

NYU Langone Medical Center
Division of Vascular and Endovascular Surgery
Fellowship Manual
2009-2010

I. Introduction.....	2-4
II. Office of Graduate Medical Education.....	5
III. Policy on Duty Hours.....	6-8
IV. Moonlighting Policy.....	9
V. Time Off and Leave of Absence.....	10
VI. Policy on Supervision of Fellows.....	11-16
VII. Goals and Objectives	17-27
VIII. Competency Based Goals and Objectives.....	28-45
IX. Evaluations.....	46-47

NYU Langone Medical Center
Division of Vascular and Endovascular Surgery
Introduction

The NYU Langone Medical Center offers a 2 year fellowship training program covering all aspects of vascular and endovascular surgery. Under the guidance of Program Director Patrick J. Lamparello, M.D. and Division Chief Mark A. Adelman, M.D., this program offers fellows a rich and extensive opportunity to participate in difficult and complicated vascular surgeries, observe leading-edge clinical research, and present at local and national vascular surgery conferences. Fellows complete the fellowship program prepared to achieve board certification. Former graduates of this program have received numerous awards and gained leadership positions throughout North America and around the world.

Rotations

The vascular surgery fellowship program comprises hands-on surgical rotations at each of the 3 hospitals affiliated with the NYU Langone Medical Center: Tisch Hospital, Bellevue Hospital and the VA Hospital. Additionally, fellows participate in an Outpatient Services rotation where the focus is on all aspects of the outpatient experience, including the non-invasive vascular lab and the Vein Center.

At **Tisch Hospital**, where there is an active day surgery center as well as private practice in an office setting, fellows gain experience: supervising the vascular surgery service, with patients directly under their care; scrubbing in on the more difficult and complex vascular cases; directly overseeing general surgical residents, medical students, and nurse practitioners; and, seeing patients in the offices of the vascular surgery attending faculty members.

At **Bellevue Hospital**, a level-one trauma center in one of the largest cities in the world, the vascular fellow encounters broad and in-depth experience in the area of vascular trauma. While the vascular fellow deals with all aspects of vascular surgery, Bellevue provides a particularly rich experience in thoracic aortic aneurysms and dissections.

At the **VA Hospital**, the vascular fellow acts as a junior consultant for the vascular surgical service. Here, fellows manage the in-patient service, oversee all consults, do the pre-operative planning for and performance of all vascular cases (endovascular and open aortic cases, peripheral arterial cases and venous operations), train general surgical residents in all of these area, manage and oversee the out-patient clinic, manage the endovascular inventory of the operating room, and work on academic research projects.

During the **Outpatient Services** rotation, the fellow participates in all aspects of the outpatient experience. This includes working in the non-invasive Vascular Laboratory, where the fellow learns to perform and interpret the results of non-invasive testing modalities necessary to the diagnosis and treatment of vascular disease. The fellow is expected to qualify to take the RVT examination for vascular laboratory certification. Additionally, the fellow spends time in the Vein Center, where he learns how to diagnose the full spectrum of venous disease and perform all appropriate treatments and procedures.

Research and Conferences

The academic education of the vascular surgery fellow is enhanced by the pursuit of clinical research projects. Accordingly, fellows are provided with significant time for independent reading, research and conference preparation.

Each week, the Department of Vascular Surgery holds a conference at which the vascular fellows make a presentation about a particular case or patient. All aspects of the disease condition and treatment are discussed. Fellows must also attend the Department of Surgery's weekly Mortality and Morbidity conference, monthly Grand Rounds, daily teaching rounds at the location of their particular rotation as well as monthly Journal Club meetings.

Each fellow is expected to select an area of interest and, working with a faculty member as mentor, design an academic research project or join an ongoing research project. It is expected that each year, the fellow will present his work on these projects at national conferences and will also submit a manuscript to peer-reviewed journals during each of the 2 years. Each fellow must submit at least one abstract and manuscript to a national vascular meeting each year during the program. Fellows are required to present research at the Eastern Vascular Fellows Meeting held each Spring in New York City. Fellows are also expected to present at other national vascular meetings.

NYU Langone Medical Center
Division of Vascular and Endovascular Surgery
Office of Graduate Medical Education Policies and Procedures

All of the NYU Langone Medical Center's Office of Graduate Medical Education policies and procedures may be found at:

<http://gme.med.nyu.edu/house-staff/gme-policies-and-forms>.

There, you will find links to the following:

1. Credentialing and Employment
 - 2009 Document Checklist
 - Sample House Staff Contract
 - Terms and Conditions of Employment
 - Pre-Employment Background Investigation
 - Drug Toxicology Screening
 - NYU Benefits Overview
 - Bellevue (HHC) Benefits Overview
 - Recruitment, Selection and Appointment
 - Licensure Requirements
 - DEA Registration
 - Chief Resident Differential
 - Certificate/Checkout Procedure
 - Prohibition Against Employing or Contracting with Ineligible Persons
2. Duty Hours Policy (also printed in this manual)
3. Evaluation, Corrective Action, and Disciplinary Actions for Residents
4. Time-Off and Leave-of-Absence (also printed in this manual)
5. Fitness for Duty
6. Book and Conference Stipend Reimbursement
7. Moonlighting Policy and Information (also printed in this manual)
8. NYU School of Medicine Supervision
9. House Staff Well-being
 - Residents with Concerns or Complaints
 - Affordable Psychotherapy
10. Disaster Policy
11. Sleep Alertness and Fatigue Education in Residency (SAFER)

NYU Langone Medical Center
Division of Vascular and Endovascular Surgery
Policy on Duty Hours of Fellows

The Vascular Fellowship Program at NYU Langone Medical Center requires that its fellows comply with the NYU Policy on Duty Hours.

