University of South Florida

Vascular Surgery – PGY 1

Competency Based Goals & Objectives

Competency 1- Patient Care: Provide family centered patient care that is developmentally and age appropriate, compassionate, and effective for the treatment of health problems and the promotion of health.

1. Perform patient assessments, including taking a history from patient or other historians, complete or focused physical examinations, and interpretation of basic laboratory tests and radiographs in a timely and accurate fashion.
2. Tailor the patient assessment as appropriate for the different needs of patients returning postoperatively, patients who will undergo major elective surgery, and patients presenting urgently with vascular surgery problems.
3. Manage stable patients with minimal supervision, while recognizing issues which need immediate input from senior residents or faculty
4. Prioritize routine clinical responsibilities
5. Recognize when help is needed from electronic or text-based resources, hospital staff, or other physicians
6. Provide accurate, timely, succinct and independently verified documentation as needed for daily notes, procedure notes, pre-operative and postoperative checks, and discharge or transfer summaries.
7. Evaluate and treat patients presenting to the emergency room.
8. Perform procedures under appropriate supervision including:
    a. Arterial line/ABG
    b. Peripheral line/Phlebotomy
    c. Chest tube placement
    d. Wound Debridement
    e. Femoral IJ/SC line placement
    f. Operative procedures:
    g. Extremity amputations
    h. Placement long-term central venous access
    i. Debridement of complex wounds

Competency 2 – Medical Knowledge: Understand the scope of established and evolving biomedical, clinical, epidemiological and social-behavioral; demonstrate the ability to acquire, critically interpret and apply this knowledge; demonstrate the ability to acquire, critically interpret and apply this knowledge in patient care.

1. The intern resident on Vascular Surgery should strengthen their knowledge of:

    a) Basic Science principles (ex: metabolism, wound healing)
    b) General Surgery principles (ex: acute cholecystitis)
    c) GI Surgery principles (ex: perforated ulcer)
    d) General Medicine principles (ex: infectious disease)
    e) Radiographic studies: indications and interpretation
2. Demonstrate knowledge of the pathophysiology of abdominal aortic aneurysm (AAA) with respect to:

    a. Incidence

b. Annual growth rate and natural history of untreated AAA

c. Incidence of rupture and risk factors associated with increased incidence of rupture

d. Mortality rate of elective AAA replacement in selected elderly patients in comparison with the younger population

e. Mortality rate of emergent AAA replacement in the elderly in comparison with the younger population

f. Concept of chronological age vs. physiological age and the medical risk factors that increase the risk of AAA replacement such as cardiac disease, pulmonary insufficiency and chronic renal failure

g. Perioperative cardiac screening and optimization of medical condition

h. Preservation of the quality of life following AAA replacement in the elderly

i. Screening and diagnostic tests for AAA and the association between AAA and iliac, popliteal, and femoral aneurysm

j. Concept of transperitoneal versus retroperitoneal approach to AAA replacement

k. Concept of endovascular aortic aneurysm replacement.

3. Demonstrate knowledge of the manifestation and management of lower extremity occlusive disease with respect to:

a. Ability to differentiate the symptoms of arterial claudication from neurogenic or venous claudication

b. Natural history of intermittent claudication; the effects of smoking, diabetes, hypertension, and degree of ischemia upon presentation, on the future risk of amputation

c. Role of exercise, risk factor modification, and drug therapy in the management of claudication; their mechanism of action and their limitations.

d. Definition of rest pain and the risk of amputation if untreated

e. Different presentation of the elderly with single and multilevel arterial disease

f. Interpretation of noninvasive tests used for evaluating lower extremity ischemia:

- Arm brachial index (ABI)
- Segmental pressures
- Toe pressures
- Transcutaneous oxygen tension.

g. ABI changes in patients with claudication, rest pain, tissue loss

h. Limitations of the ABI in diabetic patients and the value of toe pressure measurements.

i. Predicting healing of an amputation based on noninvasive testing.

j. Morbidity and mortality and ambulation rates after a major amputation in the elderly.

k. Accepted indications for primary amputation in the elderly;

l. Morbidity, mortality and patency rates of the revascularization options for aortoiliac occlusive disease:

- Aortobifemoral bypass
- Axillo femoral bypass

- Femoro femoral bypass
- Balloon angioplasty
- Primary stenting

m. The patency rate and limb salvage rag following infrainguinal revascularization using autogenous veins and prosthetic conduits for:

- Femoro-above knee popliteal bypass;
- Femoro-below knee popliteal bypass;
- Femoro-tibial bypass.

n. Limitations and patency rates of balloon angioplasty in infrainguinal occlusive disease.

o. Mortality and morbidity of distal revascularization in octogenarians.

4. Demonstrate knowledge of the manifestation and management of carotid disease with respect to:

a. Significance of stroke as cause of mortality and disability in the elderly;

b. risk factors for stroke development;

c. Changes in stroke incidence with every decade of life;

d. Contribution of carotid disease to the incidence of stroke;

e. Significance of carotid bruit in the elderly;

f. Proven measures for stroke prevention;

g. Advantages and disadvantages of diagnostic methods (duplex ultrasonography, angiography, MRA, intracranial Doppler and CT scan);

h. Role of duplex ultrasonography in assessing the degree of carotid disease;

i. Predicting healing of an amputation based on noninvasive testing;

j. Morbidity and mortality and ambulation rates after a major amputation in the elderly;

k. Accepted indications for primary amputation in the elderly;

l. Morbidity, mortality and patency rates of the revascularization options for aortoiliac occlusive disease:

- Aortobifemoral bypass;
- Axillofemoral bypass;
- Femorofemoral bypass
- Balloon angioplasty;
- Primary stenting.

m. The patency rate and limb salvage rate following infrainguinal revascularization using autogenous veins and prosthetic conduits for:

a. Femoro-above-knee popliteal bypass;

b. Femoro-below knee popliteal bypass;

c. Femoro-tibial bypass.

n. Limitations and patency rates of balloon angioplasty in infrainguinal occlusive disease.

o. Mortality and morbidity of distal revascularization in octogenarians.

