

Learning Objectives – Orthopaedic Trauma Service

| | Junior Resident | Senior Resident/Fellow |
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| Patient Care | <p><i>Surgical</i></p> <p>Competency in sterile technique, patient site preparation, patient positioning, and aseptic draping;</p> <p>Mastery of basic suturing technique, including multi-layer wound closure and complex wound management;</p> <p>Mastery of basic surgical instrument skills (tools for exposure, hemostasis, retraction, tissue handling, and closure) including aseptic technique and atraumatic soft-tissue handling;</p> <p>Understanding of common surgical approaches for fracture care. Examples include lateral approach to the ankle, lateral approach to the femur, deltopectoral approach to the shoulder, volar approach to the forearm;</p> <p>Ability to perform the approach and find the starting point for femoral and tibial nails. Knowledge of the steps for medullary nailing for diaphyseal fractures;</p> <p>Ability to insert free hand interlocks in intramedullary nails;</p> <p>Ability to reduce basic fracture patterns with manipulation, clamps, and K-wires;</p> <p>Understanding of basic AO techniques including knowledge of screw and plate design. Ability to perform basic plate osteosynthesis;</p> <p>Ability to drill, measure, and tap bone for screw placement including lag screw technique.</p> <p><i>Office/Emergency Department/Clinical Practice</i></p> <p>Ability to efficiently and thoroughly evaluate patient with orthopaedic issues in the clinic and emergency department settings including the ability to effectively communicate findings with chief residents, fellows, and attending;</p> | <p><i>Surgical</i></p> <p>Mastery of sterile technique, patient site preparation, patient positioning, and aseptic draping for all surgical exposures;</p> <p>Mastery of surgical approaches for fracture care and advance understanding of complex exposures including those used for pelvic fixation;</p> <p>Ability perform common trauma operations without dependence on attending staff, including IMN femur, IMN tibia, ORIF of the ankle, forearm, elbow, & humerus, hip hemiarthroplasty, ORIF of the lateral tibial plateau, shoulder hemiarthroplasty and application of external fixators;</p> <p>Understanding of and participation in complex trauma operations with direct attending guidance including ORIF pilon, bicondylar tibial plateau, calcaneous, talus, elbow, & LisFranc fractures;</p> <p>Understanding of surgical techniques required to perform ORIF acetabulum/pelvis, percutaneous screw fixation of pelvic ring injuries, and osteotomies for non-union;</p> <p>Ability to take a junior residents though a case while teaching basic surgical technique and AO principles;</p> <p>Ability to lead a surgical team including implant & instrument selection, directing ancillary staff, and time management;</p> <p>Ability to manage the operating room schedule to ensure timely and seamless surgical care of traumatized patients.</p> <p><i>Office/Emergency Department/Clinical Practice</i></p> <p>Ability to assist junior residents in clinical decision making, fracture care, and system navigation;</p> |

