Oncology

One-year Common Program Requirements are in BOLD

Effective: July 1, 2008

Introduction

Int.A. Residency and fellowship programs are essential dimensions of the transformation of the medical student to the independent practitioner along the continuum of medical education. They are physically, emotionally, and intellectually demanding, and require longitudinally-concentrated effort on the part of the resident or fellow.

The specialty education of physicians to practice independently is experiential, and necessarily occurs within the context of the health care delivery system. Developing the skills, knowledge, and attitudes leading to proficiency in all the domains of clinical competency requires the resident and fellow physician to assume personal responsibility for the care of individual patients. For the resident and fellow, the essential learning activity is interaction with patients under the guidance and supervision of faculty members who give value, context, and meaning to those interactions. As residents and fellows gain experience and demonstrate growth in their ability to care for patients, they assume roles that permit them to exercise those skills with greater independence. This concept—graded and progressive responsibility—is one of the core tenets of American graduate medical education. Supervision in the setting of graduate medical education has the goals of assuring the provision of safe and effective care to the individual patient; assuring each resident’s and fellow’s development of the skills, knowledge, and attitudes required to enter the unsupervised practice of medicine; and establishing a foundation for continued professional growth.

Int.B. Musculoskeletal oncology is the component of orthopaedic surgery that is focused on the diagnosis and treatment of children and adults with benign and malignant tumors of bone and connective soft tissues. The field also includes the diagnosis, treatment, and palliative care of patients with metastatic carcinoma to the skeleton. Musculoskeletal oncologists work in concert with experts from musculoskeletal radiology, pathology, medical and pediatric oncology, radiotherapy, and surgery to care for patients with sarcomas of bone and soft tissue.

Int.C. Postgraduate fellowship education in orthopaedic surgery is a component in the continuum of the educational process, and such education should take place after completion of an accredited residency. Graduate medical education programs in the subspecialties of orthopaedic surgery will be accredited to offer 12 months of education.

I. Institutions

I.A. Sponsoring Institution

One sponsoring institution must assume ultimate responsibility for the program, as described in the Institutional Requirements, and this responsibility extends to fellow assignments at all participating sites.

The sponsoring institution and the program must ensure that the program director has sufficient protected time and financial support for his or her educational and administrative responsibilities to the program.

- I.A.1. Postgraduate fellowship programs in the subspecialties of orthopaedic surgery may be accredited in institutions which sponsor accredited residency programs in orthopaedic surgery or which are affiliated with an orthopaedic surgery residency accredited by the Accreditation Council for Graduate Medical Education (ACGME). Requests for exceptions to this policy will be reviewed on a case-by-case basis.
- I.A.2. When orthopaedic residents and fellows are being educated in the same institution, the residency director and the fellowship director must jointly prepare and approve a written agreement specifying the educational relationship between the residency and fellowship programs, the roles of the residency and fellowship directors in determining the educational program of residents and fellows, and the roles of the residents and fellows in patient care.
- I.A.3. There must be close monitoring of the relationship between residency and fellowship education. It is imperative that orthopaedic fellowship education not interfere with the education of residents. Lines of responsibility for the orthopaedic resident and the fellow must be clearly defined. In addition, the fellow should maintain a close working relationship with orthopaedic residents and other fellows in orthopaedic surgery and in other disciplines.
- I.A.4. Programs must provide an intellectual environment for acquiring the knowledge, skills, clinical judgment, and attitudes essential to the practice of the subspecialty. This objective can be achieved only when the program director, the supporting faculty and staff, and the administration are fully committed to the educational program and when appropriate resources and facilities are present. Effective graduate education is not achieved when the educational program functions primarily to meet service commitments.

