

Orthopedics

1. OVERVIEW

This is a eight-week block required rotation during PGY 1 year working directly with staff orthopedists, admitting patients, seeing patients in the outpatient setting and assisting in the operating room.

2. GOALS

The major goals of this rotation are:

- a. To provide regular instruction to surgical residents, which allow them responsibility and experience in caring for patients with orthopedic problems. Instruction, responsibility, and experience allow the development of judgment in clinical skills needed to accurately assess patients, to appropriately utilize and interpret laboratory and diagnostic studies, and to rationally manage patients in pre/post operative phases of care.
- b. To enhance knowledge of the residents in clinical physiology and pathology of orthopedic conditions. This instruction includes the natural history, prevalence, manifestations, differential diagnosis, rational therapy and management of the orthopedic condition. Preventive and rehabilitative features are considered.
- c. To enhance the patient management skills of surgical residents by teaching the following: history taking, physical examination, diagnostic procedures, problem identification and formulation, recording of data, problem-solving skills, and appropriate patient-physician and patient-family relationships.
- d. To enhance knowledge of management of multiple injured patients so that the surgical residents learn the priority of care for severely injured patients with multiple organ system involvement.

3. OBJECTIVES

- a. **Patient Care:** By the completion of this rotation, residents will:
 - i. Understand the indications, risks, and alternatives of these typical orthopedic procedures, and gain experience as available, under direct supervision:
 1. Simple casting and cast management
 2. Splinting and taping of common injuries
 3. Application of traction, including pin traction
 4. Open reduction and fixation of fractures
 5. Joint replacements
 - ii. Be able to properly interpret the following tests
 1. Common bone x-rays
 2. Understand the indications, contraindications and risks of the following procedures. Be able to properly order them when indicated and to discuss the implications of the findings of each of the following:
 - a. Computed tomography
 - b. MRI
 - c. Bone scans
 - iii. Understand the principles of pre- and post-op care for common orthopedic

problems and be able to demonstrate the ability to care for these patients to the satisfaction of the orthopedic staff.

- iv. Demonstrate the ability to recognize common post-operative complications, including wound infections, pneumonia, abnormal bleeding, and to develop a differential diagnosis and plan of care for these common problems.

b. **Medical Knowledge:** By the completion of this rotation, residents will:

- i. Demonstrate knowledge in the evaluation and management of conditions such as:
 1. Pain syndromes of the lower back
 2. Common closed fractures and dislocations
 3. Soft tissue injuries
 4. Degenerative, inflammatory and infectious orthopedic conditions

c. **Practice-based learning:** Residents are expected to

- i. Be able to evaluate own performance,
- ii. Incorporate feedback into improvement activities;
- iii. Effectively use technology to manage information for patient care and self-improvement.

d. **Interpersonal and communication skills:** Residents are expected to:

- i. Create and sustain a therapeutic and ethically sound relationship with patients.
- ii. Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
- iii. Work effectively with others as a member of the orthopedic team.

e. **Professionalism:** Residents are expected to demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- i. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients that supercedes self-interest; accountability to patients; and a commitment to excellence and on-going professional development.
- ii. Demonstrate a commitment to ethical principles pertaining to confidentiality of patient information and informed consent.
- iii. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

f. **Systems-based practice:** Residents are expected to:

- i. Demonstrate understanding of how their patient care and other professional practices affect other health care professionals and the hospital.
- ii. Practice cost-effective health care and demonstrate knowledge of resource allocation that does not compromise quality of care
- iii. Advocate for quality patient care and assist patients and families in dealing with the complexities of the system.

4. CLINICAL EXPERIENCE

The Orthopedic service consists of 2 to 3 residents from the departments of surgery, transitional, family medicine, or emergency medicine, and three full-time staff orthopedists and two part-time orthopedic surgeons. Residents work under the direct supervision of a staff orthopedist. During day time hours, one resident is on call and admits all orthopedic patients and performs consults on any other patients during that period. Surgical residents are expected to take night call from home no more than once a week. Mid-level practitioners will cover the rest of the night-calls. The bulk of instruction occurs during daily patient care rounds and during clinic, which occurs daily.

In-patient care rounds occur at least once a day, seven days a week. Residents are expected to evaluate each in-patient daily, using a comprehensive problem-oriented strategy and develop an assessment and plan of care for the patient for the day.

In the outpatient setting, residents evaluate clinic patients with a variety of orthopedic complaints. Limited, focused, history and physicals are performed by the resident, an evaluation is made and plan of care is discussed as needed with the staff clinic staff orthopedist.

Residents assist in the operating room as needed and/or desired.

5. DIDACTIC COMPONENT

Following a case-based reading approach, residents are expected to utilize resources for self-education. These include general reference surgical textbooks available in the medical library, bound medical and surgical journals in the medical library, and on-line searching capabilities maintained throughout the institution.