<http://gme.med.nyu.edu/files/gme/attachments/Duty.Hours.Policy.pdf>

In accordance with that policy, the Division of Vascular and Endovascular Surgery has adopted the following additional rules on duty hours:

RULE 1

Duty hours **MUST** be limited to 80 hours per week, averaged over a four-week period. This is inclusive of all in-house call activities.

- a. If the fellow comes into the hospital for consults/rounds, the hours count towards the 80 hours. This includes home call.
- b. Each weekend, one fellow is on call (each fellow has one call per month, for a total of 13 weekend calls each year).
- c. On the weekends, the fellow who is on call **MUST** round, take care of consult notes as needed and finish his on-site work from 7am-12pm. The evenings are covered by the general surgery night float team.
- d. The fellow who is in the Outpatient Services rotation (where there is no call schedule) is always designated as the “relief fellow.” The relief fellow is there to step in and relieve the fellow who is on call, where that call might otherwise demand a breach of these rules governing duty hours.

RULE 2

Fellows must be provided with one 24 hour day/week free from all educational and clinical responsibilities.

- a. Fellows **MUST** turn off their pagers for 1 full day each week.
- b. Fellows taking home call also must comply with this rule and get 1 day off each week.

RULE 3

Fellows must have a 10 hour period between shifts

- a. The 10 hour period starts once the fellow leaves the hospital and is relieved of all patient care responsibility.
- b. On any of the vascular surgery services, if a fellow is on duty for any period of time that would impinge on that fellow's achieving his 10 hours of duty-free rest, then the relief fellow will step in for the fellow in need of rest. The requirement of duty-free rest is an **absolute** one and the fellow may not return for 10 hours.

RULE 4

Fellows **CANNOT** work more than 24 hours consecutively.

- a. Fellows cannot be on duty more than 24 continuous hours.
- b. At any time, if a fellow is on duty for any 24 hour period (even if that includes home call) then the relief fellow will step in for the fellow in need of rest. The requirement of duty-free rest is an **absolute** one and the fellow may not return for 10 hours

Process for monitoring compliance with these duty hour rules

Each fellow is required to document his weekly duty hours (including on-site and home call) using the E-Value system. The Program Director reviews the data and if he sees any incidence of non-compliance with these rules, he will meet with the fellow in violation of the rules and make necessary adjustments to ensure compliance.

Fellows are expected to report to the Program Director any circumstances in which they experience excess fatigue or undue fatigue, stress or other situations which may impair their performance. The Program Director will take such action as may be necessary to correct this issue.

**NYU Langone Medical Center
Division of Vascular and Endovascular Surgery
Policy on Moonlighting**

The Vascular Fellowship Program at NYU Langone Medical Center requires that its fellows comply with the NYU Policy on Moonlighting.

<http://gme.med.nyu.edu/files/gme/attachments/Moonlighting%20Policy.pdf>

NYU Langone Medical Center
Division of Vascular and Endovascular Surgery
Time-Off and Leave of Absence Policy

The Vascular Fellowship Program at NYU Langone Medical Center requires that its fellows comply with the NYU Policy on time-off and leave of absence. Further, in accordance with the requirements of the Vascular Surgery Board (VSB) of the American Board of Surgery (ABS), the vascular fellow must obtain no fewer than 48 weeks of full-time surgical experience in each residency year. Accordingly, if any leave of absence would otherwise threaten compliance with this requirement, the fellow must extend his training and remain in the Program in order to meet this requirement and comply with the VSB rules on certification in vascular surgery.

<http://home.absurgery.org/xfer/BookletofInfo-VS.pdf>

**NYU Langone Medical Center
Division of Vascular and Endovascular Surgery
Policy on Supervision of Fellows**

The Vascular Surgery Fellowship Program educates and trains the fellow by placing him in all of the settings in which patient care occurs. Under the supervision of attending faculty members, the fellow works in the clinic/office setting, in the hospital setting (whether at Tisch Hospital, Bellevue Hospital, or the VA Hospital), and in the operating rooms at each of these hospitals. To ensure that patient care is optimized and never compromised, and to ensure that the fellow maximizes the opportunity to learn, there is supervision on many different levels. This supervision involves assessment, evaluation, and feedback, and then once that feedback is integrated into practice, the cycle begins again. Integral to this supervised training is a progressive increase in the level of responsibility given to and undertaken by the fellow.

1. The Faculty

Attending surgeons are chosen by the Chairman of the Department of Surgery, the Division Chief and the Program Director based on the attending surgeon's demonstration of a commitment to the fellows' education and personal and professional maturation, as well as to optimizing patient safety and care. It is expected that the teaching faculty are: available to fellows; approachable to fellows; open to hearing diverse opinions; compassionate; part of a team approach to fellow education and patient care; and, dedicated to truth and integrity.

