OHSU Department of Orthopaedics and Rehabilitation

Rotation Specific Objectives for Resident Education

Rotation: Legacy Emanuel  Resident year-in-training: PGY2, PGY4

Attending Physicians:

1. Steven Madey, M.D.
   Orthopedic Surgeon, ABOS Board Certified
   Fellowship:  Hand and Microvascular Surgery

2. Richard Gellman, M.D.
   Orthopedic Surgeon, ABOS Board Certified
   Fellowship:  Trauma, Foot and Ankle

3. Britt Frome, M.D.
   Orthopedic Surgeon, ABOS Board Certified
   Fellowship: Hand and Microvascular Surgery

4. Corey Vandezanschulp, M.D.
   Orthopedic Surgeon, ABOS Board Certified
   Fellowship: Trauma

5. Douglas Beaman, M.D.
   Orthopedic Surgeon, ABOS Board Certified
   Fellowship: Foot and Ankle

6. Amer Mirza, M.D.
   Orthopaedic Surgeon, ABOS Board Certified
   Fellowship: Trauma, Adult Reconstruction

Primary Objective:
Surgical and medical training related to orthopedic trauma. This includes, but is not limited to, the initial work-up and triage of patients with acute injuries from trauma and post trauma sequelae. At the end of the rotation, the trainee will be able to conduct a history and physical in the initial evaluation of urgent orthopaedic trauma and manage these patients on the ward in the peri-operative period. In addition, the trainee will understand posttraumatic and postoperative sequelae including nonunion and malunion of fractures. Since Emanuel Hospital has additional patient volume in traumatic hand, foot, and ankle injuries and limb deformities, the residents should focus their education on these specific areas of orthopaedic trauma care. Additionally
there is a large volume of geriatric and periprosthetic trauma, and the resident will participate in the care of this unique patient population.

**Educational Philosophy:**
The principal goal of the orthopaedic trauma service at Emanuel is to familiarize orthopaedic residents with the management of orthopaedic injuries from acute trauma. Most often this trauma is secondary to high energy mechanisms such as motor vehicle crashes, falls and gunshot wounds. An understanding of which injuries need surgical management and an understanding of appropriate nonoperative management of other injuries is mandatory. The ability to triage and plan fracture care for polytraumatized patients is a necessary skill that will be learned on this rotation. Furthermore, the resident should understand varying methods of failure (infection, nonunion, malunion, loosening, etc) and appropriate algorithms of management. Specific surgical management of these problems with multiplanar external fixators and the ilizarov technique will be taught.

**Rotation Expectations and Opportunities**
The Orthopaedic Residents will work primarily with two Traumatologists and one upper extremity surgeon. There is also opportunity to work with a foot and ankle surgeon and complex arthroplasty surgeon. There is another resident from a neighboring residency in Corvallis who splits time with the two residents from OHSU. Two residents, a pgy2 and pgy4, will spend 10 weeks at Legacy Emanuel, with 3-4 weeks on upper extremity with Dr. Madey, 3-4 weeks with Dr. Gellman, and 3-4 weeks with Dr. VandeZandeschulp. This is a mentorship model. If the resident’s primary surgeon does not have cases scheduled there is opportunity to work with Dr Frome (upper extremity), Dr Beaman (foot and ankle) and Dr Mirza (arthroplasty) throughout the rotation. On average, there will be 3-4 OR days per week, 1 day of clinic per week, and ½ day of educational activity / self study (preparing for conferences, review of upcoming cases, independent study). There is call responsibility, one in every 3-4 nights. The resident will be on home call and primary call for the ED as well as the transfer center for surrounding hospitals. There is back up attending call should a patient need to go to the OR.

**Madey/Frome**
Monday OHSU Grand Rounds, Madey clinic
Tuesday add on cases
Wednesday OR
Thursday OR
Friday resident conference at OHSU, OR

**Gellman**
Monday OHSU Grand Rounds, OR
Tuesday OR
Wednesday clinic
Thursday OR
Friday resident conference at OHSU, OR
Every Wednesday morning at 6:30am, there is a fracture rounds conference. This is a case based conference consisting of upcoming surgical cases and postoperative cases.

**Generalized Rotation Goals & Mechanisms:**

**Didactic:**
- A weekly conference on Wednesday mornings involving the residents/attendings.
- Pre-, and post-rotation meetings to assess expectations and progress of residents.
- Journal Club 2-3x/year to discuss important literature on trauma. This journal club is combined with the OHSU orthopaedic trauma group.

**Patient Care**
- Manage all aspects of acute trauma seen in patients of all ages. This includes appropriate non-operative treatment modalities along with varying surgical treatment options. The resident is responsible for learning and understanding indications of operative fixation for fractures.
- Attain competence in performing a comprehensive evaluation and examination of new patients seen through the ED. Comprehensive and concise history, physical examination, and diagnostic test ordering and interpretation are emphasized.
- Practice thorough and concise management of post-operative patients during their inpatient stay.