Morbidity and mortality conference and surgical grand rounds occur every Wednesday from 4-6pm, and surgical residents on the orthopedic service are expected to attend. In addition, an orthopedic didactic session is given by one of the full-time orthopedic staff every first Thursday at noon. Journal club occurs every other Wednesday after grand rounds. Articles are distributed and discussed. Spontaneous lectures may also occur throughout the month by the staff orthopedist

6. RESPONSIBILITIES

a. Decision making

Residents are expected to, based upon information gathered and the clinical situation, make independent decisions for patient care. These decisions are then reviewed with the staff orthopedist before implementation, at any time, day or night, and at least on daily rounds.

b. Planning

Planning for patient care is done with the staff orthopedist daily on patient rounds.

c. Direct patient care

Residents have direct patient care responsibilities on the orthopedic service with close supervision by the staff orthopedist.

d. Record keeping

The resident responsible for the patient or the covering resident writes daily notes. Restraint, procedural consent, and other forms are to be filled out by the resident in charge of that patient and signatures of staff are obtained as necessary. Appropriate documentation of these procedures occurs at the time of the procedures or daily as is required. Discharge summaries are dictated on all admissions and, if appropriate, sent to that patient's primary care physician.

In the clinic, notes are written by the residents, reviewed and signed by the orthopedic attending. It is the responsibility of the resident to be sure problem lists and medication lists are updated.

Consents for surgery are obtained under direct supervision by the staff orthopedist. Residents are expected to fill out all necessary paperwork to schedule patients for surgery and to get the necessary consultations before, during and after surgery.

e. Order writing

Only the residents or staff orthopedist in charge of the patient writes orders. If you are consulting for a patient on another service, recommendations are made, if needed, by phone, to the service responsible for that patient and orders are written only if requested to do so by them.

f. Ongoing patient management

The orthopedic patient management remains the responsibility of the orthopedic service and the residents caring for that patient until the patient is discharged. If the patient has any medical problems, medical consultations are obtained and the patient is then followed in the medicine clinics if he/she has no primary care physician. Patients are seen in follow-up for their orthopedic complaints in the outpatient orthopedic clinic.

7. SUPERVISION

Surgical residents are directly and indirectly supervised at all times in the orthopedic clinic in the hospital or in the operating room by one or more of the staff orthopedists.

An attending or a resident who has been certified by his/her department to be competent to perform and teach that procedure supervises all procedures.

8. SCHEDULE

Residents are on home call every second or third night. In-patient morning rounds begin at 7am. Residents are scheduled at least 4 full days away from patient care duties. On weekends, only the call resident is expected in the hospital to make rounds with the staff orthopedist.

9. DISTRIBUTION OF GOALS AND OBJECTIVES

Goals and objectives of this rotation are distributed at the beginning of the residency year to each resident. Copies are sent by email to each resident assigned to this rotation prior to the beginning of the rotation. Additional copies can be obtained in the surgery residency coordinator's office. The goals and objectives can also be assessed via the KMC surgery website: www.kmcsurgery.org

10. METHODS OF IMPLEMENTATION

Goals and objectives are implemented through one on one precepting, direct staff supervision, faculty and resident role modeling, case-based readings, daily rounds, and spontaneous and planned didactic sessions.

11. FUNDAMENTAL CLINICAL SKILLS

Orthopedic patients often have a multitude of problems besides the orthopedic injury or disease, and offer residents a vast opportunity for developing the fundamental clinical skills of:

- a. Obtaining a complete medical history,
- b. Performing a complete physical exam,
- c. Evaluating data,
- d. Collating information,
- e. Defining patient's problems,
- f. Generating differential diagnoses,
- g. Developing a rational plan for patient care,
- h. Implementing therapy based on etiology, pathogenesis, and manifestations of various diseases and injuries, and
- i. Knowing when it is necessary to ask for consultation.

12. SENIOR RESIDENT CONTACT

Though senior residents from the emergency department, surgery, and family medicine also rotate through orthopedics, these residents may be first or second year. The line of response is always directly to the staff orthopedist.

13. VACATION

Vacation may be requested during this month

14. CALL RESPONSIBILITIES

Amount of call depends upon rotators for the month, but is always from home. With the addition of 4 mid-level practitioners, the surgical resident on this rotation will not take more than one home call per week. The call schedule is fully compliant with all ACGME rules and will be monitored by the program director. During call, residents respond to calls from the emergency department for evaluation and admission of all orthopedic patients. Resident is expected to take history from patient and/or family, examine patient, develop differential diagnosis and plan for care. Staff orthopedist is called and all admissions are reviewed. Cross-coverage for all admitted patients on the orthopedics service is also the responsibility of the call resident. Any problems are reviewed with the staff orthopedist on call.