The **purpose** of this document is to familiarize residents with the objectives of the Division of Vascular Surgery and Endovascular Therapy and the routines of the service.

### Attending Surgeon contact numbers

<table>
<thead>
<tr>
<th>Name</th>
<th>Pager</th>
<th>Cell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Bernadette Aulivola</td>
<td>708-643-8515</td>
<td>773-208-2688</td>
</tr>
<tr>
<td>Dr. Carlos Bechara</td>
<td>708-643-7761</td>
<td>832-331-9434</td>
</tr>
<tr>
<td>Dr. Matthew Blecha</td>
<td>tiger text</td>
<td>773-391-8744</td>
</tr>
<tr>
<td>Dr. Paul Crisostomo</td>
<td>708-643-2017</td>
<td>317-439-9480</td>
</tr>
<tr>
<td>Dr. Pegge Halandras</td>
<td>708-643-0883</td>
<td>720-425-0035</td>
</tr>
<tr>
<td>Dr. Michael Soult</td>
<td>708-643-0843</td>
<td>336-675-6422</td>
</tr>
</tbody>
</table>

### Other useful phone numbers

#### Office

<table>
<thead>
<tr>
<th>Administrative assistants</th>
<th>7-2686</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mary Plummer (Loyola)</td>
<td>7-3431</td>
</tr>
<tr>
<td>Donna Coleman-Williamson (Loyola scheduling)</td>
<td>7-2387</td>
</tr>
<tr>
<td></td>
<td>7-3492 (fax)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nurses</th>
<th>7-2809</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim Maas</td>
<td></td>
</tr>
<tr>
<td>Anhloan Le</td>
<td></td>
</tr>
<tr>
<td>Patricia Franke</td>
<td></td>
</tr>
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</table>

#### Advanced Practice Nurses

<table>
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<tr>
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<tbody>
<tr>
<td>Tina Mathew (Loyola outpatient)</td>
<td>708-643-0968</td>
<td>847-401-5144</td>
</tr>
<tr>
<td>Parin Katwala (Loyola inpatient)</td>
<td>708-643-1855</td>
<td>630-740-8756</td>
</tr>
</tbody>
</table>

**LOYOLA UNIVERSITY MEDICAL CENTER**  
**RESIDENCY PROGRAM IN GENERAL SURGERY**  
**CLINICAL ROTATION DESCRIPTION**

Vascular Surgery – Loyola / Hines VA

### Educational Objectives

**GOALS (General Competencies - ACGME):**

1. **Patient Care** that is compassionate, appropriate, and effective for the treatment of health programs and the promotion of health.  
2. **Medical Knowledge** about established and evolving biomedical, clinical, and cognate sciences, as well as the application of this knowledge to patient care.
3. **Practice-based learning and improvement** that involves the investigation of care for their patients, the appraisal and assimilation of scientific evidence, and improvements in patient care.

4. **Interpersonal and communication skills** that result in the effective exchange of information and collaboration with patients, their families, and other health professionals.

5. **Professionalism**, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to patients of diverse backgrounds.

6. **Systems-based practice**, as manifested by actions that 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.

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### Weekly Teaching Conferences/Meetings (attendance mandatory)

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Conference</th>
<th>Location</th>
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<tbody>
<tr>
<td>Monday</td>
<td>7:00-8:00 am</td>
<td>Morning report</td>
<td>EMS 3239</td>
</tr>
<tr>
<td></td>
<td>5:00-6:00 pm</td>
<td>Departmental M&amp;M</td>
<td>SSOM 460</td>
</tr>
<tr>
<td>Wednesday</td>
<td>6:30-7:00 am</td>
<td>Morning report</td>
<td>SSOM cafeteria</td>
</tr>
<tr>
<td></td>
<td>7:00-8:00 am</td>
<td>Dept. Grand Rounds</td>
<td>SSOM 190</td>
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<tr>
<td>Thursday</td>
<td>7:30-8:30 am</td>
<td>MS/PGY1/2 Teaching conf</td>
<td>EMS 3239</td>
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<tr>
<td>Friday</td>
<td>6:30-7:30am</td>
<td>Morning report</td>
<td>EMS 3284</td>
</tr>
<tr>
<td></td>
<td>7:00-8:00am</td>
<td>Vascular Topics conf</td>
<td>EMS 3284</td>
</tr>
<tr>
<td></td>
<td>8:00-9:00am</td>
<td>Vascular Case conf</td>
<td>EMS 3284</td>
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### Educational objectives for PGY1 residents

Residents at the PGY1 level are expected to assume responsibilities in the inpatient floors, emergency department, catheterization lab and ambulatory surgery center, main operating room and outpatient clinic. Daily responsibilities include patient management including wound care, dressing changes, medication management, interacting with hospitalist co-management team and consulting physicians, ordering appropriate imaging and lab testing.