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| <p>Ability to work with multiple surgical specialties in the triage and management of the polytraumatized patient;</p> <p>Ability to identify the appropriate imaging required to evaluate an injury;</p> <p>Ability to interpret diagnostic plain films, CTs, and MRIs;</p> <p>Ability to perform closed reduction and manipulations of fractures and dislocations including appropriate casting, splinting, and immobilization;</p> <p>Ability to acutely manage open fractures including, irrigation & debridement, antibiotic selection, tetanus prophylaxis, reduction, immobilization, and assessment of associated injuries (typically vascular or neurologic);</p> <p>Ability to perform local nerve blocks, joint aspirations, and joint saline challenges;</p> <p>Ability to identify patient in need of medical consultation early in the hospital course;</p> <p>Ability to counsel and educate patients and families;</p> <p>Effectively use information technology to support patient care decisions and patient education.</p> <p><i>Ward Management</i></p> <p>Ability to manage a substantial inpatient load according to principles of good inpatient hospital care and with respect to the preferences of the attendings on service.;</p> <p>Ability to work with the nurse practitioners to ensure equitable distribution of the work load and deliver high quality patient care;</p> <p>Ability to identify potential complications of traumatic injuries such as compartmental syndrome, cognitive impairment, and depression;</p> | <p>Ability to teach the junior resident reduction and splinting of all fractures and dislocation;</p> <p>Availability to see patients in the emergency department when the junior becomes backed-up with consultations;</p> <p>Ability to review each consultation and perform complete pre-operative evaluation of each surgical candidate including assessment of risk and potential complications;</p> <p>Ability to counsel and educate patients and families;</p> <p>Effectively use information technology to support patient care decisions and patient education.</p> <p><i>Ward Management</i></p> <p>Ability to manage a team of care providers to ensure excellent inpatient hospital care with respect to the preferences of the attendings on service;</p> <p>Ability to provide a daily plan of care for each inpatient on service and advise on the necessary steps required to implement said plan including the need to consult other services;</p> <p>Ability to recognize and approve/refuse transfer of patient care to/from the orthopaedic service;</p> <p>Daily review of anticoagulation, activity, and antibiotic plan for each patient.</p> | |
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| | <p>Daily review of anticoagulation, activity, and antibiotic plan for each patient;</p> <p>Ability to accurately document physical exams and patient care plan in the electronic medical record;</p> <p>Ability to maintain an up to date sign-out list of inpatients and their active issues.</p> | |
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| Medical Knowledge | <p>Ability to appropriately manage pre and post operative orthopaedic patients;</p> <p>Knowledge of / ability to appropriately manage acutely injured patients (examples: required imaging, when/how to sheet a pelvis or reduce cervical spine dislocation, and indications for traction);</p> <p>Knowledge of common orthopaedic traumatic injuries and their acute management (examples: distal radius, tibia, femur, & humerus fractures, shoulder & hip dislocations, hand lacerations, and open fractures);</p> <p>Knowledge of expected risk of common surgical interventions (examples: malrotation of transverse/comminuted femur fractures, nonunion of segmental bone loss, knee pain following IMN of the tibia, etc);</p> <p>Knowledge of reduction and splinting principles and techniques;</p> <p>Knowledge of appropriate indications for surgical and non operative management of traumatic orthopaedic injuries;</p> <p>Knowledge of relative and absolute contraindications for surgical management of traumatic orthopaedic injuries;</p> <p>Knowledge of fracture patterns, classifications, and means of fixation;</p> <p>Knowledge of AO fracture fixation including lag screw, plate function, modes of fracture healing, material properties, and basic biomechanics;</p> <p>Completion of AO Basics Course.</p> | <p>Advanced knowledge of / ability to appropriately manage injured patients ;</p> <p>Knowledge of appropriate indications for surgical management of common complications of traumatic orthopaedic surgical care (examples: osteotomy for varus collapse of a femoral neck fracture, IMN exchange for tibial non-union, derotation of the femur);</p> <p>Knowledge of advanced AO fracture fixation technique;</p> <p>Knowledge of the advantages / disadvantages of commonly used implants;</p> <p>Ability to generate multiple options for fracture fixation and knowledge of each method's advantages and disadvantages;</p> <p>Completion of Miller Review Course;</p> <p>Completion of Orthopaedic Boards.</p> |

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| Practice-Based Learning & Improvement | <p>Prepares for and presents the cases at the weekly Monday afternoon fracture conference;</p> <p>Presents cases during morning signout rounds;</p> <p>Participation in scheduled didactic conferences including journal club, Friday morning conference, and M&M;</p> <p>The resident has demonstrated the ability and desire to identify errors in care, management, or understanding of clinical presentations that (s)he made or observed, and to learn from them;</p> <p>The resident has demonstrated the ability and desire to self-assess his/her performance as a surgeon or assistant surgeon in the operating room;</p> <p>Locate, appraise and assimilate evidence from scientific studies related to their patients' health problems;</p> <p>Apply knowledge of study design and statistical methods to the appraisal of clinical studies and other medical information;</p> <p>Facilitate the learning of medical students and other health care professionals.</p> | <p>Active participation in weekly fracture conference;</p> <p>Prepares for and presents the cases at the monthly M&M conference;</p> <p>Participation in didactic conferences including journal club, Friday morning conference, and M&M;</p> <p>The resident has demonstrated the ability and desire to identify errors in care, management, or understanding of clinical presentations that (s)he made or observed, and to learn from them;</p> <p>The resident has demonstrated the ability and desire to self-assess his/her performance as a surgeon or assistant surgeon in the operating room;</p> <p>Locate, appraise and assimilate evidence from scientific studies related to their patients' health problems;</p> <p>Apply knowledge of study design and statistical methods to the appraisal of clinical studies and other medical information;</p> <p>Facilitate the learning of medical students, residents and other health care professionals.</p> |