5. Demonstrate knowledge of the manifestation and management of carotid disease with respect to:

    a. Significance of stroke as cause of mortality and disability in the elderly;

    b. Risk factors for stroke development;

    c. Changes in stroke incidence with every decade of life;

    d. Contribution of carotid disease to the incidence of stroke;

    e. Significance of carotid bruit in the elderly

    f. Proven measures for stroke prevention

    g. Advantages and disadvantages of diagnostic methods (duplex ultrasonography, angiography, MRA, intracranial Doppler and CT scan)

    h. Role of duplex ultrasonography in assessing the degree of carotid disease

    i. Measurements of the degree of carotid stenosis based on angiography

    j. Natural history of asymptomatic vs. symptomatic carotid disease

    k. Benefits of carotid endarterectomy in symptomatic patients

    l. Benefits of carotid endarterectomy in asymptomatic patients

    m. Risk of stroke or death following CEA in asymptomatic patients

    n. Mortality and morbidity of CEA in octogenarians

    o. Limitations of the prospective randomized CEA trials with respect to the octogenarians

6. Venous disease

    a. Describe difference between Truncal varicosities and branch varicosities
    b. Describe treatment options: Compression, Stripping, stab avulsion, sclerotherapy, RFA, Laser
    c. Treatment of venous stasis ulcers. Compression, R/O arterial; R/O superficial disease
    d. Indications for Vena Caval filter placement

7. Identify vascular conditions where immediate intervention is required.

    a. Ruptured AAA

    b. Acute limb ischemia

    c. Diabetic foot infection and Gas Gangrene

    d. etiology, microbiology, and treatment of diabetic foot infection

8. Vascular testing

    a. Understand the value of the following diagnostic tools:
        1. Doppler evaluation;
        2. Arm/brachial indices;
        3. Transmetatarsal PVR;
        4. Toe pressures;
        5. Transcutaneous oxygen tensions;
        6. Venous photoplethysmography (PPG);

7. Magnetic resonance imaging and magnetic resonance angiography;
8. CAT scan.
9. Digital subtraction angiography

Miscellaneous

- Indications for Greenfield filter placement.
- Varicose veins: Trunk varicosity, Branch varicosity: GSV stripping; stab avulsion, Radiofrequency ablation, laser ablation, sclerotherapy.
- Vascular access for dialysis

b. Describe the basic clinical manifestations of:
   1. Renal artery occlusive disease;
   2. Celiac and superior mesenteric occlusive disease.
   3. Popliteal aneurysm
   4. Thoracic outlet syndrome
   5. Advantages and disadvantages to AV fistula vs. AV graft

Competency 3 – Communication Skills: Demonstrate interpersonal and communication skills that result in information exchange and partnering with patients, their families and professional associates.

1. Talk to family members about sensitive issues that relate to a patient's illness, e.g. coping with the child's altered needs in his/her home setting.
2. Write an effective and timely consultation note that summarizes the findings and recommendations of the pediatric orthopedist and clarifies the continued role and responsibility of the consultant.
3. Describe the role of all members of a multi-disciplinary team and show respect for the contributions of each.
4. Maintain comprehensive, timely and legible medical records.

Competency 4 – Practice Based Learning and Improvement: Demonstrate knowledge, skills and attitudes needed for continuous self-assessment, using scientific methods and evidence to investigate, evaluate and improve one's patient care practice.

1. Identify standardized guidelines for diagnosis and treatment of complex problems of the musculoskeletal system and learn the rationale for adaptations that optimize treatment.
2. Identify personal learning needs, systematically organize relevant information resources for future references, and plan for continuing data acquisition if appropriate.
3. Seek and incorporate feedback and self-assessment into a plan for professional growth and practice improvement (e.g. use evaluations provided by patients, peers, superiors and subordinates to improve patient care.

Competency 5 – Professionalism: Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles and sensitivity to diversity.

1. Be honest and use integrity in your professional duties.
2. Act with integrity and communicate honestly

3. Be attentive to conflicts of interest and bias that may affect patient care
4. Seek and consider feedback for improvement from senior residents, faculty, students, and other members of the healthcare teams
5. Be particularly sensitive to the needs and concerns of the morbidly obese patient group
6. Practice demonstrating respect and compassion for all, regardless of educational level, age, gender/sexuality issues, income level, or cultural background
7. Recognize the function of a junior resident as role model for medical students
8. Avoid derogatory remarks or gestures regarding patients, hospital staff, outside physicians, or Iowa physicians from other disciplines

Competency 6 – System-Based Practice: Understand how to practice quality health care and advocate for patients within the context of the healthcare system.

1. Become a contributing team member in the different work environments of the clinics, wards, emergency room, and procedure suites
2. Clarify how documentation and billing charges differ for consultations vs. referrals vs. on-going management of patients treated on the pediatric orthopedic service.
3. Explore the difference between fee-for-service referrals and managed care referrals and the office systems needed to support both.
4. Describe patient and system factors that contribute to escalating costs of care in the subspecialty setting, and consider the impact of these costs on families and on the health care system.
5. Recognize and advocate for families who need assistance to deal with systems complexities, such as lack of insurance, multiple medication refills, multiple appointments with long transport times or inconvenient hours of service.
6. Support community prevention efforts related to pediatric orthopaedics by working with a local professional organization or organizing a project to do with colleagues.
7. Consider potential sources of medical error in this subspecialty setting (e.g. drug interactions, complex care plans, provider fatigue).