2. Tools and Assessments Used for Supervision

Supervision is ensured through the use of the following tools and assessments:

- a. There is direct oversight of the fellows by faculty in the hospital, outpatient setting, and operating room. This may include

meetings and discussions between the attending faculty member and fellow, the site director and fellow, or a combination of faculty members and the fellow. These discussions may focus on the patient's disease condition, diagnosis and treatment, the appropriate operative technique, communication skills, and any other possible aspect of the fellow's participation in the patient process. This also serves as an opportunity for the fellow to ask questions and receive immediate feedback.

b. An annual examination to assess medical knowledge, called VSITE (Vascular Surgery In Training Examination), is given to all fellows.

c. A key component to the Program is the web-based system for evaluations called E-Value. There is a section in this manual called "Evaluations" which also describes the evaluation system utilized by the Program. Evaluations are required of each fellow by each faculty member; of each faculty member by each fellow; of each fellow by other residents and staff; and, of the overall Program. These evaluations are used to: Assess and document the fellow's performance during each rotation; assess the fellow in terms of the ACGME competencies; provide the fellow with feedback from multiple evaluators; document progressive performance improvement by the fellow; provide documented feedback to the fellow of his performance, at least 2 times each year. The fellow also receives a final evaluation which not only documents the fellow's performance in the final period of the program, but also verifies that the fellow has demonstrated his ability to independently and competently practice vascular surgery.

d. The Program Director has formal meetings with each fellow to monitor and discuss the fellow's development, operative experience, leadership maturation, research endeavors and future career plans. These meetings are conducted on a semi-annual basis. Additionally, because the program is a relatively small one with only 4 fellows, the Program Director and Division Chief are able to have frequent informal meetings with each fellow during which candid discussion and feedback occur, further promoting the development and maturation of the vascular fellow.

3. Specific Policies for Supervision

A. Supervision for Inpatient Care

1. At each of the 3 hospital sites, there is in-hospital surgical faculty coverage 24 hours each day/7 days each week. Supervising faculty members are always available in person or by telephone. Specific schedules are prepared in advance and distributed to all fellows and throughout each hospital. These schedules note which faculty member is responsible for fellow supervision and patient coverage at all times. Supervising faculty, if not in-house, are immediately available by telephone and available in person within a reasonable time given the clinical situation.

2. To allow for supervised progressive responsibility, fellows make patient rounds on their service/hospital each morning. When appropriate, they also round on patients in the afternoon or more frequently as needed. Patient care plans are formulated by the fellows and then presented to the supervising faculty member. As outlined in the goals and objectives for each rotation, the fellows actively assume patient care responsibility, while being closely supervised by the faculty.

3. Intensive care units at Bellevue and Tisch are supervised by surgical and/or critical care faculty 24 hours each day/7 days each week. This is in addition to the faculty member primarily responsible for the patient's care. At the critical care unit at the VA Hospital, faculty are present in-house until 12:00am at which time the covering physician is available by phone. This is in addition to the on-call supervising surgical faculty member covering the VA Hospital.

4. For inpatient and emergency room consults, the senior general surgery resident on the service makes the initial patient assessment and then notifies the vascular fellow. The fellow then assesses the patient, formulates a plan, and discusses the case with a vascular attending physician.

B. Supervision of Outpatient Experience

1. At each site, the outpatient experience is directly supervised by the vascular surgical teaching faculty.
 - a. Bellevue and VA: Outpatient clinics are staffed by at least one full-time faculty member who is present for the duration of the entire clinic, providing full-time supervision to the fellow.
 - b. Tisch: The fellow attends an individual attending physician's clinic/office hours and direct supervision is provided by that faculty member.

2. In the outpatient setting, the fellows perform a history and physical examination and present it to the faculty member. Together, all imaging studies are reviewed and the fellow presents his plan of action to the supervising attending physician. When the plan is finalized, the fellow and supervising faculty member discuss the plan with the patient and answer any questions. The level of responsibility undertaken by the fellow increases progressively over the course of the fellowship program. While the supervision by the faculty member remains constant, the level of faculty input decreases progressively, in direct relation to the increase in responsibility by the fellow.

C. Supervision in the Operating Room

1. All operative procedures are performed under the direct supervision of an attending surgeon. The attending surgeon must document his supervision throughout each case.

2. Standard operating procedure at all 3 hospital sites dictate that the responsible surgical attending be present in the specific operating room and personally perform the "time out" prior to delivering anesthesia.

3. Direct supervision is required for procedures performed in the intensive care unit or in the trauma unit of the Emergency

Department. Critical care attending staffing is noted above with full-time in-house coverage at Tisch and Bellevue and coverage until midnight at the VA Hospital.

D. Delineation of Service Responsibilities between Fellows and Residents

1. The hospital team comprises a combination of junior (R1-3) and senior (R4) residents.
2. The fellow's responsibility is to lead the resident team in conjunction with the attending staff.
3. The fellow is responsible for delegating responsibilities and OR cases to the residents.
4. The R4 or R3 will help lead rounds with the fellow in the morning as well as help to develop appropriate care plans. The R4 or R3 round independently in the afternoon, unless issues require fellow participation. The senior resident discusses patient issues and plans with the fellow either in person or by phone.
5. The R4 or R3 initially evaluate consults and then work with the fellow to formulate a plan prior to calling the attending.