By the completion of the rotation, PGY1s should have skills in the following:

**GOAL #1 PATIENT CARE:**
- History and physical examination of the arterial and venous systems.
- Problem identification, differential diagnosis and plan of investigation.
- Preoperative risk assessment and management of the vascular surgical patient (i.e. diabetes, cardiac, respiratory, renal).
- Fluid and electrolyte management.
- Postoperative complications (assessment and management).
- **Technical skills** expected include:
  - Insertion of a nasogastric tube
• Venipuncture
• Bladder catheter placement
• Skin suturing
• Basic wound care
• Placement and removal of wound VAC dressings

Operating room experience at this level will largely depend on the individual resident. Typical operative experience includes but is not limited to arteriography, venography, venous ablation, varicose vein phlebectomies, wound debridement and major amputations.

GOAL #2 MEDICAL KNOWLEDGE:

• Principles of noninvasive vascular laboratory evaluation of the arteries and veins.
• Principles of angiography, CT imaging, MRI, and MRA
• Anatomy of the vascular system
• Use of anticoagulation: physiology of the platelets, blood coagulation and fibrinolytic systems. Pharmacologic intervention on the platelet, coagulation and fibrinolytic systems.
• Screening, surveillance and intervention indications for arterial aneurysms.
• Screening, surveillance and intervention indications for extracranial cerebrovascular disease.
• Screening, surveillance and intervention indications for peripheral arterial disease.
• Evaluation and management of venous insufficiency and varicose veins.

GOALS # 3,4,5 AND 6: SEE COMMON GOALS

Educational objectives for PGY 2 residents

Residents at the PGY2 level are expected to develop a more in depth understanding of the radiologic and non-invasive methods for assessment of the arterial and venous systems. They are also expected to be able to apply these imaging methods along with clinical assessment to localize the site and severity of arterial and venous disease. They should demonstrate a more comprehensive understanding of the principles of patient management as well as endovascular arterial and venous puncture and vascular exposures.

By the completion of the rotation, PGY2s should have skills in the following in addition to the PGY1 skills above:

GOAL #1: PATIENT CARE

Given a patient with vascular (arterial, venous or lymphatic) disease, the resident will be able to do the following to the satisfaction of his/her supervisor(s):

• Arrive at an appropriate differential diagnosis
• Order appropriate laboratory, radiological and other diagnostic procedures demonstrating knowledge in the interpretation of these investigations.
- Arrive at an acceptable plan of management demonstrating knowledge in interventional, operative and non-operative management of the disease process.
- Manage patients in the ambulatory setting, demonstrating knowledge of common office techniques and procedures.
- Manage the patient throughout the entire inpatient course, demonstrating knowledge potential complications of disease processes and operative procedures and their treatment.
- Provide a comprehensive plan for patient follow up.

**Technical Skills** expected include:
- Assisting (both first and second) in the operating room, developing a facility for anticipation of surgical maneuvers, gentle traction on tissues, and an ability to take direction well, to make reasonable suggestions and inquiry, and to contribute to a positive operating room atmosphere.
- Vascular access techniques for hemodialysis
- Varicose vein procedures (endovenous, vein stripping, ligation/avulsion).
- Exposure of arterial pathology at various sites without injury to artery or surrounding structures
- Femoral arterial embolectomy/thrombectomy.
- Calf fasciotomy
- Vascular anastomosis (end-side)
- Control of hemorrhage
- Repair of traumatized artery
- Patch of a diseased artery

Operating room experience at this level will largely depend on the individual resident. Typical operative experience includes but is not limited to arteriography, venography, venous ablation, varicose vein phlebectomies, wound debridement, major amputation, arteriovenous access surgery.

