

PEDIATRIC ORTHOPAEDIC SERVICE

The Accreditation Council for Graduate Medical Education requires the educational program to provide a curriculum that must contain the following educational components to its Trainees; overall educational goals for the program, competency-based goals and objectives for each assignment (at each education level), delineation of responsibilities for patient care, progressive responsibility for patient management, and supervision of residents over the continuum of the program.

As required by the ACGME, please find enclosed overall educational goals for the program, service competency-based goals and objectives, and delineated lines of responsibility.

- Goals and Objectives
 - Overall Educational Goals for the Program
 - Service Competency-based Goals and Objectives
 - Patient Care
 - Medical Knowledge
 - Practice-based Learning and Improvement
 - Interpersonal and Communication Skills
 - Professionalism
 - Systems-based Practice
- Delineated Lines of Responsibility
 - Outpatient Clinic
 - Inpatient
 - Operative
 - Emergency
- Supervision
 - Purpose
 - Definitions
 - Attending Physician Responsibilities
 - Graduate Medical Trainee Responsibilities

PEDIATRIC ORTHOPAEDIC SERVICE
OVERALL EDUCATIONAL GOALS

The Duke Orthopaedic Program enables the orthopaedic trainee to obtain adequate clinical and surgical skills in all areas of orthopaedic surgery for medical practice in the specialty in either an academic or community practice. This training occurs over a five-year period and is hospital based and defined by a curriculum that includes patient care on the wards, in the clinics, in the emergency department, and in the operating room. Progressive responsibility is accomplished in keeping with individual knowledge, skills and performance, always stressing safety and appropriate care of patients. Faculty members provide daily and continuous supervision, which is a mainstay of the Program. The faculty members' full time clinical practices are on site, and rotation assignments are arranged so that trainees have experience in all subspecialty areas of orthopaedic surgery. Research opportunities abound, with most of the faculty involved in laboratory and clinical research and providing guidance for project selection, completion, and adequate funding support. Ongoing and continuing medical education is assured and accomplished by at least eight hours of teaching conferences each week, attended by faculty, trainees, students and allied health personnel. The Duke orthopaedic trainee has daily and continuous contact with the faculty in the clinics, operative theater, ward rounds, teaching conferences, and individual rotation conferences.

Success is monitored by faculty observance of clinical performance, faculty evaluations on each resident every three months, weekly presentations at conferences, performance on yearly in-training examinations, success in obtaining top post-training fellowships, and performance on specialty Board examinations. Each Chief Resident must complete a written thesis on an orthopaedic topic, which is presented and judged at a symposium prior to graduation from the Program.

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GOALS AND OBJECTIVES

Patient Care

Senior Resident(s) (PGY-4)

- Demonstrates competency with initial patient care and clinical skills needed to facilitate adequate evaluation, diagnosis, and treatment of pediatric orthopaedic patients in the emergency room setting, the clinic, and the operating room. This will include musculoskeletal complaints in traumatic, infectious, congenital, idiopathic, and inflammatory etiologies.
- Able to evaluate what imaging studies are most appropriate in evaluating patients with traumatic, infectious, inflammatory, congenital, and idiopathic pathologies.
- Competently prepares patients and manages patient care through both simple and complex surgical treatment, assessing patient safety and comfort and establishes a meaningful discharge plan.
- Reports to the attending surgeon his/her findings and/or treatment rendered regarding their daily functions on the nursing divisions and emergency room regarding patient progress and/or problems, consultations, and treatment rendered.
- Demonstrates basic skills of closed treatment necessary to provide satisfactory care of patients with traumatic injury both in the emergency room and the outpatient clinic. This includes such injuries as hand, forearm, elbow, humerus, clavicle, upper extremity, foot, ankle, and tibia fractures of the lower extremity.
- Demonstrates basic surgical skills essential to performing closed and open surgical treatment of patients with traumatic and inflammatory pathology. This includes performing and assisting percutaneous fixation of open fractures and fixation of applicable fractures of the ankle, tibia, femur, and forearm using the Ilizarov and Taylor frame techniques as appropriate. This also includes incision and debridement of open fractures of long bones and incision and drainage of septic processes of the ankle and knee.
- Demonstrates competency in taking a detailed history, complete appropriate and accurate physical examination, ordering and reviewing appropriate imaging and diagnostic studies to allow integration of information to formulate a diagnosis and treatment plan.
- In the second half of the rotation (3 months) demonstrates advanced technology skills that allow participation as the lead surgeon with attending assistance in the surgical treatment of patients with pediatric orthopaedic pathology of both minor and major complexity secondary to all possible etiologies.
- Demonstrates ability to anticipate inpatient as well as outpatient
- Care needs and a comprehensive plan for post discharge management and rehabilitative care of the patient.
- Demonstrates skills sufficient to apply corrective casts for congenital or development deformities of the upper and lower extremities as needed in the surgical management of brachial plexus deformity, flexion deformity of the knee, clubfoot deformity, DDH, and Perthes disease.
- Demonstrates a knowledge of and treatment plan approaches to neoplastic conditions in pediatric orthopaedics.