E. Supervision of Duty Hours

1. Prior to beginning the Program, all teaching faculty and all fellows attend lectures regarding duty hour regulations. Every member of the teaching faculty signs a Departmental attestation that he not only understands the duty hour rules, but also will facilitate the fellows' compliance with all duty hour regulations.
2. The Program Director supervises duty hour compliance by monitoring the fellows' duty hour's records in the E-Value system. Fellows track their time on the E-Value system by entering their duty hours every 2 weeks. E-Value is set up to track these entries and automatically send email reminders to the fellows who have not submitted, as well as to the Program Director.

F. Supervision to Guard Against Fatigue and Sleep Deprivation

1. All fellows and all teaching faculty members have received fatigue and sleep deprivation tutorials. These educational tutorials have been designed to raise awareness of the dangers of sleep deprivation and fatigue and to educate as to how to recognize the signs and symptoms of fatigue and sleep deprivation.
2. It is the responsibility of all supervising faculty members and the Program Director to be vigilant about identifying any fellow who may be impaired by fatigue or sleep deprivation.
3. At all times, the following responsible and professional behavior is expected:
 - a. When a fellow recognizes that he or she is suffering from fatigue or exhaustion, he or she must notify their supervising attending or the program director immediately.
 - b. The supervising attending, Program Director, or Division Chief will immediately relieve the fellow of clinical responsibility and send him/her home to allow time for sleep. The faculty member shall also arrange for alternative coverage by calling in the "relief fellow" described in the Policy on Duty Hours.
 - c. In the event a fellow is relieved of clinical responsibility on account of fatigue or exhaustion, that action shall be regarded **ONLY** as a positive one that placed patient safety first. Such an action shall **NOT** be considered as a negative occurrence by faculty or other fellows.

G. Emergency Situations

An "emergency" is defined as a situation where immediate care is necessary to preserve the life of, or to prevent serious impairment to the health of a patient. In such situations, any fellow, assisted by other clinical personnel as may be available, shall be permitted to do everything possible to save the life of a patient or to save a patient from serious harm. The appropriate attending physician will be contacted and notified of the situation as soon as possible. The fellow will document the nature of that discussion in the patient's record.

**NYU Langone Medical Center
Division of Vascular and Endovascular Surgery
Goals and Objectives**

General Overview

The vascular surgery fellowship is a 2 year clinical program whose goal is the mastery of all aspects of Vascular and Endovascular Surgery. It is expected that at the conclusion of the 2 year fellowship program, the vascular fellow will be able to perform all the functions of a vascular surgeon, including the demonstration of competency in the areas of patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice.

Each year, 2 new fellows enter the program and 2 fellows graduate, so that in any given year, there are a total of 4 fellows: 2 first year fellows (Y1 fellows—either Y1a or Y1b) and 2 second year fellows (Y2 fellows---either Y2a or Y2b). Each fellow rotates through each of 4 blocks (a block being a 3 month rotation) each year, for a total of 8 distinct blocks by the time the program is completed. Each of the 4 fellows is in a different block at any given point in time. The following table illustrates the way in which the 2 first year fellows (Y1a and Y1b) and the 2 second year fellows (Y2a and Y2b) rotate through the fellowship blocks:

	JULY-SEPT	OCT-DEC	JAN-MAR	APR-JUN
TISCH	Y1a	Y1b	Y2a	Y2b
BHC	Y1b	Y1a	Y2b	Y2a
VA	Y2a	Y2b	Y1a	Y1b
OUTPATIENT SERVICES Lab Vein Center Relief Fellow	Y2b	Y2a	Y1b	Y1a

Each rotation during the fellowship program is designed to train the fellow in different aspects of the vascular surgery practice, and each rotation may emphasize different competencies. By the time the fellow completes the 2 year program, the fellow is expected to have achieved the goals and objectives described for each block, and demonstrate the competencies required by each block, which when taken together, demonstrate that the overall goals and objectives of the program have been met.

The vascular service at TH comprises the attending faculty, the vascular fellow, a 1st (PGY1), 2nd (PGY2), and 4th (PGY4) year categorical general surgery resident, and a team of dedicated vascular nurse practitioners.

At BHC, the vascular service comprises a dedicated BHC vascular attending physician, vascular fellow, 2 PGY1's, a PGY3, and a dedicated vascular physician assistant (PA).

At the VA, the vascular service comprises a rotating attending vascular faculty member, a vascular fellow, a PGY1, and a PGY2.

Tisch Hospital

Duration: 3 months

Y1 fellow

The Y1 fellow is introduced to all aspects of vascular and endovascular surgery at a busy academic medical center. Working together with the PGY1, PGY2 and PGY4, the Y1 vascular fellow actively participates in the assessment and planning of the medical and surgical care of the vascular surgery patients and consults. During this block, the Y1 fellow learns the fundamentals of vascular surgery by working closely with the attending physicians. These fundamentals include the planning and performance of vascular surgery procedures, critically reviewing vascular imaging studies, understanding the role of medical therapy in the vascular patient, and attaining the requisite judgment to appropriately diagnose and treat vascular surgical patients. The fellow will attend out-patient clinical hours with an attending for one day per week. The fellow will assign

operative cases and clinic days to himself and to the residents. Additionally, the fellow is in charge of managing the weekly Tuesday morning vascular conference which entails case presentations and a critical review of the relevant literature.

Goals and Objectives:

It is expected that by the conclusion of this rotation, the Y1 fellow will be able to:

- perform a complete vascular history and physical;
- understand the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option;
- understand the elements of informed consent for each diagnostic and therapeutic procedure;
- understand the applications and limitations of vascular therapeutic and diagnostic modalities;
- understand the role of medical therapy in the vascular surgery patient; and,
- acquire vascular operative technique.

