

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

**Vascular Surgery (PGY-1)  
(Duration: 4 weeks)**

**Supervising Faculty: Dr. Afshin Molkara**

The overall goal of this vascular surgery rotation (PGY-1) is educate the resident in the fundamentals of various vascular issues. Surgical basic science, wound healing and nutrition will be emphasized. Clinically, residents will assess surgical pathology pre-operatively, develop clinical judgment on managing these issues, and learn operative skills to address the problem. In addition, residents will become proficient in interpreting the different diagnostic modalities commonly used in vascular surgery. Careful postoperative care and follow up will be emphasized. Residents will develop cognitive and technical skills in dealing with complex vascular pathology. Faculty supervision is direct or indirect with direct supervision immediately available.

**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**

The resident should be able to:

- Evaluate pre-operative patients with vascular disease and its risk factors, including performing an advanced vascular physical examination.
- Assume responsibility for the care of all patients on the vascular surgery service, including admission history and physical examination, daily progress notes, and discharge summaries. The resident should be able to prioritize clinical responsibilities and plan the discharge process appropriately.
- Manage ward emergencies (arrhythmias, hypoxia, shock, etc.) and prioritize patient acuity.
- Participate in at least one half-day per week of office hours with one of the vascular surgery attendings. Activities will include examination and evaluation of new patients, perioperative and postoperative care of established patients, and surgical consultations under the supervision of attending surgeons.
- See consultations from requesting services and report the findings of such consultations to the chief resident or attending.
- Under appropriate supervision, perform ward procedures when necessary, including arterial line placement, peripheral line/phlebotomy, wound debridement, and femoral, internal jugular, and subclavian line placement.
- Under appropriate supervision, perform the following basic surgical procedures:
  - Major extremity amputations
  - Complex wound closure
  - Ligation and stripping of varicose veins
  - Placement of long-term venous access

**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
- Describe human arterial and venous anatomy
- Describe basic arterial and venous hemodynamics.
- Discuss the anatomy, pathology, and pathophysiology of the arterial wall.
- Review and describe the basic clinical manifestations of vascular disorders
- Discuss basic principles of Doppler ultrasound in preparation for performing bedside arterial and venous Doppler testing.
- Outline the principles of care for ischemic limbs.
- Describe the natural history of medically untreated vascular disease
- Summarize principles for the preoperative assessment and postoperative care of patients undergoing major vascular surgical procedures.
- Recognize and diagnose common vascular problems and vascular emergencies. Examples include intermittent claudication, transient cerebral ischemic attacks, non-disabling stroke, amaurosis fugax, acute extremity arterial insufficiency, acute mesenteric ischemia, ruptured abdominal aortic aneurysm, and proximal venous thrombosis.
- Interpret and correctly utilize vascular noninvasive tests including ABI and toe pressures, carotid duplex ultrasonography, and venous duplex ultrasonography.
- Demonstrate knowledge regarding indications for treatment of common vascular problems.
- 

### **Practice-based Learning and Improvement**

#### **Goals**

The orthopaedic resident must demonstrate the ability to investigate and evaluate his/her care of general surgical 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 patients' 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
- Develops a learning plan based on organized feedback and assessments with assistance from program leadership.
- Self-assessment and learning plan demonstrate a balanced and accurate assessment of competence and awareness of areas for continued improvement.
- Demonstrate use of published review articles and guidelines, and can formulate a searchable question for a clinical issues.
- Can categorize and rank study design, critically appraise individual studies, and identify threats to study validity.
- Demonstrates the ability to select evidence-based information to improve patient care.
- Understands the needs for organized, individual, and team-based approaches to quality improvement.
- Participates in individual or team-based organized quality improvement activities.
- Complete the personal learning project in the practice 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**

- Develops positive relationships with patients and families.
- Negotiates and manages simple patient/family-related conflicts.
- Is aware of factors that affect communications (e.g. modality; language: appropriate use of interpreters; hearing, vision and cognitive impairments).
- Identifies special communication needs of vulnerable populations.
- Can organize both written and oral information to be shared with patient and family, and engage patients in shared and decision-making.
- Adapts patient- and family-related information gathering to social cultural context.
- Effectively communicates with vulnerable populations, both patients and families.
- Uses strategies to ensure patient understanding.
- Recognizes interpersonal and communication conflicts with other physicians and health professionals.
- Expands communication using proper medical terminology and by giving therapeutic rationale.
- Effectively communicates patient information during transitions in care.
- Develops working relationships in complex situations and across specialties.
- Documents results of communications, such as patient preferences, conflict resolution, and advance directives.
- Communication reflects a comprehensive understanding of all elements of a patient's clinical condition.
- Actively participates in team-based care
- Supports activities of other team members
- Actively participates in interdisciplinary meetings to improve patient care
- Participates in family/patient/team member conferences, and incorporates patient and family values and preferences.
- Provides legible, accurate, complete and timely documentation that is congruent with medical standards.
- Demonstrates appropriate use of the electronic health record.
- Effectively and ethically uses all forms of communication, including face-to-face, telephone, and electronic.
- 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.

