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| **General Surgery Residency Goals & Objectives** |
| **Vascular Surgery at University of Arkansas for Medical Sciences Medical Center**  **Vascular Surgery at the Central Arkansas Veterans Health System** |
| **Revised January, 2011** |

**PGY-1**

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| **Patient Care:** | To perform under supervision diagnostic arteriography and venography of the abdomen and lower extremities.  To demonstrate appropriate outpatient evaluation of patients with general surgical and vascular disease, including plans for diagnostic evaluation and initial therapeutic planning.  To demonstrate proficiency in placing percutaneous arterial and venous monitoring catheters.  To demonstrate proficiency in placement of nasogastric tubes and Foley catheters.  To demonstrate proficiency in basic surgical techniques including incisions, closures, tissue dissection and surgical knot tying.  To demonstrate proficiency in patient history and physical examinations  To demonstrate proficiency in pre- and post-operative patient care.  Residents are expected to communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families; gather essential and accurate information about their patients pertinent to vascular disease; make informed decisions about vascular diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment; develop and carry out patient management plans for the management of vascular disease; counsel and educate patients and their families in regard to vascular disorders use information technology to support patient care decisions and patient education; perform competently medical and basic interventions considered essential for the management of vascular disease; provide health care services aimed at preventing vascular disease; work with healthcare professionals, including those from other disciplines, to provide patient-focused care. |
| **Medical Knowledge:** | To understand basic principles of all aspects of vascular surgery.  To comprehend the surgical anatomy, physiology and pathology of relevant systems in the field of vascular surgery.  To understand radiation safety issues for the patient and operator.  To understand arterial and venous radiographic anatomy.  To develop proficiency with percutaneous arterial and venous cannulation of the upper and lower extremity.  To become familiar with and be able to name all basic guidewires, catheters and other devices used for diagnostic and therapeutic interventional procedures.  To learn the indications for, the performance of, and the interpretation of arterial physiologic testing and venous duplex scanning for DVT.  To demonstrate expertise with percutaneous puncture and with diagnostic arteriography of the abdomen and lower extremity.  To use percutaneous closure techniques after arterial catheterization.  To learn the indications for, the performance of, and the interpretation of peripheral arterial duplex scanning and duplex scanning for venous valvular incompetence  To demonstrate effective patient evaluation techniques, including history, physical examination and noninvasive testing.  To clearly present patient information on rounds and in conferences.  To demonstrate appropriate initial evaluation of outpatients with the vascular disease including plans for initial diagnostic evaluation.  To demonstrate responsibility for the care of the vascular patients in the intensive care units.  To acquire detailed knowledge concerning arterial occlusive and aneurysmal disease and venous thrombosis and insufficiency. |
| **Practice-Based Learning and Improvement:** | Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents must attend Practice Based Learning Conferences and Morbidity and Mortality conferences. They will obtain educational goals through these conferences |
| **Interpersonal and Communication Skills:** | Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange with patients, their patients’ families, and professional associates. |
| **Professionalism:** | Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles and sensitivity to a diverse patient population. |
| **Systems-based Practice:** | Residents must demonstrate an awareness of and responsiveness to the larger context and system of healthcare and the ability to effectively call on stem resource to provide optimal care of patients with vascular disease. |