Y2 fellow

The Y2 vascular fellow continues to actively participate in the assessment and planning of the medical and surgical care of the vascular surgery patients and consults. Working closely with the attending physicians, the Y2 fellow participates in more advanced vascular surgery procedures, and does more advanced planning with respect to complex peripheral cases, EVAR and TVAR cases, as well as cases involving AV access.

By working very closely with the general surgery residents, the Y2 fellow acts as a teacher to the residents, supplementing the teaching of the attending physician. Additionally, the Y2 participates in more advanced cases including complex extra-cranial cases and complex visceral/renal endovascular work.

The Y2 will attend out-patient clinical hours with an attending for one day per week. The fellow will assign operative cases and clinic days

to himself and to the residents. Additionally, the fellow is in charge of managing the weekly Tuesday morning vascular conference which entails case presentations and a critical review of the relevant literature.

Goals and Objectives:

It is expected that by the conclusion of this rotation, the Y2 fellow will:

- continue to develop their skills in performing a complete vascular history and physical;
- deepen the understanding of the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option;
- deepen the understanding of the elements of informed consent for each diagnostic and therapeutic procedure;
- deepen the understanding of the applications and limitations of vascular therapeutic and diagnostic modalities;
- deepen the understanding of the role of medical therapy in the vascular surgery patient;
- demonstrate advanced operative skills relating to the treatment of vascular diseases; and
- understand the role of the surgeon as patient advocate and educator in the context of navigating and determining appropriate and complex treatment plans and follow-up regimens.

Bellevue Hospital

Duration: 3 months

Y1 fellow

The three-month rotation at Bellevue Hospital offers the Y1 vascular fellow a unique opportunity to manage a variety of advanced vascular disease. All aspects of vascular surgery are encountered, including a rich experience in thoracic aortic aneurysms and dissections. Being a level one-trauma center in one of the biggest cities in the world, the vascular trauma experience is second to none. At BHC, the Y1

vascular fellow has a unique opportunity to participate in both the peripheral vascular clinic as well as the vein clinic, during which he oversees junior residents (2 PGY1's and a PGY3) as well as the dedicated vascular PA.

The Y1 fellow is expected to become facile in evaluating and managing vascular trauma, advanced arterial and venous disease, as well as to critically review the literature in a weekly journal club.

Goals and Objectives:

It is expected that by the conclusion of this rotation, the Y1 fellow will be able to:

- perform a complete vascular history and physical;
- understand the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option;
- understand the elements of informed consent for each diagnostic and therapeutic procedure;
- understand the applications and limitations of vascular therapeutic and diagnostic modalities;
- understand the role of medical therapy in the vascular surgery patient; and,
- demonstrate vascular operative technique.

Trauma, AV access and advanced PAD are the hallmarks of the fellow rotation at Bellevue. Accordingly, at the conclusion of this rotation, the Y1 fellow is expected to be able to:

- manage operative and non-operative vascular trauma cases
- manage operative care of advanced peripheral arterial disease (PAD)
- perform limb salvage
- assess patients in renal failure and perform AVF and AVG
- Assess and manage acute aortic dissections

Y2 fellow

In the second year of fellowship, the three-month rotation at Bellevue Hospital offers the Y2 vascular fellow another opportunity to manage a variety of cases involving advanced and complex vascular disease, this time with even greater autonomy. By the time he reaches this rotation, the Y2 fellow at BHC has encountered all aspects of vascular surgery, so he is now able to teach the general surgery residents when they are confronted with thoracic aortic aneurysms and dissections. At BHC, the Y2 vascular fellow continues to participate in both the peripheral vascular clinic as well as the vein clinic, offering teaching and mentoring to junior residents (2 PGY1's and a PGY3), all in the context of a level one-trauma center, where the vascular trauma experience is second to none.

The Y2 fellow evaluates and manages vascular trauma, advanced arterial disease and venous disease, including pre and post operative planning. The Y2 continues to critically review the literature in a weekly journal club.

Goals and Objectives:

It is expected that by the conclusion of this rotation, the Y2 fellow will be able to:

- perform a complete vascular history and physical;
- understand the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option;
- understand the elements of informed consent for each diagnostic and therapeutic procedure;
- understand the applications and limitations of vascular therapeutic and diagnostic modalities;
- understand the role of medical therapy in the vascular surgery patient;
- demonstrate excellence in vascular operative technique, even for more complex cases;
- manage operative and non-operative vascular trauma cases;
- manage operative care of advanced peripheral arterial disease (PAD);

- perform limb salvage;
- assess patients in renal failure and perform AVF and AVG; and,
- assess and manage acute aortic dissections.

VA Hospital

Duration: 3 months

Y1 fellow

The VA hospital affords the Y1 fellow even more autonomy than he has during the first 6 months at either TH or BHC, adding another layer to the fellow's transition from trainee to attending. At the VA, the Y1 fellow is expected to manage the in-patient service, oversee all consults, do the pre-operative planning for and performance of all vascular cases (endovascular and open aortic cases, peripheral arterial cases and venous operations), train general surgical residents in all of these area, manage and oversee the out-patient clinic, manage the endovascular inventory of the operating room, and work on academic research projects.