### **Professionalism**

#### **Goals**

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

#### **Objectives**

- Demonstrates an understanding of the importance of compassion, integrity, respect, sensitivity, and responsiveness, and is able to exhibit these attitudes consistently in common and uncomplicated situations.
- Is aware of personal beliefs and values that impact interactions with others and may influence provision of medical care; is able to manage these values and beliefs so that they have minimal impact on patient care.
- Is able to exhibit these attitudes in complex and complicated situations.
- Recognizes how one's own personal beliefs and values impact medical care; consistently manages one's own values and beliefs to optimize relationships and medical care.
- Exhibits an interest in and formulates strategies to learn about issues of diverse populations.

- Is knowledgeable about the beliefs, values, and practices of diverse patient populations and their potential impact on patient care.
- Consistently recognizes ethical issues in practice; is able to discuss, analyze, and manage these in common clinical practice.
- Effectively analyzes and manages frequently encountered ethical issues.
- Recognizes personal beliefs and their potential impact on patient care.
- Effectively manages personal beliefs to avoid any negative impact on patient care.
- Defines and understands physician accountability to patients, society, and the profession.
- Develops an understanding of one's own beliefs and values and how they impact one's attitude and behavior; is able to understand and balance the needs of oneself and others to prioritize and provide appropriate medical care.
- Consistently recognizes limits of one's own knowledge in common and frequent clinical situations, and asks for assistance.
- Consistently recognizes limits of one's own knowledge in uncommon and complicated clinical situations; develops and implements plans for the best possible patient care.
- Recognizes the needs to develop and demonstrate leadership skills.
- Identifies basic principles of physician wellness, including rest, diet, exercise, personal health, and balance in life.
- Demonstrates adequate management of personal emotional, physical, and mental health.
- Is knowledgeable about and effectively manages the issues related to fatigue and sleep deprivation.
- Recognizes signs of physician impairment.
- Is able to assess application of principles of physician wellness, alertness, delegation, teamwork, and optimization of personal performance to the practice of medicine in one's own self and others.
- Is able to identify and manage situations in which maintaining personal emotional, physical, and mental health is challenged by common and typical clinical care solutions.
- Demonstrate respect, integrity and compassion for others
- Demonstrate responsiveness to patient needs that supersedes 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 consent, 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

### **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 system to provide optimal health care.

#### **Objectives**

- Understands the need for an interdisciplinary approach to effectively coordinate care.
- Understands coordination of care between different systems.
- Transmits relevant information during transitions of care.
- Facilitates safe and effective transitions of care.
- Works with other members of the health care team to identify system errors and areas of potential quality improvement
- Works in interdisciplinary teams to identify solutions (action plans) to identified system errors.
- Is respectful of other team members and actively seeks their input to solve problems.
- Provides examples of cost and value implications of care and begins to incorporate these into patient care decisions
- Practices cost-effective care with awareness of risk-benefit considerations, and uses cost considerations in medical decision-making

- Work effectively in various health care delivery settings and systems relevant to vascular surgery
- Coordinate patient care within the health care system relevant to their surgical issues
- 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 inter-professional teams to enhance patient safety and improve patient care quality
- Participate in identifying system errors and implementing potential system solutions

**ASSESSMENT METHOD:**

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

**DIDACTIC CURRICULUM REQUIRED ATTENDANCE:**

Ortho Monday Pre-Op Conference (Monday AM)

Wednesday Pediatric Conference (Wednesday AM)

Friday Post-Op Conference (Friday AM)

Ortho Monthly Research Meeting (Wednesday AM)

Monthly Ortho Department Meeting/Educational Grand Rounds (Monday PM)

Bi-Monthly M&M Conference (Monday PM)

Ortho Basic Surgical Skills Lab (As scheduled)

General Surgery M&M and Grand Rounds (Tuesday AM)

Tumor Board (Tuesday PM)