**PGY-2**

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| **Patient Care:** | To demonstrate expertise with procedures learned during the previous rotation.  To demonstrate increased proficiency in operative techniques in vascular surgery.  To demonstrate the ability to take care of patients in intensive care unit.  To demonstrate proficiency in evaluating emergency patients in both inpatient and outpatient settings.  To learn the indications for, the performance of, and the interpretation of carotid artery duplex, abdominal arterial duplex, and upper extremity venous duplex scanning.  To acquire basic knowledge concerning less common arterial, venous and lymphatic disease processes, including diagnosis and treatment options.  To perform under supervision inpatient consultations for other services.  To demonstrate thorough evaluation of outpatients with vascular disease, including diagnostic and therapeutic planning. |
| **Medical Knowledge:** | Understand the comprehensive knowledge required in critical care management.  Understand the surgical diagnosis and management of diseases of vascular system.  The resident should be able to explain indications for common interventional radiologic techniques as well as benefit/risk ratio in comparison to surgical intervention.  The resident should be able to demonstrate knowledge of the common complications of interventional radiologic procedures.  The resident should understand associated risk factors and be able to discuss specific interventions to reduce the risk of these complications. *Examples include contrast-induced renal insufficiency and contrast dye allergy.*  The resident should demonstrate knowledge of the indications for medical management of common vascular disorders with emphasis on antithrombotic therapy.  Recognize common angiographic abnormalities including atherosclerosis, embolism, aneurysm, and vascular dissection.  Recognize need for amputation as well as optimal reconstruction technique to ensure maximum rehabilitation success. |
| **Practice-Based Leaning and Improvement:** | Residents are expected to: analyze practice experience and perform practice-based improvement activities using a systematic methodology; locate, appraise and assimilate evidence from scientific studies related to vascular disease; obtain and use information about patients with vascular disease; apply knowledge of study designs and statistical methods to the appraisal of clinical studies of vascular diseases; use information technology to manage information, access on-line medical information, and support their own education; facilitate the learning of students and other healthcare professionals related to vascular disease.  Residents are to present at vascular case conference, selected reading, and journal club and answer questions at board review. |
| **Interpersonal and Communication Skills:** | Residents are expected to create and sustain a therapeutic and ethically sound relationship with patients; use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning and writing skills; work effectively with others as a member or leader of a healthcare team or other professional group. |
| **Professionalism:** | Residents are expected to: Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest, accountability to patients, society and the profession, and a commitment to excellence and ongoing professional development; 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 patients’ culture, age, gender and disabilities. |
| **Systems-based Practice:** | Residents are expected to: understand how their patient care and other professional practices affect other healthcare professionals, the healthcare organization and the larger society and how these elements of the system affect their own practice; know how types of medical practice and delivery systems differ from one another, including methods of controlling healthcare costs and allocating resources; practice cost-effective healthcare and resource allocation that does not compromise quality of care; advocate for quality patient care and assist patients in dealing with system complexities; know how to partner with healthcare managers and healthcare providers to assess, coordinate and improve healthcare and know how these activities can affect system performance. |

**PGY-3**

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| **Patient Care:** | To continue to improve on techniques in patient care and management learned in previous years.  To gather and interpret essential and accurate information about the patient’s health status.  In conjunction with the most senior resident on the vascular service the resident should help in the overall responsibility for knowing the daily progress and plans of all patients on the service. |
| **Medical Knowledge:** | The resident should be able to perform a detailed preoperative assessment of co-morbid conditions in patients undergoing major vascular procedures to include need for cardiac evaluation, interpretation of common cardiac function test (EKG, MUGA, perfusion scans, and other stress tests) and be able to utilize this information to plan the safest procedure with appropriate monitoring.  The resident should interpret and correctly utilize vascular noninvasive tests including carotid duplex ultrasonography, and venous duplex ultrasonography.  The resident should demonstrate detailed knowledge about the angiographic anatomy of the upper and lower extremities, the abdominal aorta and its branches, the brachiocephalic vessels and their branches, the extracranial cervical arteries, and the major intracranial branches of the carotid arteries.  The resident should demonstrate detailed knowledge of critical care as it relates to recovering vascular patients. *This should include correct interpretation of physiologic monitoring tests (Swan-Ganz catheters, central oxygen saturation catheters, continuous ECG monitoring, etc.). Residents at these levels should also be able to manage common problems that arise in these patients including low cardiac output, renal insufficiency, congestive heart failure, cardiac arrhythmias, coagulopathy, and acute psychoses*. |
| **Practice-Based Leaning and Improvement:** | To expand the fund of knowledge primarily through journals and electronic media  To lead the education of the medical students and junior residents through daily rounds and attend and present at conferences.  To lead work rounds so that diagnostic and treatment issues are identified and care tasks are initiated and completed in an appropriate and timely manner.  To provide information and resources so that the team understands the medical, surgical, and scientific basis of a patient’s condition and his or her treatment plan.  To attend all vascular related conferences and make presentations at these conferences |
| **Interpersonal and Communication Skills:** | To demonstrate compassion and integrity through respectful patient care, family interactions, and communication with other care providers.  To conduct work rounds so that clinical information is clear and concise.  To assure that team orders and progress notes are legible, detailed, and accurate.  To provide informed opinions during consultations with other services in a prompt, thoughtful and respectful manner.  To advice patients and family members in the decision making process. |
| **Professionalism:** | To assume a leadership role in communicating effectively with other housestaff, service attendings, other physicians, medical students, nurses and paramedical personnel.  To understand when expert medical advice is necessary.  To obtain informed consent from patients.  To demonstrate compassion and integrity through respectful patient care, family interactions and communication with other health care providers.  To present at Morbidity and Mortality Conferences. |
| **Systems-based Practice:** | To function as a part of the larger health team environment by respecting the opinion of others.  To present new and interesting ideas using the latest technology to provide high quality patient care and education.  To assure that priorities of care and service duties are transferred completely and responsibly on changes in duty hours.  To responsibly accept the on call care responsibilities of patients who are not in the primary service.  To assure the standardized care plans are applied and that junior residents understand the rationale behind them.  To identify problems and inefficiencies in the provision of patient care and devise means of assessing and addressing them. |