I.B. Participating Sites

- I.B.1. There must be a program letter of agreement (PLA) between the program and each participating site providing a required assignment. The PLA must be renewed at least every five years.**

The PLA should:

- I.B.1.a) identify the faculty who will assume both educational and**

- II.A.3.c) obtain review and approval of the sponsoring institution's GMEC/DIO before submitting to the ACGME information or requests for the following:**
- II.A.3.c).(1) all applications for ACGME accreditation of new programs;**
 - II.A.3.c).(2) changes in fellow complement;**
 - II.A.3.c).(3) major changes in program structure or length of training;**
 - II.A.3.c).(4) progress reports requested by the Review Committee;**
 - II.A.3.c).(5) responses to proposed adverse actions;**
 - II.A.3.c).(6) requests for increases or any change to fellow duty hours;**
 - II.A.3.c).(7) voluntary withdrawal of ACGME-accredited programs;**
 - II.A.3.c).(8) requests for appeal of an adverse action; and,**
 - II.A.3.c).(9) appeal presentations to a Board of Appeal or the ACGME.**
- II.A.3.d) obtain DIO review and co-signature on all program information forms, as well as any correspondence or document submitted to the ACGME that addresses:**
- II.A.3.d).(1) program citations, and/or**
 - II.A.3.d).(2) request for changes in the program that would have significant impact, including financial, on the program or institution.**
- II.B. Faculty**
- II.B.1. There must be a sufficient number of faculty with documented qualifications to instruct and supervise all fellows.**
- II.B.1.a) There must be at least two physician faculty members with experience in musculoskeletal oncology who are actively involved in the instruction and supervision of fellows during the 12 months of accredited education.**
- II.B.2. The faculty must devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities and demonstrate a strong interest in the education of fellows.**

II.B.3. The physician faculty must have current certification in the specialty by the American Board of Orthopaedic Surgery, or possess qualifications acceptable to the Review Committee.

II.B.4. The physician faculty possess current medical licensure and appropriate medical staff appointment.

II.C. Other Program Personnel

The institution and the program must jointly ensure the availability of all necessary professional, technical, and clerical personnel for the effective administration of the program.

II.D. Resources

The institution and the program must jointly ensure the availability of adequate resources for fellow education, as defined in the specialty program requirements.

II.D.1. A sufficient number of new and follow-up patients must be available to ensure adequate inpatient and outpatient experience for each fellow without adversely diluting the educational experience of the orthopaedic surgery residents or the educational experience of residents in other specialties.

II.D.2. There should be broad support from other clinical specialties, including diagnostic radiology, pediatrics, nuclear medicine, pathology, psychiatry, surgery and its subspecialties, radiation oncology, and medical oncology. Support of oncologic nursing, rehabilitation, nutrition, dietetic counseling, and social services, as well as physical and occupational rehabilitation is desirable.

II.D.3. Modern facilities to accomplish the overall educational program must be available and functioning. These include inpatient ambulatory care and laboratory resources. Specifically, there should be advanced pathology services and musculoskeletal imaging.

II.D.4. The fellow must have day-to-day access to pathologists and to radiologists with recognized expertise in musculoskeletal pathology and radiology.

II.D.5. On-site radiation and medical oncology facilities and a modern diagnostic radiologic service are necessary.

II.D.6. It is desirable that there be other clinical subspecialties of orthopaedic surgery and general surgery to which the orthopaedic oncology fellow may relate formally, as well as special facilities for musculoskeletal pathology.

II.D.7. There must be a minimum of 300 new patients per fellow of benign and malignant bone and soft-tissue tumors with an appropriate mix of primary

and metastatic lesions to afford the fellow adequate educational experience in musculoskeletal oncology. This experience must include the care of both inpatients and outpatients.

II.D.8. Fellows must have ready access to a major medical library, either at the institution where the fellows are located or through arrangement with convenient nearby institutions.

II.D.9. There must be access at each institution participating in the program to an on-site library or to a collection of appropriate texts and journals. On-site libraries and/or collections of texts and journals must be readily available during nights and weekends.

II.E. Medical Information Access

Fellows must have ready access to specialty-specific and other appropriate reference material in print or electronic format. Electronic medical literature databases with search capabilities should be available.