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- Manage hip dysplasia in the child utilizing both closed and open technique to include open reduction with or without femur or pelvic osteotomy.
- Treat Calve-Perthes disease and slipped capital femoral epiphyses either surgical or nonsurgical techniques.
- Demonstrate the ability to assess diagnosis and plan non-operative as well as operative treatment of spinal deformity.
- Demonstrates ability to utilize orthotics in the treatment of spinal deformities.
- Demonstrate the ability to surgically approach and master instrumentation of development spinal disorders.
- Demonstrate the ability to perform both closed and open treatment deformities about the foot and ankle, specifically that involving congenital clubfoot, flat foot, and cavus foot deformities.
- Demonstrates a working knowledge of treatment skills in treating musculoskeletal aspects of neuromuscular disease such as static encephalopathy, arthrogryposis, and primary muscle diseases.
- Demonstrates the ability to perform osteotomies on long bones stabilizing the same with external fixator, Ilizarov, or Taylor frames or internal fixation.

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Medical Knowledge

Senior Resident(s) (PGY-4)

- Accurately interprets imaging studies in carrying for patients in the emergency department, patient clinic, and in the operating room.
- Demonstrates knowledge of the anatomy of both the upper and lower extremity to sufficiently evaluate and provide definitive emergency room and outpatient pediatric trauma care both soft tissue and osseous tissues of all aspects of the same.
- Knowledge to sufficiently allow the resident to be an effective assistant in the surgical treatment of rheumatic and septic processes in all areas of pediatric orthopaedics.
- Demonstrates a working knowledge of closed and open surgical treatment of all types of pediatric orthopaedic pathology.
- Demonstrates understanding of the various surgical approaches in treating common pediatric orthopaedic conditions.
- Demonstrates progressive improvement in the depth of knowledge in all aspects of pediatric orthopaedic care being provided on the service. This should include awareness of differential diagnoses and in depth knowledge of pathoanatomy, variable treatment approaches and the ability to consistently select a most appropriate approach for a particular patient in question.
- Successfully complete the OKU Specialty Series for Pediatric Orthopaedics.
- Successfully complete the OKU Specialty Series Self-Assessment Examination for Pediatric Orthopaedics.
- Complete the AAOS Monograph series of Legg-Calve-Perthes Disease, Slipped Capital Femoral Epiphysis, Operative Management of Lower Extremity Fractures in Children, and Operative Management of Upper Extremity Fractures in Children.
- Successfully complete the reading reference list for pediatric orthopaedics.