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| Interpersonal & Communication Skills | <p>Ability to create and sustain therapeutic and ethically sound relationships with patients;</p> <p>Ability to maintain open conversation between team members to ensure dissemination of important information;</p> <p>Ability to effectively communicate with other services within the hospital;</p> <p>Maintain verbal and written sign-out during transition of patient care;</p> <p>Maintained appropriate daily communication with each of the faculty members regarding inpatients according to the standards of each faculty member (defined, in part, in the guide below);</p> <p>Able to communicate appropriately, clearly, and in a timely fashion any important changes in status on ER patients, inpatients and outpatients to fellow residents and attending staff.</p> | <p>Ability to create and sustain therapeutic and ethically sound relationships with patients;</p> <p>Ability to maintain open conversation between team members to ensure dissemination of important information;</p> <p>Ability to effectively communicate with other services within the hospital;</p> <p>Maintain verbal and written sign-out during transition of patient care;</p> <p>Maintained appropriate daily communication with each of the faculty members regarding inpatients according to the standards of each faculty member (defined, in part, in the guide below);</p> <p>Able to communicate appropriately, clearly, and in a timely fashion any important changes in status on ER patients, inpatients and outpatients to fellow residents and attending staff;</p> <p>Effectively function as the leader of the health care team.</p> |

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| Professionalism | <p>Ability to maintain an appropriately professional demeanor towards and conduct professional relationships with patients;</p> <p>Ability to maintain an appropriately professional demeanor towards and conduct professional relationships with support staff;</p> <p>Ability to maintain an appropriately professional demeanor towards and conduct professional relationships with peers;</p> <p>Ability to maintain an appropriately professional demeanor towards and conduct professional relationships with faculty;</p> <p>The resident treated consulting services (including medical students, residents, and faculty on those services) and anesthesia providers with respect and dignity;</p> <p>The resident behaved consistently in an ethical fashion;</p> <p>There were no critical incidents: failures of integrity, dereliction of duty, or overt or implied sexism, racism, or cultural insensitivity.</p> | <p>Ability to maintain an appropriately professional demeanor towards and conduct professional relationships with patients;</p> <p>Ability to maintain an appropriately professional demeanor towards and conduct professional relationships with support staff;</p> <p>Ability to maintain an appropriately professional demeanor towards and conduct professional relationships with peers;</p> <p>Ability to maintain an appropriately professional demeanor towards and conduct professional relationships with faculty;</p> <p>The resident treated consulting services (including medical students, residents, and faculty on those services) and anesthesia providers with respect and dignity;</p> <p>The resident behaved consistently in an ethical fashion;</p> <p>There were no critical incidents: failures of integrity, dereliction of duty, or overt or implied sexism, racism, or cultural insensitivity.</p> |

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| Systems-Based Practice | <p>The resident engaged consulting services (including non-medical consulting services, such as social services) appropriately, including calling for consults when indicated, and responding to the recommendations of consultants in a timely and effective manner;</p> <p>Demonstrated an understanding of cost effective health care delivery while maintaining high quality patient care;</p> <p>The resident ran the service in a time-efficient manner so has to optimize his/her learning, such that demands from the ER were balanced effectively against time in the OR and/or clinic;</p> <p>Participation in the clinic and the OR in an efficient and effective manner.</p> | <p>The resident engaged consulting services (including non-medical consulting services, such as social services) appropriately, including calling for consults when indicated, and responding to the recommendations of consultants in a timely and effective manner;</p> <p>Demonstrated an understanding of cost effective health care delivery while maintaining high quality patient care;</p> <p>The resident ran the service in a time-efficient manner so has to optimize his/her learning, such that demands from the ER were balanced effectively against time in the OR and/or clinic;</p> <p>Participation in the clinic and the OR in an efficient and effective manner;</p> <p>Participate in the organization of the daily OR schedule.</p> |