**GOAL #2: MEDICAL KNOWLEDGE**

Given a patient with vascular disease, the resident must be able to perform the clinical skills listed in the section above, and be able to demonstrate to the satisfaction of his/her supervisor(s), a fundamental knowledge and understanding of the general and specific areas listed below. The PGY2s knowledge must be adequate to allow appropriate assessment, investigation, diagnosis, and treatment.

**General Areas**
- Anatomy and physiology of the arterial, venous and lymphatic systems, with emphasis on the arteries of the leg, the arterial and venous relationships at the inguinal region, the carotid bifurcation, the subclavian artery and vein, and the abdominal aorta and vena cava.
- Noninvasive and radiological assessment of the arterial and venous systems.
- Pharmacology as related to diseases of arteries and veins, especially chronic and acute arterial insufficiency, deep venous thrombosis and pulmonary embolism.
• Natural history of arterial disease processes and outcome of a variety of vascular procedures.

Specific disease entities
• Arterial insufficiency of the legs, acute and chronic.
• Abdominal aortic aneurysm (asymptomatic and ruptured)
• Peripheral aneurysms.
• Carotid artery disease
• Renal hypertension.
• Associated diseases e.g. cardiac, respiratory, renal, diabetes.
• Varicose veins.
• Deep vein thrombosis.
• Compartment syndromes.

GOALS # 3,4,5 AND 6: SEE COMMON GOALS

Educational objectives for PGY 4 residents
Residents at the PGY4 level are expected to have a comprehensive understanding of the radiologic and non-invasive methods for assessment of the arterial and venous systems. They are also expected to be able to apply these imaging methods along with clinical assessment to localize the site and severity of arterial and venous disease. They should demonstrate comprehensive understanding of the principles of patient management as well as endovascular arterial and venous puncture and vascular exposures. They should be familiar with the complications associated with vascular disease and interventions including the identification and management of such complications.

PGY4s should be engaged in the process of Departmental Morbidity and Mortality conference, presenting the patients that they were responsible for in care.

By the completion of the rotation, PGY4s should have skills in the following in addition to the PGY1 and 2 skills above:

GOAL #1: PATIENT CARE
Given a patient with vascular (arterial, venous or lymphatic) disease, the resident will be able to do the following to the satisfaction of his/her supervisor(s):

• Arrive at a comprehensive differential diagnosis
• Order appropriate laboratory, radiological and other diagnostic procedures demonstrating knowledge in the interpretation of these investigations and application of findings in patient management decision making.
• Arrive at an acceptable plan of management demonstrating comprehensive knowledge in interventional, operative and non-operative management of the disease process. The resident should be able to discuss the relative risks and benefits of all management options.
• Manage patients in the ambulatory setting, demonstrating comprehensive knowledge of common office techniques and procedures.
• Manage the patient throughout the entire inpatient course including ICU and stepdown unit-level care. Demonstrate knowledge all potential complications of disease processes and operative procedures and their treatment.
• Provide a comprehensive plan for patient follow up and surveillance of disease.
• Supervision of PGY1 and 2 residents in the operating room when deemed appropriate by the attending surgeon.

**Technical Skills** expected include:
• Assisting in the operating room, developing a facility for anticipation of surgical maneuvers, gentle traction on tissues, and an ability to take direction well, to make reasonable suggestions and inquiry, and to contribute to a positive operating room atmosphere.
• Vascular access techniques for hemodialysis
• Varicose vein procedures (endovenous, vein stripping, ligation/avulsion).
• Exposure of arterial pathology at various sites without injury to artery or surrounding structures
• Femoral arterial embolectomy/thrombectomy.
• Vascular anastomosis (end-end and end-side)
• Calf fasciotomy
• Control of hemorrhage
• Repair of traumatized artery
• Patch of a diseased artery
• Endarterectomy

Operating room experience at this level will largely depend on the individual resident. Typical operative experience includes but is not limited to arteriography, venography, major amputation, arteriovenous access surgery, extremity bypass, endovascular aneurysm repair, carotid endarterectomy, arterial and venous interventions for occlusive disease, thrombolytic therapy, anterior spine exposure, pseudoaneurysm thrombin injection.

