Orthopaedic Medical Student Elective Rotation Program
Maimonides Medical Center

Duration: 4 weeks
Availability: Year round
Number of Students: maximum 3 students per month
Time: Full time

Prerequisites

- Completion of three years of medical school and core surgical rotations.

Objectives

- To provide serious medical students with an in-depth experience in the diagnosis and management of a broad range of musculoskeletal system disorders.

Description

The Orthopaedic Surgery medical student rotation at Maimonides Medical Center, Brooklyn, NY, is structured to provide medical students with a broad exposure to various aspects of musculoskeletal care. Students are instructed in the examination, diagnosis, and management of patients in the outpatient setting. They are also actively involved in surgical cases and inpatient management of post-operative patients. Students will work as a member of the orthopaedic team.

The 4-week rotation is structured to allow students to rotate with fellowship-trained surgeons in Orthopaedic Surgery.

Educational activities will include regularly scheduled conferences, and departmental didactic sessions.

Evaluation

Evaluations are performed by Orthopaedic faculty with whom students rotate. A written report is sent to deans.

To Apply

Visit: www.maimonidesmed.org, click top menu Medical Education, click Internships and Undergraduate Medical Education Electives offered, click To Apply.
Orthopaedic Medical Student Elective Rotation Program
Maimonides Medical Center

Welcome to the medical student elective program in orthopaedic surgery at Maimonides Medical Center. It is our hope that the time you spend with us will be an excellent educational experience for you.

The Department of Orthopaedic Surgery at Maimonides Medical Center is an outstanding atmosphere to present the senior medical students a comprehensive outline of the spectrum of orthopedic surgery as practiced in a community hospital. Our residency program is a fully-accredited orthopaedic training program which has recently increased to three residents per year. There is a large volume of elective orthopedic surgery done at the institution as well as a very active emergency department presenting a variety of orthopedic trauma.

This elective rotation is for fourth-year medical students interested in pursuing a career in orthopaedic surgery. It is a four-week experience in the management of injury and illness of the musculoskeletal system. Students will participate in the care of patients treated in the outpatient clinics, emergency room, hospital, and operating room. Students will work as members of the orthopaedic resident team. In addition, medical students will participate in resident lectures and have the opportunity to do orthopaedic research.

The student will act in the capacity of a junior resident with regular patient responsibilities, clinic and operating room duties. He/she will attend
teaching conferences and rounds of the orthopaedic staff. It is not intended that the student act as an observer in this elective but as an integrated part of the patient care team.

It is required that the student meet with their preceptor at the beginning of the rotation to discuss the learning objectives outlined in this document. Students should also seek and receive preceptor feedback midway through the rotation. Because of the short duration of this rotation, students must be professionally confident, considerate, and well prepared. These characteristics are imperative for the student to get the most out of this rotation.

Students are encouraged to go to the operating room to scrub on cases. The basic schedule begins with ward rounds, followed by a conference daily. These conferences include grand rounds, didactic lectures and a weekly case review. Guest lecturers are frequently present for grand rounds presentations.

It is our commitment to provide medical students with the best possible experience. Our program has been designed to offer the following:

1. Intense exposure to the in and out patient treatment of the orthopaedic pathologies through participation in clinical, operative and call activities
2. The scope and character of the practice of orthopaedic surgery
3. The specific encountered diseases and types of surgery performed in the various sub-specialty areas of orthopaedic surgery
4. In-depth instruction to develop competency and mastery of musculoskeletal examination techniques and skills
5. A structured, but personalized, learning experience
6. All externs are given a personal experience with faculty mentor, fellowship-trained in their respective orthopaedic subspecialties
7. Opportunities to participate in new and ongoing research projects within the department

Visiting students generally participate in a two-week rotation on the Upper Extremity Service with Dr. Jack Choueka, the Chairman and the Director of Residency Program and two weeks on the General Orthopaedic Service under the supervision of Dr. Howard Goodman.