III. Fellow Appointments

III.A. Eligibility Criteria

Each fellow must successfully complete an ACGME-accredited specialty program and/or meet other eligibility criteria as specified by the Review Committee. The program must document that each fellow has met the eligibility criteria.

III.A.1. The program should be committed to promoting the inclusion of qualified women and under-represented minorities in the profession through its recruiting.

III.B. Number of Fellows

The program director may not appoint more fellows than approved by the Review Committee, unless otherwise stated in the specialty-specific requirements. The program's educational resources must be adequate to support the number of fellows appointed to the program.

IV. Educational Program

IV.A. The curriculum must contain the following educational components:

IV.A.1. Skills and competencies the fellow will be able to demonstrate at the conclusion of the program. The program must distribute these skills and competencies to fellows and faculty annually, in either written or electronic form. These skills and competencies should be reviewed by the fellow at the start of each rotation;

IV.A.2. ACGME Competencies

The program must integrate the following ACGME competencies into the curriculum:

- IV.A.2.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.
- IV.A.2.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.
- IV.A.2.c) Practice-based Learning and Improvement**
- Fellows are expected to develop skills and habits to be able to meet the following goals:
- IV.A.2.c).(1)** systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement; and,
- IV.A.2.c).(2)** locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.
- IV.A.2.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.
- IV.A.2.e) Professionalism**
- Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.
- IV.A.2.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.
- IV.A.3.** The program must provide training to develop clinical competence in the

overall field of musculoskeletal oncology. Examples of knowledge and skill that are desirable include, but are not limited to, the following:

- IV.A.3.a) the natural history of musculoskeletal neoplasia;
- IV.A.3.b) a knowledge and understanding of musculoskeletal surgical pathology and diagnostic radiology;
- IV.A.3.c) the management of treatment protocols;
- IV.A.3.d) a knowledge of the indications for and limitations of surgery, radiation therapy, and chemotherapy in the treatment of musculoskeletal neoplasms;
- IV.A.3.e) a knowledge of the methodology and techniques to perform creditable clinical and/or basic research in musculoskeletal oncology, to include epidemiology and statistics and design of clinical trials; and,
- IV.A.3.f) the acquisition of teaching skills in musculoskeletal pathology and oncology.

IV.A.4. Didactic Components

- IV.A.4.a) The academic component must emphasize a scholarly approach to clinical problem solving, self-directed study, teaching, development of analytic skills and surgical judgment, and research.
- IV.A.4.b) The educational program must be based on a core curriculum that ensures appropriate instruction in the basic concepts of oncogenesis and molecular oncology, adult and pediatric oncology, immunology, and radiation oncology.
- IV.A.4.c) There should be a multi-disciplinary tumor conference involving pathologists and radiologists, as well as radiation, medical, and pediatric oncologists.
- IV.A.4.d) Fellows and faculty members must participate in a journal club which reviews current literature in medical, pediatric, and radiation oncology on at least a monthly basis.
- IV.A.4.e) Didactic activity should include the evaluation of practices that ensure and improve patient safety as well as instruction in established patient safety measures.

IV.A.5. Clinical Components

- IV.A.5.a) The technical component should ensure the ability of the fellow to perform skillfully the procedures required for practice of the subspecialty.

- IV.A.5.b) The program must offer supervised training in operative and other technical skills integral to musculoskeletal oncology. Instruction and experience must be sufficient for the fellow to understand the indications, risks, and limitations of the commonly performed procedures in the subspecialty.
- IV.A.5.c) Fellows must have the opportunity to provide consultation with faculty supervision, and should have clearly-defined educational responsibilities for residents, medical students, and allied health personnel. These teaching experiences should correlate basic biomedical knowledge with the clinical aspects of the subspecialty.
- IV.A.5.d) Clinical experience must include opportunities to observe and to manage patients with a wide variety of clinical orthopaedic oncologic problems on both an inpatient and outpatient basis.
- IV.A.5.e) The fellow must be given an opportunity to assume continuing responsibility for both acutely- and chronically-ill patients in order to learn the natural history of musculoskeletal neoplasia as well as the effectiveness of therapeutic programs. Fellow education must provide sufficient opportunity for independent clinical decision-making so that the program director and faculty are ensured that the graduating fellow has achieved the ability to make sound clinical decisions.

