

**RIVERSIDE UNIVERSITY HEALTH SYSTEM - MEDICAL CENTER
ORTHOPAEDIC SURGERY RESIDENCY PROGRAM**

**Trauma (PGY-4)
(Duration: Two Months)**

Supervising Faculty: Dr. Matthew Robinson and Dr. Cris Sherman

The overall goal of the PGY-3 Orthopaedic Trauma rotation is to provide the resident with education regarding the care of acute injuries to the musculoskeletal system that builds upon the PGY-3 experience. This includes but not limited to the polytrauma patient. Advances decision making and technical skills will be taught such as treatment of the polytrauma patients and timing of surgery. Faculty supervision will advance from direct supervision, to indirect supervision and in some cases oversight as resident ability progresses.

Patient Care

Goals

The orthopaedic resident must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health programs and the promotion of health.

Objectives

- Demonstrate competence in the pre-admission care, hospital care, operative care and follow up care (including rehabilitation) of patients.
- Demonstrate competence in their ability to gather essential and accurate information about their patients.
- Demonstrate competence in their ability to make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date orthopaedic scientific evidence, and clinical judgment.
- Demonstrate competence in their ability to develop and carry out patient management plans.
- Demonstrate competence in their ability to provide health care services aimed at preventing health problems or maintaining health.
- Demonstrate competence in the diagnosis and management of adult and pediatric orthopaedic disorders.
- Development of medical, surgical and psycho-sociological skills in the management of severely injured patients.
- Development of technical skills to ensure the ability of the resident to perform skillfully the procedures required to provide Orthopaedic trauma care.
- Emphasis on the diagnosis of clinical Orthopaedic trauma problems, the mechanism of the injury, the treatment modalities available, and the results and complications of such treatment.
- The opportunity to assume a progressive role in the continuity of care of patient assessment, preoperative planning, operative experience, post operative intensive care, other post operative management, rehabilitation and other outpatient care of patients.

Example: Femoral and Tibial Shaft Fracture, Patient Care Goals and Objectives:

- Performs surgical repair to a moderately complex fracture ie., able to perform intramedullary nailing of segmental femur fracture

- Performs alternative surgical approaches for femur and tibial fractures (open reduction techniques)
- Participates in complex wound management and debridement (e.g., understands need for consultation for flap coverage)
- Prioritizes the needs of the polytrauma patient (e.g., timing of long bone fixation, works with consulting teams)
- Capable of treating complications both intraoperatively and post-operatively (e.g., manages post-operative infection)
- Participates in the management of the polytrauma patient
- Assesses for limb perfusion and compartment syndrome
- Recognizes complications both intraoperatively and post operatively (eg., participates in the management of post operative infection)

Medical Knowledge

Goals

The orthopaedic resident must gain medical knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.

Objectives

- Demonstrate expertise in the knowledge of those areas appropriate for an orthopaedic surgeon
- Demonstrate investigatory and analytical thinking approach to clinical situations
- Indication for various types of internal and external fixation devices and their applications in multiple trauma situations both in the axial and appendicular skeletons
- Treatment protocols for severe soft tissue injuries, including compartment syndrome and secondary organ failures in polytrauma
- Indications for early or immediate amputation rather than salvage attempts in the severely injured limbs
- Diagnosis and management of complications of musculoskeletal trauma
- Pathophysiology of severe musculoskeletal trauma and secondary organ failure
- Psychiatric and psychological implications of severe musculoskeletal trauma for the patient and family members
- Recuperative and rehabilitation techniques and use of physical and occupational therapy designed to return the patient to normal activities and work.
- Sufficient familiarity with current research methods to enable critical analysis of research reports
- A scholarly approach to clinical problem solving, self-directed study, development of analytic skills and surgical judgment, and research.
- Opportunities to study anatomy, physiology, biomechanics, pathology, microbiology, pharmacology and epidemiology as they relate to Orthopaedic trauma.
- Understanding the indications, risks, and limitations of the commonly performed procedures in the subspecialty

Example: Femoral and Tibial Shaft Fractures, Medical Knowledge Goals and Objectives:

- Understands controversies within the field (e.g., initial management of femur fracture in the polytrauma patient)
- Applies understanding of natural history to clinical decision-making

Practice-based Learning and Improvement

Goals

The orthopaedic resident must demonstrate the ability to investigate and evaluate his/her care of orthopaedic patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning

Objectives

- Identify strengths, deficiencies, and limits in one's knowledge and expertise
- Set learning and improvement goals
- Identify and perform appropriate learning activities
- Systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement.
- Locate, appraise, and assimilate evidence from scientific studies related to their patient's health problems.
- Use information technology to optimize learning.
- Participate in the education of patients, families, students, residents and other health professionals
- Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- Acknowledges gaps in personal knowledge and expertise, and frequently asks for feedback from teachers and colleagues.
- Demonstrates computer literacy and basic computer skills in clinical practice.
- Describes basic concepts in clinical epidemiology, biostatistics, and clinical reasoning.
- Categorizes the study design of a research study.
- Continually assesses performance by evaluating feedback and assessments.
- Develops a learning plan based on a feedback with some external assistance.
- Demonstrates use of published review articles or guidelines to review common topics in practice.
- Uses patient care experiences to direct learning.
- Ranks study designs by their level of evidence.
- Identifies bias affecting study validity
- Formulates a searchable question from a clinical question.
- Accurately assesses areas of competence and deficiencies and modifies learning plan
- Demonstrates the ability to select an appropriate evidence- based information tool to answer specific questions while providing care
- Applies a set of critical appraisal criteria to different types of research, including synopses of original research findings, systematic reviews and meta-analyses, and clinical practice guidelines
- Critically evaluates information from others: colleagues, experts, industry representatives, and patient-delivered information
- Complete the personal learning project in the practiced based learning and improvement curriculum for the rotation.