The overall goal of this rotation is to provide the student with a basic understanding of the pre- and post-operative evaluation of the emergent and elective surgery cases, basic knowledge of surgical decision making, and proper musculoskeletal management.

At the completion of this rotation, the student should have reinforced certain broad goals, including:

1. The ability to obtain and report a basic orthopaedic patient history for common orthopaedic conditions and injuries.
2. The ability to perform and report a basic orthopaedic physical examination of the spine, shoulder, elbow, wrist and hand, pelvis and hip, knee, foot and ankle.
3. Demonstrate and understanding of the basic science and natural history of common orthopaedic conditions and injuries.
4. The ability to develop a working differential diagnosis for common orthopaedic conditions and injuries and to demonstrate an understanding of the appropriate timing and use of common diagnostic testing modalities to assist with determining a definitive diagnosis.

5. Knowledge of appropriate available treatment alternatives, including both non-operative and operative, for common orthopaedic conditions and injuries.

To maximize the learning experience for all students, only one student is placed on any given rotation. Rotations are designed around the schedules and academic calendars of the applicants.

**Rotations**

Medical students on orthopaedic surgery rotations will be responsible for the following:

- Participation in rounds, clinics and operating rooms
  1. Demonstration of basic knowledge of patient care during clinic
  2. Conference attendance
  3. Participation in call
  4. Maturity and Professionalism
  5. Three case presentations (Drs. Choueka, Razi, and Goodman)
  6. Formal presentation to faculty and residents at the end of the rotation

We recognize that four weeks is an insufficient amount of time to cover a comprehensive list of objectives in any area of practice. Clearly, students in any clinical rotation are dependent on the numbers of patients and kinds
of disease entities presenting to a particular service. Therefore, the following sections contain relatively broad, basic objectives for which students are responsible.

**Patient Care**

1. Communicate effectively with attending, resident, team members and other health care professionals.
2. Demonstrate the ability to obtain and report a basic orthopaedic patient history for common orthopaedic conditions and injuries with particular emphasis on the chief complaint, inciting events, mechanism of injury, exacerbating and alleviating factors, timing of symptoms and associated symptoms.
3. Demonstrate the ability to perform and report a basic orthopaedic physical examination of the spine, shoulder, elbow, wrist and hand, pelvis and hip, knee, foot and ankle.
4. Documentation in medical records is legible.
5. Communicates appropriately and professionally to patient and family members with the attending knowledge of the discussion.
6. Demonstrates ability to develop and execute patient care plans appropriate for level of training and follows the SOAP/problem oriented format.
7. Describe different suture materials and how selection for use is based.
8. Describe alternative methods of wound closures dependent on anatomical location.
9. Demonstrate aseptic technique in the OR and in ER when asked to assist in managing a wound.
10. Demonstrate patient safety concerns regarding body alignment, padding bony prominence, proper tourniquet application, and environmental safety preoperatively when preparing the patient for surgery.

11. Demonstrate proper extremity immobilization methods, drain care, surgical site assessment postoperatively and rehabilitation.

Medical Knowledge

Students should be able to define and describe open and closed fractures, dislocations, and subluxations as well as the clinical and radiological features of fractures.

1. Fractures
   Type- Open, Closed, Stress fracture, and Pathological fracture
   Site- Proximal epiphysis, Distal epiphysis, Metaphysis, and Diaphysis
   Pattern- Transverse, Spiral or Oblique Comminuted, Impacted, and Compression Greenstick
   Displacement- Apposition, Angulation, Rotation, and Length
   Growth Plate Fractures- Salter-Harris type I-V
   Dislocation and Subluxation
      Clinical and radiologic features of dislocations and subluxations

Management

Rehabilitation of Function

Complications
   a) Local- infection, delayed union, nonunion, malunion, avascular necrosis
b) Systemic-shock, sepsis, tetanus (open injuries), gas gangrene, venous thrombosis, pulmonary embolism, fat embolism

2. Evaluation of Patients with Musculoskeletal Trauma

3. Fracture Management- Discuss indications and complications
   a) Reduction
   b) Maintenance of Reduction
   c) Cast
   d) Internal Fixation
   e) External Fixation
   f) Traction