Goals and Objectives:

It is expected that by the conclusion of this rotation, the Y1 fellow will be able to:

- perform a complete vascular history and physical;
- understand the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option;
- understand the elements of informed consent for each diagnostic and therapeutic procedure;
- understand the applications and limitations of vascular therapeutic and diagnostic modalities;
- understand the role of medical therapy in the vascular surgery patient; and,
- demonstrate vascular operative technique.

Y2 fellow

As mentioned above, the VA hospital affords the fellow more autonomy than either TH or BHC. Accordingly, by the time he reaches this rotation, the Y2 fellow is able to take on more responsibility for the planning of vascular procedures and the performance or peri-operative care for patients with vascular disease. Additionally, the Y2 fellow at the VA has the added charge of teaching the general surgery residents on the service, giving greater depth to the fellow's teaching experience. At the VA, the Y2 fellow manages the in-patient service, oversees all consults, does the pre-operative planning for and performance of all vascular cases (endovascular and open aortic cases, peripheral arterial cases and venous operations), manages and oversees the out-patient clinic, manage the endovascular inventory of the operating room, and work on academic research projects. With this greater autonomy, the Y2 fellow is able to experience the continuity of care of the patient from the time he enters the VA until his discharge and beyond.

Goals and Objectives:

It is expected that by the conclusion of this rotation, the Y2 fellow will be able to:

- perform a complete vascular history and physical;
- understand the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option;
- understand the elements of informed consent for each diagnostic and therapeutic procedure;
- understand the applications and limitations of vascular therapeutic and diagnostic modalities;
- understand the role of medical therapy in the vascular surgery patient; and,
- demonstrate excellence in vascular operative technique, even for more complex cases.

Outpatient Services

Duration: 3 months

The purpose of this 3-month block is to prepare the fellow for all aspects of the vascular outpatient experience, including the non-invasive vascular laboratory and the Vein Center. By spending time in the out patient lab, the fellow is trained to become a Registered Physician in Vascular Interpretation (RPVI), reflecting the ability to read non-invasive vascular imaging studies and perform a duplex ultrasound without assistance. Additionally, the fellow is expected to learn how to perform endovenous thermal ablation of the GSV, SSV, and perforators, to understand the differences between laser and RFA, and to perform outpatient sclerotherapy and micro-phlebectomy.

Because this rotation does not involve any night call, the fellow in this rotation is designated as the relief fellow, who covers patient care where the burden of call might otherwise risk breaching the duty hours policy, or where another fellow is attending a conference, out on vacation, or otherwise away. Therefore, when in this rotation, a significant portion of the fellow's time (approximately 25%) is actually spent at one of the 3 hospital sites covering for one of the other fellows.

During this block, the fellow also has more time to pursue academic research, although this research does take place at other times as well. In accordance with the section on research below, the fellow is to submit work to national meetings and peer-reviewed journals.

Goals and Objectives:

Y1 fellow

It is expected that by the conclusion of this rotation, the Y1 fellow will be able to:

- acquire knowledge of ultrasound physics as it applies to current and established techniques of vascular diagnosis;

- become familiar with the different instruments and technologies used for non-invasive vascular diagnosis;
- learn to perform, supervise, and interpret the results of non-invasive diagnostic modalities;
- become familiar with the application of non-invasive testing modalities in the development of practice guidelines, surveillance, outcome assessment, and clinical research;
- become familiar with the administrative skills necessary to serve as medical director of a non-invasive vascular laboratory;
- understand the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option, including the differences between laser and RFA; and,
- learn how to perform sclerotherapy, micro-phlebectomy, and endovenous thermal ablation of the GSV, SSV, and perforators.

Y2 fellow

It is expected that by the conclusion of this rotation, the Y2 fellow will be able to:

- demonstrate knowledge of ultrasound physics as it applies to current and established techniques of vascular diagnosis;
- demonstrate knowledge of different instruments and technologies used for non-invasive vascular diagnosis;
- demonstrate the ability to perform, supervise, and interpret the results of non-invasive diagnostic modalities;
- demonstrate an understanding of the application of non-invasive testing modalities in the development of practice guidelines, surveillance, outcome assessment, and clinical research;
- demonstrate the administrative skills necessary to serve as medical director of a non-invasive vascular laboratory;
- understand the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option, including the differences between laser and RFA; and,

- perform sclerotherapy, micro-phlebectomy, and endovenous thermal ablation of the GSV, SSV, and perforators.

Research

The academic education of the vascular surgery fellow is enhanced by the pursuit of academic and clinical research projects. Accordingly, fellows are provided with significant time for independent reading, research and conference preparation. It is expected that fellows learn how to engage in all areas of research, including grant preparation, experimental design, experimental data collection, data analysis, and publication. Fellows are required to present research at the Eastern Vascular Fellows Meeting held each Spring in New York City. Fellows are also expected to present at other national vascular meetings.

Each fellow is expected to demonstrate initiative in this area by selecting an area of interest and, working with a faculty member as mentor, design an academic research project or join an ongoing research project. It is expected that each year, the fellow will present his work on these projects at national conferences and will also submit a manuscript to peer-reviewed journals during each of the 2 years.

Goals and Objectives:

It is expected that each year during the fellowship program, each fellow will:

- demonstrate initiative by selecting an area of interest and pursuing a research project within this area;
- design a research project or join an ongoing research project;
- submit at least one abstract to a national vascular meeting;
- submit at least one manuscript to a peer-reviewed journal; and,
- demonstrate competency in all areas of research including grant preparation, experimental design, data collection, data analysis and data publication.