**Medical Knowledge**
- For each location discussed (list below), the resident should understand the relevant fracture pattern, mechanism of injury, anatomy, and appropriate history and physical exam. Discussion from staff will focus on a case-based learning approach as patients are treated. Questions and answers will most often be covered by simple review textbooks supplemented by the reading list below.
  - Clavicle
- Proximal humerus
- Humeral shaft
- Distal humerus
- Fractures about the elbow (terrible triad, radial head, olecranon)
- Forearm shaft
- Distal radius
- Scaphoid, carpal instability, phalangeal, metacarpal
- Pelvic ring
- Acetabulum
- Proximal femur
- Femoral shaft
- Distal femur
- Tibial plateau
- Tibial shaft
- Distal tibia/pilon
- Ankle
- Calcaneus, talus
- Lisfranc, Metatarsal

- For each location discussed, the resident will list the relevant radiographic classification scheme for the fracture.

**Practice-Based Learning and Improvement**

- By the end of the rotation, each PGY2 and PGY4 resident should be comfortable and confident with the following non-operative skills:
  1. Clinical assessment
  2. Upper Extremity Exam
  3. Lower Extremity Exam
  4. Evaluation and comprehension of x-rays for each fracture pattern
  5. An understanding of the psychosocial issues that are relative to trauma
  6. In addition, the PGY 4 resident should be comfortable with evaluation and comprehension of CT and MRI for each fracture pattern. The PGY4 resident should also be comfortable in the counseling of nonoperative management of various fracture patterns.

- Participate as an assistant in surgical procedures and as primary surgeon where level of skill makes this appropriate. Develop the planning and technical skills to the level that participation as primary surgeon is appropriate on most surgical cases.
- Demonstrate ability to effectively perform preoperative planning for surgical procedures, even complex cases.
- Set up an operating room for surgery, including surgical instruments, implants, patient positioning, need for fluoroscopy, etc.
- Understand and direct the role/limitations of Operating personnel: Scrubs, Nurses, Charge nurse, Company representatives, Schedulers, and Surgeons.
Identify and clearly communicate the indication for every operation prior to scrubbing, to the attending and students as indicated.

Know the algorithm for several techniques for each indication:
- Be prepared in advance to complete the operation
- Understand the choices for anesthesia and indications
- Be ready to describe how to change course mid-operation, if needed

Direct and perform the following procedures at the PGY2 level:
1. Safe positioning of the patient in surgery
2. Identification and initial management of postoperative complications
3. Approach and fixation of basic fracture patterns including hip, ankle, and long bone shaft, and distal radius.
4. Placement of external fixation

Direct and perform the following procedures at the PGY4 level (in addition to those listed above):
5. Analysis and management of postoperative complications
6. Approach and fixation of periarticular fractures
7. Approach to acetabulum and pelvic ring

Professionalism
- Learn to organize patient clinic practice while participating in more advance patient evaluation and management activities.
- Actively and competently participate in supervising the educational and clinical activities of the junior level residents (for PGY4s) or medical students (for PGY2s and 4s)
- Model appropriate professional values and behaviors for peers, faculty, and staff.
- Mature in the development of patient care, considering the cost, quality, outcomes, and impact on patient and healthcare system as essential variables in the equation.
- Demonstrate ability to engage in supportive, clear, and compassionate communication with patients and family members.
- Answer requests in a timely, cordial manner.

Interpersonal and Communication Skills
- The resident is expected on this rotation and all others to interact as a professional and team member with all the other staff and services within the hospital.
- The demeanor and tone of the resident in both verbal and nonverbal communication is expected to be exemplary.
- The same communication skills above are expected to be used with the patients and families.

Systems Based Practice
- Develop methods of analyzing complex data and prioritizing principles and issues to solve complex and ill-defined problems related to orthopaedic patient care.
- Demonstrate appropriate judgment, particularly as related to indications for surgical treatment of patients, non-operative treatment options and algorithms.
- Understand the daily business of Medicine/Orthopedic Surgery.
· Become facile with billing and coding issues.
· Manage the patient and health system to manage a disease/injury in the context of the biopsychosocial model.

**Literature Resources:**

**Pelvic ring injury**


**Acetabular fracture**


**Hip dislocation**


**Femoral head fracture**


**Hip fracture-low energy**


**Hip fracture-high energy**


**Femoral neck fracture biomechanics**


**Femur fracture**


Distal femur fracture


**Patella fracture**


**Knee dislocation**


**Tibial plateau fracture**


**Tibial shaft fracture**


**Limb salvage**


**Tibial plafond fracture**


Ankle fracture


Talus fracture


Lisfranc fracture


Calcaneus fracture


Shoulder injuries


Proximal humerus fracture


Humerus shaft fracture


**Distal humerus fracture**


**Fractures and injuries about the elbow**


**Forearm fractures**


**Wrist fractures**


**Open fracture management**