IV.B. Fellows' Scholarly Activities

- IV.B.1. Fellows must participate in basic and/or clinical hypothesis-based research.
- IV.B.2. Fellows must learn to design, implement, and interpret research studies under supervision by qualified faculty members.
- IV.B.3. The program must provide scheduled and protected time and facilities for research activities by fellows.

V. Evaluation

V.A. Fellow Evaluation

V.A.1. Formative Evaluation

- V.A.1.a) The faculty must evaluate fellow performance in a timely manner.**
- V.A.1.b) The program must:**
- V.A.1.b).(1) provide objective assessments of competence in patient care, medical knowledge, practice-based learning and improvement, interpersonal and**

VI. Fellow Duty Hours in the Learning and Working Environment

VI.A. Professionalism, Personal Responsibility, and Patient Safety

- VI.A.1. Programs and sponsoring institutions must educate fellows and faculty members concerning the professional responsibilities of physicians to appear for duty appropriately rested and fit to provide the services required by their patients.**
- VI.A.2. The program must be committed to and responsible for promoting patient safety and fellow well-being in a supportive educational environment.**
- VI.A.3. The program director must ensure that fellows are integrated and actively participate in interdisciplinary clinical quality improvement and patient safety programs.**
- VI.A.4. The learning objectives of the program must:**
- VI.A.4.a) be accomplished through an appropriate blend of supervised patient care responsibilities, clinical teaching, and didactic educational events; and,**
 - VI.A.4.b) not be compromised by excessive reliance on fellows to fulfill non-physician service obligations.**
- VI.A.5. The program director and sponsoring institution must ensure a culture of professionalism that supports patient safety and personal responsibility. Fellows and faculty members must demonstrate an understanding and acceptance of their personal role in the following:**
- VI.A.5.a) assurance of the safety and welfare of patients entrusted to their care;**
 - VI.A.5.b) provision of patient- and family-centered care;**
 - VI.A.5.c) assurance of their fitness for duty;**
 - VI.A.5.d) management of their time before, during, and after clinical assignments;**
 - VI.A.5.e) recognition of impairment, including illness and fatigue, in themselves and in their peers;**
 - VI.A.5.f) attention to lifelong learning;**
 - VI.A.5.g) the monitoring of their patient care performance improvement indicators; and,**
 - VI.A.5.h) honest and accurate reporting of duty hours, patient**

outcomes, and clinical experience data.

VI.A.6. All fellows and faculty members must demonstrate responsiveness to patient needs that supersedes self-interest. Physicians must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient's care to another qualified and rested provider.

VI.B. Transitions of Care

VI.B.1. Programs must design clinical assignments to minimize the number of transitions in patient care.

VI.B.2. Sponsoring institutions and programs must ensure and monitor effective, structured hand-over processes to facilitate both continuity of care and patient safety.

VI.B.3. Programs must ensure that fellows are competent in communicating with team members in the hand-over process.

VI.B.4. The sponsoring institution must ensure the availability of schedules that inform all members of the health care team of attending physicians and fellows currently responsible for each patient's care.

VI.C. Alertness Management/Fatigue Mitigation

VI.C.1. The program must:

VI.C.1.a) educate all faculty members and fellows to recognize the signs of fatigue and sleep deprivation;

VI.C.1.b) educate all faculty members and fellows in alertness management and fatigue mitigation processes; and,

VI.C.1.c) adopt fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning, such as naps or back-up call schedules.

VI.C.2. Each program must have a process to ensure continuity of patient care in the event that a fellow may be unable to perform his/her patient care duties.