NYU Langone Medical Center
Division of Vascular and Endovascular Surgery
Competency-Based Goals and Objectives

Tisch Hospital

Duration: 3 months

Goals and Objectives:

Y1 fellow

It is expected that by the conclusion of this rotation, the Y1 fellow will be able to:

- perform a complete vascular history and physical;
- understand the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option;
- understand the elements of informed consent for each diagnostic and therapeutic procedure;
- understand the applications and limitations of vascular therapeutic and diagnostic modalities;
- understand the role of medical therapy in the vascular surgery patient; and,
- acquire vascular operative technique.

To ensure that the Y1 fellow has met these Goals and Objectives, the Y1 fellow must demonstrate the following competencies:

a. Patient care

1. perform basic endovascular skills
2. engage in operative planning and perform vascular procedures, including:
 - a. open and endovascular (TVAR and EVAR) aortic surgery
 - b. extracranial arterial revascularization
 - c. peripheral bypasses (both with vein and prosthetic grafts)
 - d. thrombolysis procedures
 - e. IVC filters

- f. upper extremity revascularization
3. critically review vascular imaging studies
4. manage post-operative care
5. care for the patient beginning with admission, continuing through the peri-operative period until the time of discharge
6. competently read angiography, CT angiography, MR angiography, and duplex ultra-sound
7. assess vascular out-patients

b. Medical knowledge

1. learn the basic science and clinical fundamentals of vascular surgery
2. critically review and apply current literature
3. attend weekly vascular conference, weekly morbidity and mortality conference, and monthly journal club
4. attend the Moore Course

c. Practice based learning

1. formally meet with the program director to discuss perceptions of strengths and deficiencies
2. incorporate feedback from director into performance
3. become fluent in PubMed in order to search for relevant vascular literature

d. Interpersonal and communication skills

1. begin to acquire basic communication skills across a broad spectrum of patients, family members, physicians, other staff
2. write comprehensive and legible medical records
3. effectively document practice activities

e. Professionalism

1. demonstrate compassion and respect for all patients and coworkers
2. demonstrate honesty and integrity
3. demonstrate respect for patient privacy
4. demonstrate ethical behavior
5. commitment to patient care.

f. Systems based practice

1. work effectively in an academic medical center where the majority of the patient population either has health insurance or is able to self-pay.

Y2 fellow

It is expected that by the conclusion of this rotation, the Y2 fellow will:

- continue to develop their skills in performing a complete vascular history and physical;
- deepen the understanding of the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option;
- deepen the understanding of the elements of informed consent for each diagnostic and therapeutic procedure;
- deepen the understanding of the applications and limitations of vascular therapeutic and diagnostic modalities;
- deepen the understanding of the role of medical therapy in the vascular surgery patient;
- demonstrate advanced operative skills relating to the treatment of vascular diseases; and
- understand the role of the surgeon as patient advocate and educator in the context of navigating and determining appropriate and complex treatment plans and follow-up regimens.

To ensure that the Y2 fellow has met these Goals and Objectives, the Y2 fellow must demonstrate the following competencies:

a. Patient care

1. perform basic and more complex endovascular skills
2. engage in operative planning and perform vascular procedures, including:
 - a. open and endovascular (TVAR and EVAR) aortic surgery, including EVAR and TVAR measuring, as well as complex visceral/renal endovascular work
 - b. complex extra-cranial arterial revascularization

- c. peripheral bypasses (both with vein and prosthetic grafts)
- d. thrombolysis procedures
- e. IVC filters
- f. upper extremity revascularization
3. critically review vascular imaging studies
4. manage post-operative care
5. care for the patient beginning with admission, continuing through the peri-operative period until the time of discharge
6. competently read angiography, CT angiography, MR angiography, and duplex ultra-sound
7. assess vascular out-patients

b. Medical knowledge

1. learn the basic science and clinical fundamentals of vascular surgery
2. critically review and apply current literature
3. attend weekly vascular conference, weekly morbidity and mortality conference, and monthly journal club

c. Practice based learning

1. formally meet with the program director to discuss perceptions of strengths and deficiencies
2. incorporate feedback from director into performance
3. become fluent in PubMed in order to search for relevant vascular literature

d. Interpersonal and communication skills

1. communicate effectively across a broad spectrum of patients, family members and other staff, including General Surgery Residents
2. communicate and work with other referring and consulting physicians that may also be involved with the particular patient
3. effectively supervise the PGY4 on the vascular service
4. write comprehensive and legible medical records
5. effectively document practice activities

e. Professionalism

1. demonstrate compassion and respect for all patients and coworkers
2. demonstrate honesty and integrity

3. demonstrate respect for patient privacy
4. demonstrate ethical behavior
5. commitment to patient care.

f. Systems based practice

1. work effectively in an academic medical center where the majority of the patient population either has health insurance or is able to self-pay.
2. incorporate considerations of cost, particularly where new devices may be available but very expensive.

Bellevue Hospital

Duration: 3 months

Goals and Objectives:

Y1 fellow

It is expected that by the conclusion of this rotation, the Y1 fellow will be able to:

- perform a complete vascular history and physical;
- understand the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option;
- understand the elements of informed consent for each diagnostic and therapeutic procedure;
- understand the applications and limitations of vascular therapeutic and diagnostic modalities;
- understand the role of medical therapy in the vascular surgery patient; and,
- demonstrate vascular operative technique.