**PGY-4**

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| **Patient Care:** | To demonstrate expertise with the techniques learned during the previous rotations.  To demonstrate teaching role in the supervision of junior residents in patient care in the field of vascular surgery.  To demonstrate expertise with all basic and advanced interventional procedures.  To instruct a junior residents in basic diagnostic interventional procedures.  To independently manage complex interventional procedures with minimal faculty supervision.  To demonstrate appropriate rescue techniques for complications of interventional procedures.  To learn to read and interpret noninvasive vascular laboratory studies and perform interpretations under faculty supervision.  To demonstrate expertise with procedures learned during the previous rotations.  To demonstrate detailed knowledge concerning all arterial, venous and lymphatic disease processes, including diagnosis and treatment options, using interventional, open and medical management techniques.  To assume responsibilities for supervision of the entire vascular service.  To instruct junior residents in basic open operations.  To independently manage complex vascular patients with minimal faculty supervision in both the outpatient and inpatient setting. Residents will provide patient care that is compassionate, appropriate and effective for the treatment of health problems and the promotion of health.  Under appropriate supervision, the resident should be able to perform advanced vascular operations such as:  *Balloon angioplasty and stenting of lower extremity arteries*  *Carotid endaretectomy Catheter based arteriography*  *Elective aortic revascularization Femoropopliteal and femorodistal bypass* |
| **Medical Knowledge:** | The resident should be able to demonstrate advanced knowledge of the medical management of atherosclerosis.  The resident should understand the natural history of common vascular problems including but not limited to asymptomatic aneurysm, asymptomatic carotid stenosis, transient ischemic attacks, asymptomatic renal artery stenosis, claudication, rest pain, and tissue loss.  The resident should be able to demonstrate detailed knowledge about the etiology, diagnosis, and treatment of the diabetic foot.  The resident should recognize common angiographic abnormalities including atherosclerosis, embolism, aneurysm, and vascular dissection.  The resident should demonstrate knowledge about the indications and outcomes for common vascular operations and endovascular procedures (lower extremity revascularization, aneurysm repair, carotid endarterectomy, mesenteric/renal bypass, and varicose vein ablation). |
| **Practice-Based Leaning and Improvement:** | Become proficient at evaluating patient care and surgical literature by participation in the Morbidity and Mortality conference and quality assurance processes.  Attend all relevant conferences on the vascular surgery service |
| **Interpersonal and Communication Skills:** | Lead patient and family discussions regarding injured patients or those requiring emergency surgery with appropriate skill and compassion and exhibit maturity and respect in interactions with healthcare staff. |
| **Professionalism:** | Exhibit appropriate use of ethical principles and the consideration of cultural and spiritual issues in medical decision-making and family and patient interactions. |
| **Systems-based Practice:** | Teach junior residents the multidisciplinary approach to patient care, identify and utilize resources to the patient’s benefit and effectively coordinate services for the patient. Knowledge of social work and long-term care issues, special needs of the geriatric and pregnant patients and those with disability is especially important. |