**GOAL #2: MEDICAL KNOWLEDGE**

Given a patient with vascular disease, the resident must be able to perform the clinical skills listed in the section above, and be able to demonstrate to the satisfaction of his/her supervisor(s), a fundamental knowledge and understanding of the general and specific areas listed below. The PGY4's knowledge must be adequate to allow appropriate assessment, investigation, diagnosis, and treatment

**General Areas**
• Anatomy and physiology of the arterial, venous and lymphatic systems, with emphasis on the arteries of the leg, the arterial and venous relationships at the inguinal region, the carotid bifurcation, the subclavian artery and vein, and the abdominal aorta and vena cava.
• Noninvasive and radiological assessment of the arterial and venous systems.
• Pharmacology as related to diseases of arteries and veins, especially chronic and acute arterial insufficiency, deep venous thrombosis and pulmonary embolism.
• Natural history of arterial disease processes and outcome of a variety of vascular procedures.

Specific disease entities
• Arterial insufficiency of the legs, acute and chronic.
• Abdominal aortic aneurysm (asymptomatic and ruptured)
• Peripheral aneurysms.
• Carotid artery disease
• Renal hypertension.
• Associated diseases e.g. cardiac, respiratory, renal, diabetes.
• Varicose veins.
• Deep vein thrombosis.
• Compartment syndromes
• Aortic dissection
• Vascular trauma

GOALS # 3,4,5 AND 6: SEE COMMON GOALS

COMMON GOALS

GOAL #3: PRACTICE-BASED LEARNING & IMPROVEMENT

• Present cases concisely and clearly to peers, supervising surgeons and consultants
• Use only approved abbreviations in the medical record
• Search, evaluate, and critically review scientific evidence appropriate to the care of assigned patients. Data will be presented on teaching rounds, in the Operating Room, while discussing indications for procedures or during the patient care review conferences.
• Include evidence based references in M&M presentations and on rounds
• Use information technology to access clinical information, including performing on-line searches to support self-directed learning.

Practice based learning will be assessed and measured by:

• Identify at least one evidence based publication per day for operations performed by the resident during the rotation (PGY1, 2, 4) and discuss the publication with the attending surgeon.
• Evaluate M&M presentations residents for clarity and quality. Feedback will be provided immediately and during their end of rotation feedback sessions.

GOAL #4 INTERPERSONAL & COMMUNICATION SKILLS

• Discuss planned procedure with patient defining course of treatment and potential complications
• Present patients on teaching rounds and during patient care review conferences
• Assist students to prepare for patient presentations on rounds
• Present surgical complications at M&M (PGY4)
• Serve as effective surgical team leader (PGY4)

Interpersonal and communication skills will be assessed and measured by:

• Direct observation on rounds or in clinic. PGY1, PGY2 and PGY4 residents will be observed discussing recommended treatment for several patients
• Direct observation of patient presentations during patient care review, rounds and conferences (PGY1, PGY2, and PGY4 residents)
• Evaluations by students on the service will be obtained regarding residents’ abilities to assist them with presentations, procedures and patient care management decisions

GOAL #5 PROFESSIONALISM

At the end of the rotation, the resident must have demonstrated to the satisfaction of his/her supervisor(s):

• The ability and willingness to work in a cooperative manner with other health care personnel, being sensitive to their roles and abilities, and to be able to give and receive advice in a manner that is consistent with the harmonious operation of a health care team.
• The ability to communicate with patients and their families, explaining to them their disease process and the benefits, risks, potential complications, alternatives of management and recommendations in terms each individual can comprehend.
• Respect for patient’s rights to privacy.
• Sensitivity to the sexual, moral, ethical, or religious characteristics of the patient and family, understanding of the special psychological needs of the patient with vascular disease and the capacity for supportive and compassionate care in the course of terminal disease.
• Knowledge of the ethical and legal aspects of vascular surgery.
• Honesty, reliability, and respectfulness in working with patients and colleagues alike.
• The discipline of continued self-education and the appropriate application of this current knowledge to the clinical setting; the ability to supervise and educate undergraduate and postgraduate students in vascular surgery; the skills to educate colleagues, patients, families, and other health care professionals; the capacity to undertake research, and be aware of the importance of peer review of protocols, ethical considerations, and the limitations of such endeavors.
• Administer patient care conscientiously with highest standard of professional, ethical and moral conduct in all circumstances.
• Work with students, peers, superiors, nurses, health care professionals and other hospital staff colleagues in a courteous and thoughtful manner

Professionalism will be assessed and measured by:

• Direct observation by attending surgeons of postoperative or post procedural care plans and instructions as outlined by the resident with the patient and/or family members (at least one discussion per PGY1, PGY2, and PGY4 resident will be
evaluated and feedback provided immediately. Formal feedback at the end of rotation feedback session.