VI.C.3. The sponsoring institution must provide adequate sleep facilities and/or safe transportation options for fellows who may be too fatigued to safely return home.

VI.D. Supervision of Fellows

VI.D.1. In the clinical learning environment, each patient must have an identifiable, appropriately-credentialed and privileged attending physician (or licensed independent practitioner as approved by each

Review Committee) who is ultimately responsible for that patient's care.

A licensed independent practitioner may include non-physician faculty working in conjunction with the orthopaedic surgery department.

- VI.D.1.a) This information should be available to fellows, faculty members, and patients.**
- VI.D.1.b) Fellows and faculty members should inform patients of their respective roles in each patient's care.**
- VI.D.2. The program must demonstrate that the appropriate level of supervision is in place for all fellows who care for patients.**

Supervision may be exercised through a variety of methods. Some activities require the physical presence of the supervising faculty member. For many aspects of patient care, the supervising physician may be a more advanced fellow. Other portions of care provided by the fellow can be adequately supervised by the immediate availability of the supervising faculty member or fellow physician, either in the institution, or by means of telephonic and/or electronic modalities. In some circumstances, supervision may include post-hoc review of fellow-delivered care with feedback as to the appropriateness of that care.
- VI.D.3. Levels of Supervision**

To ensure oversight of fellow supervision and graded authority and responsibility, the program must use the following classification of supervision:
- VI.D.3.a) Direct Supervision – the supervising physician is physically present with the fellow and patient.**
- VI.D.3.b) Indirect Supervision:**
 - VI.D.3.b).(1) with direct supervision immediately available – the supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision.**
 - VI.D.3.b).(2) with direct supervision available – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision.**
- VI.D.3.c) Oversight – the supervising physician is available to provide review of procedures/encounters with feedback provided**

after care is delivered.

VI.D.4. The privilege of progressive authority and responsibility, conditional independence, and a supervisory role in patient care delegated to each fellow must be assigned by the program director and faculty members.

VI.D.4.a) The program director must evaluate each fellow's abilities based on specific criteria. When available, evaluation should be guided by specific national standards-based criteria.

VI.D.4.b) Faculty members functioning as supervising physicians should delegate portions of care to fellows, based on the needs of the patient and the skills of the fellows.

VI.D.4.c) Fellows should serve in a supervisory role of residents or junior fellows in recognition of their progress toward independence, based on the needs of each patient and the skills of the individual fellow.

VI.D.5. Programs must set guidelines for circumstances and events in which fellows must communicate with appropriate supervising faculty members, such as the transfer of a patient to an intensive care unit, or end-of-life decisions.

VI.D.5.a) Each fellow must know the limits of his/her scope of authority, and the circumstances under which he/she is permitted to act with conditional independence.

VI.D.6. Faculty supervision assignments should be of sufficient duration to assess the knowledge and skills of each fellow and delegate to him/her the appropriate level of patient care authority and responsibility.

VI.E. Clinical Responsibilities

The clinical responsibilities for each fellow must be based on PGY-level, patient safety, fellow education, severity and complexity of patient illness/condition and available support services.

VI.F. Teamwork

Fellows must care for patients in an environment that maximizes effective communication. This must include the opportunity to work as a member of effective interprofessional teams that are appropriate to the delivery of care in the specialty.

VI.G. Fellow Duty Hours

VI.G.1. Maximum Hours of Work per Week

Duty hours must be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities and all moonlighting.

VI.G.1.a) Duty Hour Exceptions

A Review Committee may grant exceptions for up to 10% or a maximum of 88 hours to individual programs based on a sound educational rationale.

VI.G.1.a).(1) In preparing a request for an exception the program director must follow the duty hour exception policy from the ACGME Manual on Policies and Procedures.

VI.G.1.a).(2) Prior to submitting the request to the Review Committee, the program director must obtain approval of the institution's GMEC and DIO.