Interpersonal and Communication Skills

Goals

The orthopaedic resident must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and other health professionals.

Objectives

- Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds.
- Communicate effectively with physicians, other health professionals, and health related agencies.
- Act as a consultative role to other physicians and health professionals.
- Maintain comprehensive, timely, and legible medical records.
- Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills, if applicable.
- Communicates with patients about routine care (e.g., actively seeks and understands the patient's/family's perspective;
- Able to focus in on the patient's chief complaint and ask pertinent questions related to that complaint.
- Recognizes and communicates role as a team member to patients and staff.
- Responds to requests for information.
- Communicates competently within systems and other care provider, and provides detailed information about patient care (e.g., demonstrate sensitivity to patient—and family—related information gathering/sharing to social cultural context;
- Begins to engage patient in patient-based decision making, based on the patient's understanding and ability to carry out the proposed plan; demonstrates empathic response to patient's and family's needs; actively seeks information from multiple sources, including consultations; avoids being a source of conflict; able to obtain informed consent [risks, benefits, alternatives, and expectations]); actively participates in team-based care; Supports activities of other team members, communicates their role to the patient and family.
- Communicates competently in difficult patient circumstances (e.g., able to customize emotionally difficult information, such as end-of-life or loss-of-limb discussions; supports patient and family; engages in patient-based decision making incorporating patient and family/cultural values and preferences)
- Understands the Operating Room team leadership role and obligations

Professionalism

Goals

The orthopaedic resident must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Objectives

- Demonstrate respect, integrity and compassion for others.
- Demonstrate responsiveness to patient needs that supersede self interest.
- Demonstrate accountability to patients, society and the profession.
- Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consents, and business practices.
- Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in culture, age, gender, disabilities and sexual orientation.
- Demonstrate commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent and business practice.
- Consistently demonstrates behavior that conveys caring, honesty, and genuine interest in patients and families.

- Recognizes the diversity of patient populations with respect to gender, age, culture, race, religion, disabilities, sexual orientation, and socioeconomic status.
- Recognizes the importance and priority of patient care, with an emphasis on the care that the patient wants and needs; demonstrates a commitment to this value.
- Understands when assistance is needed and willing to ask for help.
- Exhibits basic professional responsibilities, such as timely reporting for duty, being rested and ready to work, displaying appropriate attire and grooming, and delivering patient care as a functional physician.
- Aware of the basic principles and aspects of the general maintenance of emotional, physical, mental health, and issues related to fatigue/sleep deprivation.
- Demonstrates an understanding of the importance of compassion, integrity, respect, sensitivity, and responsiveness while exhibiting these attitudes consistently in common and uncomplicated situations.
- Consistently recognizes ethical issues in practice; discusses, analyzes, and manages in common and frequent clinical situations including socioeconomic variances in patient care
- Recognizes limits of knowledge in common clinical situations and asks for assistance
- Recognizes value of humility and respect towards patients and associate staff
- Demonstrates adequate management of personal, emotional, physical, mental health, and fatigue.
- Exhibits these attitudes consistently in complex and complicated situations
- Recognizes how own personal beliefs and values impact medical care
- Knowledgeable about the beliefs, values, and practices of diverse patient populations and the potential impact on patient care
- Recognizes ethical violations in professional and patient aspects of medical practice
- Consistently recognizes limits of knowledge in uncommon and complicated clinical situations; develops and implements plans for the best possible patient care
- Assesses application of principles of physician wellness, alertness, delegation, teamwork, and optimization of personal performance to the practice of medicine
- Seeks out assistance when necessary to promote and maintain personal, emotional, physical, and mental health.

Systems-based Practice

Goals

The orthopaedic resident must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the systems to provide optimal health care.

Objectives

- Work effectively in various health care delivery settings and systems relevant to orthopaedics
- Coordinate patient care within the health care system relevant to their orthopaedics
- Practice cost-effective health care and resources allocation that does not compromise quality of care.
- Advocate for quality patient care and optimal patient care systems
- Work in interprofessional teams to enhance patient safety and improve patient care quality
- Participate in identifying system errors and implementing potential system solutions
- Describes basic levels of systems of care (e.g., self-management to societal)
- Understands the economic challenges of patient care in the health care system
- Recognizes importance of complete and timely documentation in teamwork and patient safety

- Explains the role of the Electronic Health Record (EHR) and Computerized Physician Order Entry (CPOE) in prevention of medical errors.
- Gives examples of cost and value implications of care he or she provides (e.g., gives examples of alternate sites of care resulting in different costs for individual patients).
- Uses checklists and briefing to prevent adverse events in health care
- Appropriately and accurately enters patient data in EHR
- Effectively uses electronic medical records in patient care.
- Orders and schedules tests in appropriate systems for individual patients balancing expenses and quality
- Successfully navigates the economic differences of the health care system
- Participates in quality improvement or patient safety program and/or project
- Reconciles conflicting data in the medical record
- Participate in one medical staff committee as a non-voting member, provide a formal presentation at the Orthopaedic Surgery educational grand rounds, and write a self-assessment of committee experience with relevant learning points articulated and documented.

ASSESSMENT METHOD:

Direct and indirect observation by faculty with assessment on formal end of rotation evaluation form.

DIDACTIC CURRICULUM REQUIRED ATTENDANCE:

RUHS Monday Pre-Op Conference (Monday AM)

RUHS Wednesday Conference (Wednesday AM)

RUHS Friday Post-Op Conference (Friday AM)

RUHS Ortho Monthly Research Meeting

RUHS Ortho Monthly Department Meeting/Educational Grand Rounds

RUHS Ortho Bi-Monthly M&M Conference