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Practice-based Learning and Improvement

Senior Resident(s) (PGY-4)

- Prepare for and present twice monthly pediatric orthopaedic subjects at Grand Rounds.
- Prepare for and participate in weekly Pediatric Subspecialty Conferences.
- Complete the AAOS Monograph series of Legg-Calve-Perthes Disease, Slipped Capital Femoral Epiphysis, Operative Management of Lower Extremity Fractures in Children, and Operative Management of Upper Extremity Fractures in Children.
- Able to locate, appraise, and assimilate evidence for scientific studies related to patient health issues.
- Able to obtain and use information about his/her patient population and the larger population for which patients are drawn.
- Able to apply knowledge of study designs and statistical methods to the appraisal of clinical studies.
- Able to use information technology to assess on-line medical information and support his/her own education.
- Participate in the monthly Pediatric Journal Club.

Interpersonal and Communication Skills

Senior Resident(s) (PGY-4)

- Demonstrates the understanding and importance of family dynamics assuring both patient and parents that the child's care is of the utmost concern to the resident and the team when dealing with patients. In so doing the resident will demonstrate skills necessary to assure a sense of comfort in the parent's part that everything reasonable and possible is being done at all times to facilitate care of their child.
- Able to effectively provide information via various information technologies.
- Able to work effectively with others as a member or leader of the health care team.
- Personally and professionally interacts with the hospital staff, house officers, and attending staff.
- Displays effective communication skills when informing children of upcoming events and assisting children throughout such events.
- Demonstrates ability to keep the family informed of planned treatment and possibilities of outcome in such a way that the family can readily comprehend the essentials of the pathology and the planned treatment.

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Professionalism

Senior Resident(s) (PGY-4)

- Demonstrate respect, compassion, and integrity in response to the needs of patients and their families.
- Demonstrates a commitment to excellence and ongoing professional development.
- Demonstrates ethical principles pertaining to patient confidentiality issues.
- Demonstrates sensitivity to culture, age, gender, and disabilities of patients and fellow health care professionals.

Systems-based Practice

Senior Resident(s) (PGY-4)

- Possess the ability to readily interact with all important ancillary services necessary to provide orthopaedic care to the pediatric patient. This would include the physical therapist, occupational therapist, rehabilitation therapist, social workers, and in particular the nursing staff of the emergency room, the operating room, and the ward.
- Demonstrates competency in coordinating all aspects of perioperative and postoperative rehabilitation and physical therapy.
- Demonstrates an understanding of how patient care and other professional practices affect other health care professionals, health care organizations, and the largest society in how these elements of the systems affect one's own practice.
- Demonstrates knowledge of how different types of medical practice and health care delivery systems differ from one another including methods of controlling health care costs and allocating resources.
- Has the opportunity to practice medicine in various health care systems including an academic teaching hospital, Veterans Administration hospital, community hospital, pediatric orthopaedic hospital, and community health department.
- Has understanding of various health funding systems including private insurance, Medicare, Medicaid, Workers Compensation, and Vocational Rehabilitation.
- Practices cost-effective health care and resource allocation that does not compromise quality of care.
- Demonstrates understanding of impact of correct coding during patient office visits and surgery.
- Effectively partners with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.
- Demonstrates the ability to practice culturally competent medicine.

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DELINEATED LINES OF RESPONSIBILITY

Outpatient Clinic

Senior Resident(s) (PGY-4)

- The PGY-4 Resident(s) works directly with the attendings in the clinic in evaluating and treating patients.
- The PGY-4 Resident(s) performs the history, physical examination, and presents these findings to the pediatric orthopaedic attending who will assist the resident in the appropriate disposition.

Inpatient

Senior Resident(s) (PGY-4)

- The PGY-4 Resident(s) is responsible for twice daily rounding on both the inpatients and pediatric orthopaedic consults.
- The PGY-4 Resident(s) reports directly to the pediatric orthopaedic attending(s).

Operative

Senior Resident(s) (PGY-4)

- In the operating room the PGY-4 Resident(s) responsibilities include assisting the pediatric orthopaedic attending surgeon(s) in surgery, performing surgery under the direct supervision of the attending.

Emergency

Senior Resident(s) (PGY-4)

- The PGY-4 Resident alternates on-call with the second PGY-4 Resident in seeing patients and both evaluating and definitively treating pediatric musculoskeletal trauma as appropriate. These activities will be directly supervised by the Trauma Chief Resident and/or trauma attending as well as the pediatric orthopaedic attending as appropriate.