VI.G.2. Moonlighting

VI.G.2.a) Moonlighting must not interfere with the ability of the fellow to achieve the goals and objectives of the educational program.

VI.G.2.b) Time spent by fellows in Internal and External Moonlighting (as defined in the ACGME Glossary of Terms) must be counted towards the 80-hour Maximum Weekly Hour Limit.

VI.G.3. Mandatory Time Free of Duty

Fellows must be scheduled for a minimum of one day free of duty every week (when averaged over four weeks). At-home call cannot be assigned on these free days.

VI.G.4. Maximum Duty Period Length

Duty periods of fellows may be scheduled to a maximum of 24 hours of continuous duty in the hospital. Programs must encourage fellows to use alertness management strategies in the context of patient care responsibilities. Strategic napping, especially after 16 hours of continuous duty and between the hours of 10:00 p.m. and 8:00 a.m., is strongly suggested.

VI.G.4.a) It is essential for patient safety and fellow education that effective transitions in care occur. Fellows may be allowed to remain on-site in order to accomplish these tasks; however, this period of time must be no longer than an additional four hours.

VI.G.4.b) Fellows must not be assigned additional clinical responsibilities after 24 hours of continuous in-house duty.

VI.G.4.c) In unusual circumstances, fellows, on their own initiative, may remain beyond their scheduled period of duty to continue to provide care to a single patient. Justifications for such extensions of duty are limited to reasons of required continuity for a severely ill or unstable patient, academic importance of the events transpiring, or humanistic attention to the needs of a patient or family.

VI.G.4.c).(1) Under those circumstances, the fellow must:

VI.G.4.c).(1).(a) appropriately hand over the care of all other patients to the team responsible for their continuing care; and,

VI.G.4.c).(1).(b) document the reasons for remaining to care for the patient in question and submit that documentation in every circumstance to the program director.

VI.G.4.c).(2) The program director must review each submission of additional service, and track both individual fellow and program-wide episodes of additional duty.

VI.G.5. Minimum Time Off between Scheduled Duty Periods

VI.G.5.a) Fellows must be prepared to enter the unsupervised practice of medicine and care for patients over irregular or extended periods.

Fellows in the subspecialties of orthopaedic surgery are considered to be in the final years of education.

VI.G.5.a).(1) This preparation must occur within the context of the 80-hour, maximum duty period length, and one-day-off-in-seven standards. While it is desirable that fellows have eight hours free of duty between scheduled duty periods, there may be circumstances when these fellows must stay on duty to care for their patients or return to the hospital with fewer than eight hours free of duty.

VI.G.5.a).(1).(a) Circumstances of return-to-hospital activities with fewer than eight hours away from the hospital by fellows must be monitored by the program director.

VI.G.5.a).(1).(b) The Review Committee defines such circumstances as: required continuity of care for a severely ill or unstable patient, or a complex patient with whom the fellow has been involved; events of

exceptional educational value; or, humanistic attention to the needs of a patient or family.

VI.G.6. Maximum Frequency of In-House Night Float

Fellows must not be scheduled for more than six consecutive nights of night float.

VI.G.6.a) Night float may not exceed three months per year.

VI.G.7. Maximum In-House On-Call Frequency

Fellows must be scheduled for in-house call no more frequently than every-third-night (when averaged over a four-week period).

VI.G.8. At-Home Call

VI.G.8.a) Time spent in the hospital by fellows on at-home call must count towards the 80-hour maximum weekly hour limit. The frequency of at-home call is not subject to the every-third-night limitation, but must satisfy the requirement for one-day-in-seven free of duty, when averaged over four weeks.

VI.G.8.a).(1) At-home call must not be so frequent or taxing as to preclude rest or reasonable personal time for each fellow.

VI.G.8.b) Fellows are permitted to return to the hospital while on at-home call to care for new or established patients. Each episode of this type of care, while it must be included in the 80-hour weekly maximum, will not initiate a new “off-duty period”.

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