4. Compartment Syndrome

5. Common Fractures, Dislocations, and Ligament Injuries:
   a) Carpal Scaphoid Fracture
   b) Colles Fracture
   c) Olecranon Fracture
   d) Supracondylar Humerus Fracture
   e) Shoulder Dislocation
   f) Hip Fracture
   g) Femoral Shaft Fracture
   h) Hip Dislocation
   i) Tibia/Fibular Shaft Fracture
   j) Ankle Injuries
   k) Spinal Fractures
   l) Pelvic Fractures

6. Discuss common fractures and joint injuries; identify specific
problems with their diagnosis and management
7. Discuss management priorities in treating fractures, dislocations and subluxations

SPORTS MEDICINE
Students should be able to define, describe and discuss the following:
1. Stress Fractures
2. Lateral Epicondylitis (Tennis Elbow)
3. Rotator Cuff Tendinitis (Shoulder Bursitis)
4. Plantar Fasciitis (Heel Spur)
5. Patellofemoral Syndrome
6. Exercise Compartment Syndrome (Shin Splints)
7. Meniscal Injury
8. Acromioclavicular (Shoulder) Separation
9. Achilles Tendon Rupture
10. Myositis Ossificans
11. Define the term sprain and its three gradations. Discuss the methods of diagnosing the common sprains at the knee and ankle.

MUSCULOSKELETAL INFECTION
Students should be able to define, describe and discuss the following:
1. Ostomyelitis
2. Septic Arthritis
3. Infection Hand Flexor Tenosynovitis

ARTHRITIS
Students should be able to define, describe and discuss the following:
1. Osteoarthritis
2. Rheumatoid Arthritis
3. Discuss the symptoms and signs of inflammatory (noninfectious) joint disease.
4. List and discuss the laboratory and radiological techniques used in making the diagnosis of rheumatoid arthritis and osteoarthritis.
5. List and discuss the nonsurgical and surgical treatment options of degenerative joint disease of the hip, knee, and spine.

BONE TUMOR
Students should be able to define, describe and discuss
1. Discuss the diagnostic workup for a patient with a suspected primary and secondary malignant neoplasm of bone.

GAIT
Students should be able to define, describe and discuss
1. Discuss the basic components of gait and discuss common gait abnormalities in relation to mechanical or neurological disorders.

Interpersonal and Communication Skills
1. Communicates effectively with attending, resident, team members and other health care professionals.
2. Documentation in medical records is legible.
3. Communicates appropriately and professionally to patient and family members.
4. Demonstrates ability to develop and execute patient care plans appropriate for level of training and follows the SOAP/problem oriented format.
**Professionalism**

1. Demonstrates a commitment to continuity of patient care.
2. Displays a sense of responsibility and respect to patients, families, staff and peers.
3. Demonstrates cultural sensitivity.
4. Maintains a professional appearance, well groomed, appropriately dressed.
5. Punctual in attendance, prompt and available when called upon.
6. Motivated to learn, shows appropriate assertiveness, flexibility, adaptability toward education.
7. Demonstrates appropriate attitude, cooperative, receptive to feedback.
8. Introduce self to those who you are working with, the patient, attending, resident, other physicians, nurses, staff, etc.

**Practice-Based Learning**

1. Demonstrates motivation and a desire to learn.
2. Demonstrates the ability to learn from practice.
3. Critiques personal practice outcomes appropriate to level of training.
4. Demonstrates recognition of the importance of lifelong learning in medical/surgical practice.
5. Seeks and responds to feedback.

**Systems-Based Practice**

1. Know where to go for help—personal and professional.
2. Attends all required orientations presented by the facility and completes needed paperwork for rotation.

3. Follows policy and procedures set forth by the health care facility and departments within that facility.

4. Follows the policies for a medical student at the surgery rotation facility.

5. Report to appropriate institutional authority when absent following Clinical Affairs guidelines.