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SUPERVISION

Purpose

- The training of graduate medical trainee physicians is a core mission of Duke Hospital, the Duke University School of Medicine and Health System. Graduate Medical Trainees must be supervised by teaching staff in such a way that trainees assume progressively increasing responsibility according to their level of education, ability, and experience. This document describes the principles and general guidelines for the supervision of trainees in the Duke University Health System. Individual graduate medical training programs may require additional supervision, and the guidelines for supervision in such programs will be described in their separate program documents. The education of graduate medical trainees requires a partnership of teaching physicians, teaching hospitals, and educational organizations. The policies outlined here provide a framework into which are integrated the pertinent policies of the Private Diagnostic Clinic (PDC), the bylaws of Duke University Hospital, and the standards of educational accrediting agencies. In addition to providing an environment for outstanding trainee education and clinical experience, these policies are expected to support the goal of delivering high quality patient care.

Definitions

- **Attending Physician:** A licensed independent practitioner who holds admitting and/or attending Physician privileges consistent with the requirements delineated in the Bylaws, Rules and Regulations of the Medical Staff of Duke University Hospital or with the requirements delineated in the governing regulations of the assigned and approved off-site healthcare entity.
- **Trainee:** A physician who participates in an approved graduate medical education (GME) program. The term includes interns, residents, and fellows in GME programs approved by the Duke Institutional Committee on Graduate Medical Education. (A medical student is never considered a graduate medical trainee).

Attending Physician Responsibilities

- In hospitals participating in a professional graduate medical education program(s), the medical staff has a defined process for supervision of each participant in the program(s) in carrying out patient care responsibilities. Such supervision will be provided by an attending physician with appropriate clinical privileges, with the expectation that the graduate medical trainee will develop into a practitioner who has the knowledge, skills and experience and abilities to provide care to the patients with the disease states applicable to his/her training program.
- The medical staff has overall responsibility for the quality of the professional services provided by individuals with clinical responsibilities. In a hospital, the management of each patient's care (including patients under the care of participants in professional graduate medical education programs) is the responsibility of a member of the medical staff with appropriate clinical privileges. Therefore, the medical staff assures that each participant in a professional graduate medical education program is supervised in his/her patient care responsibilities by a member of the medical staff who has been granted clinical privileges through the medical staff process.
- Each Program Training Director is responsible for providing written descriptions of the role, responsibilities, and patient care activities of participants in professional graduate medical education programs to the medical staff. It is the obligation of each attending physician to be knowledgeable of these responsibilities.
- The position of attending physician entails the dual roles of providing quality patient care and effective clinical teaching. Although some of this teaching is conducted in the classroom setting, the majority of it is through direct contact, mentoring, and role modeling with trainees. All patients

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seen by the trainee will have an assigned attending physician. The attending physician is expected to:

- Exercise control over the care rendered to each patient under the care of a resident, either through direct personal care of the patient or through supervision of medical trainees and/or medical personnel.
- Document the degree of participation according to existing hospital policies.
- Effectively role model safe, effective, efficient and compassionate patient care and provide timely
- Documentation to program directors required for trainee assessment and evaluation as mandated by the program's Residency Review Committee (RRC), where applicable.
- Participate in the educational activities of the training programs, and as appropriate, participate in institutional orientation programs, educational programs, and performance improvement teams, and institutional and departmental educational committees.
- Review and co-sign the history and physical within 24 hours,
- Review progress notes, and sign procedural and operative notes and discharge summaries.
- In general, the degree of attending involvement in patient care will be commensurate with the type of care that the patient is receiving and the level of training, education and experience of any medical trainee(s) involved in the patient's care.
- The intensity of supervision required is not the same under all circumstances; it varies by specialty, level of training, the experience and competency of the individual trainee, and the acuity of the specific clinical situation. An Attending may provide less direct personal care of a patient seen for routine care when supervising a senior level trainee, and may provide more direct personal care of a patient receiving complex care when supervising a junior level trainee. An Attending physician may authorize the supervision of a junior trainee by a more senior level trainee based on the attending physician's assessment of the senior level trainee' experience and competence, unless limited by existing or future hospital policies, such as the use of lasers.
- Medical care teams frequently are involved in the management of patients and many different physicians may act as the attending physician at different times during the course of a patient's illness. However, within the medical care team, the faculty attending physician must provide personal and identifiable service to the patient and/or appropriate medical direction of the trainee and when the trainee performs the service as part of the training program experience.
- The following are specific instances in which involvement of the attending physician is required.
- For Inpatient Care:
 - Review the patient's history, the record of examinations and tests, and make appropriate reviews of the patient's progress;
 - Examine the patient within 24 hours of admission, when there is a significant change in patient condition, or as required by good medical care;
 - Confirm or revise the diagnosis and determine major changes in the course of treatment to be followed;
 - Either perform the physician's services required by the patient or supervise the treatment so as to assure that appropriate services are provided by trainees or others, and that the care meets a proper quality level;
 - Be present and ready to perform any service that would be performed by an attending physician in a nonteaching setting. For major surgical or other complex, high-risk medical procedures, the attending physician must be immediately available to assist the trainee who is under the attending physician's direction;

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- Make decision(s) to authorize or deny elective and urgent admissions, discharge from an inpatient status or release from observation or outpatient status;
 - When an in-patient is to be transferred to another service, the attending physician or a designee of the referring service shall inform the patient of the change in service as soon as possible prior to the transfer. The receiving service shall assign a new attending physician who shall accept responsibility for patient care. Confirmation of the transfer to another level of care or acceptance of patients in transfer is the responsibility of the attending physician.
 - An attending physician's decision shall be required to authorize an in-patient's discharge, or release from observation or outpatient status.
 - Issue all "No Code" or DNR orders. "No Code" or DNR orders shall be issued only by an attending physician. In extenuating circumstances the order may be issued by the attending physician verbally, by telephone, while the responsible registered nurse and trainee listen to and witness the verbal-telephone order; such verbal-telephone order shall be signed 2010 - 2011 GME Trainee Manual - 100 - February 2, 2010 within twenty-four hours of issuance by the attending physician.
 - Assure a completed history and physical and a completed, appropriately signed, and witnessed consent form is placed in the patient's record prior to the performance of an operative or invasive procedure involving substantial risk.
 - Assure appropriate documentation is made immediately in the medical record when a procedure is completed on a patient.
- For Outpatient Care:
 - The extent and duration of the attending's physical presence will be variable, depending upon the nature of the patient care situation, the type and complexity of the service. The responsibility or independence given to trainees depends on their knowledge, manual skills and experience as judged by the responsible attending physician. The attending physician supervisor must be designated and available to all sites of training in accordance with Accreditation Council for Graduate Medical Education (ACGME) institutional and program requirements and specific departmental policies.

Graduate Medical Trainee Responsibilities

- Each graduate medical trainee physician must meet or may exceed the qualifications for appointment to Associate member of the Medical Staff of Duke Hospital, whether in an Accreditation Council for Graduate Medical Education (ACGME) or non-ACGME graduate medical education program.
- Graduate Medical Trainees are expected to
 - Participate in care at levels commensurate with their individual degree of advancement within the teaching program and competence, under the general supervision of appropriately privileged attending physicians.
 - Perform their duties in accordance with the established practices, procedures and policies of the institution and those of its programs, clinical departments and other institutions to which the trainee is assigned.
 - Adhere to state licensure requirements, federal and state regulations, risk management and insurance requirements, and occupational health and safety requirements.

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- Fulfill all institutional requirements, such as attending the Graduate Medical Trainee Orientation, maintaining BLS/ACLS certification, completing required instructional exercises, as detailed in their annual Agreement of Appointment.

This policy is consistent with that of Duke's Graduate Medical Education, Associate Dean and DIO; approved by the GMEC (ICGME) and by ECMS October 21, 2002.