GOAL #6: SYSTEMS-BASED PRACTICE

- Understand the impact of surgical disease on an individual patient
- Identify needs of the patient as soon as possible (in clinic, on floors, in ICU, Operating Room, catheterization lab) to recruit assistance for the patient from appropriate sources (e.g. primary care, social services, pastoral support, hospice care, support groups, etc.).

Systems Based Practice will be assessed and measured by:

- A report of experience either in outpatient clinic, during a multidisciplinary planning conference, hospice or support group planning session that specifically addresses the role of surgeons

Trainee organization

Fellow

The fellow is in charge of all patients on the service under supervision by the attending surgeons. Day to day responsibility may be delegated to other house staff. The fellow must be kept aware of all important events occurring on the service and must keep the staff surgeon informed as well.

PGY 1,2,4s

PGY 1,2,4 residents may be assigned to work directly with one or more staff surgeons. Although he/she will be primarily responsible for that group or patients, it is essential that he/she also have a working knowledge of all other patients on the service so that cross-coverage will be efficient. The degree of responsibility of patient care may vary according to experience of the resident and complexity of the patient problems.

Medical Students

Medical students will participate in patient care, write histories, progress notes under supervision of one of the other members of the house staff or attending staff. Students will be relieved of ward and operating room responsibilities at the time of organized seminars and lectures. They must attend outpatient clinics and the operating room at the direction of the fellow in order to maximize their learning experience.

Attending Cross Coverage

In general, the attending surgeon on-call provides coverage for all emergency admissions and operations for patients new to the practice presenting from 6 am to 6
pm and all patients from 6pm to 6 am. As a courtesy to the primary attending vascular surgeon, he/she should be notified first of admissions and planned operations, unless signed out.

Notification of the Attending Surgeon

Deteriorating Patient Status
In all cases the attending surgeon or the attending surgeon on call must be notified immediately when there is deterioration in a patient’s status. It is the responsibility of the fellow/PGY4 resident to ensure that the attending surgeon on call is notified of any problems or difficulties, which arise with the patients of an attending surgeon, who has signed out (vacation, academic meeting). The patient and the relatives should be informed of the name and telephone number of the attending surgeon on call if requested.

Deaths
Notify attending surgeon, fellow/senior resident, and relatives at once.

Miscellaneous

Responsibility for admission
The attending surgeon must be notified before any patient is admitted to the Vascular Surgery service. Conversely, only the staff surgeon can refuse to accept a patient in transfer.

Vacations
Ideally, for the fellow, half the vacation time should be taken in the first 6 months of the year and half in the latter 6 months of the year. The fellows must coordinate with the PGY4 resident such that only one of the fellows and/or PGY4 resident is away at any time. The same arrangements should be made for time away from the service for educational leave also.

PGY 1,2,4 residents must clear vacation requests with the senior fellow.

Research projects
All residents are encouraged to participate in ongoing research programs or to develop specific projects, which can be completed during their time on the service.

Reading
Residents are encouraged to use Rutherford’s textbook "Vascular Surgery" as the primary text resource for Vascular Surgery. This resource is also available online.

Teaching
Part of the PGY4s responsibility is teaching junior residents and medical students. Opportunities to educate more junior house staff, nurses and other staff should be encouraged.
Evaluations

Evaluations for all PGY 1, 2, 4, residents are performed by attending staff on completion of the rotation. There will be a formal evaluation and an opportunity for house staff to evaluate the service. Informal feedback will be forthcoming from time to time during the period on the service. If specific discussion of progress is desired, the resident should arrange this at any time. Every resident will be scheduled for a feedback session at the completion of the rotation.

Open Surgical/ Endovascular Case Documentation

As part of the evaluation of the training program for the American Board of Surgery, as well as for application to several societies, accurate documentation of operative cases including name, hospital number, operation, surgeon/assistant and outcome are required.