Trauma, AV access and advanced PAD are the hallmarks of the fellow rotation at Bellevue. Accordingly, at the conclusion of this rotation, the Y1 fellow is expected to be able to:

- manage operative and non-operative vascular trauma cases
- manage operative care of advanced peripheral arterial disease (PAD)

- perform limb salvage
- assess patients in renal failure and perform AVF and AVG
- Assess and manage acute aortic dissections

To ensure that the Y1 fellow has met these Goals and Objectives, the Y1 fellow must demonstrate the following competencies:

a. Patient care

1. perform basic endovascular skills
2. engage in operative planning and perform vascular procedures, including:
 - open and endovascular (TVAR and EVAR) aortic surgery
 - extracranial arterial revascularization
 - peripheral bypasses (both with vein and prosthetic grafts)
 - thrombolysis procedures
 - IVC filters
 - upper extremity revascularization
3. critically review vascular imaging studies
4. manage post-operative care
5. care for the patient beginning with admission, continuing through the peri-operative period until the time of discharge
6. competently read angiography, CT angiography, MR angiography, and duplex ultra-sound
7. assess vascular out-patients

b. Medical knowledge

1. learn the basic science and clinical fundamentals of vascular surgery
2. critically review and apply current literature
3. attend weekly vascular conference, weekly morbidity and mortality conference, and monthly journal club
4. attend the Moore Course

c. Practice based learning

1. formally meet with the program director to discuss perceptions of strengths and deficiencies
2. incorporate feedback from director into performance

3. become fluent in PubMed in order to search for relevant vascular literature

d. Interpersonal and communication skills

1. begin to acquire basic communication skills across a broad spectrum of patients, family members, physicians, other staff
2. write comprehensive and legible medical records
3. effectively document practice activities

e. Professionalism

1. demonstrate compassion and respect for all patients and coworkers
2. demonstrate honesty and integrity
3. demonstrate respect for patient privacy
4. demonstrate ethical behavior
5. commitment to patient care.

f. Systems based practice

1. work effectively in an academic medical center where the majority of the patient population does not have health insurance and is not able to pay for health care. The Y1 fellow must advocate on behalf of the patient where the system may work against the delivery of optimal health care.

Y2 fellow

It is expected that by the conclusion of this rotation, the Y2 fellow will be able to:

- perform a complete vascular history and physical;
- understand the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option;
- understand the elements of informed consent for each diagnostic and therapeutic procedure;
- understand the applications and limitations of vascular therapeutic and diagnostic modalities;
- understand the role of medical therapy in the vascular surgery patient;
- demonstrate excellence in vascular operative technique, even for more complex cases;

- manage operative and non-operative vascular trauma cases;
- manage operative care of advanced peripheral arterial disease (PAD);
- perform limb salvage;
- assess patients in renal failure and perform AVF and AVG; and,
- assess and manage acute aortic dissections.

To ensure that the Y2 fellow has met these Goals and Objectives, the Y2 fellow must demonstrate the following competencies:

a. Patient care

1. perform basic endovascular skills
2. engage in operative planning and perform vascular procedures, including:
 - open and endovascular (TVAR and EVAR) aortic surgery
 - extracranial arterial revascularization
 - peripheral bypasses (both with vein and prosthetic grafts)
 - thrombolysis procedures
 - IVC filters
 - upper extremity revascularization
3. critically review vascular imaging studies
4. manage post-operative care
5. care for the patient beginning with admission, continuing through the peri-operative period until the time of discharge
6. competently read angiography, CT angiography, MR angiography, and duplex ultra-sound
7. assess vascular out-patients

b. Medical knowledge

1. apply the basic science and clinical fundamentals of vascular surgery in his practice
2. critically review and apply current literature
3. attend weekly vascular conference, weekly morbidity and mortality conference, and monthly journal club

c. Practice based learning

1. formally meet with the program director to discuss perceptions of strengths and deficiencies
2. incorporate feedback from director into performance
3. search for and use relevant vascular literature in practice

d. Interpersonal and communication skills

1. comfortably communicate across a broad spectrum of patients, family members, physicians, other staff
2. write comprehensive and legible medical records
3. effectively document practice activities

e. Professionalism

1. demonstrate compassion and respect for all patients and coworkers
2. demonstrate honesty and integrity
3. demonstrate respect for patient privacy
4. demonstrate ethical behavior
5. demonstrate a commitment to patient care

f. Systems based practice

1. work effectively in an academic medical center where the majority of the patient population does not have health insurance and is not able to pay for health care. The Y2 fellow must advocate on behalf of the patient where the system may work against the delivery of optimal health care
2. learn to navigate through the New York State health care system

VA Hospital

Duration: 3 months

Goals and Objectives:

Y1 fellow

It is expected that by the conclusion of this rotation, the Y1 fellow will be able to:

- perform a complete vascular history and physical;

- understand the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option;
- understand the elements of informed consent for each diagnostic and therapeutic procedure;
- understand the applications and limitations of vascular therapeutic and diagnostic modalities;
- understand the role of medical therapy in the vascular surgery patient; and,
- demonstrate vascular operative technique.

To ensure that the Y1 fellow has met these Goals and Objectives, the Y1 fellow must demonstrate the following competencies:

a. Patient care

1. perform basic endovascular skills
2. engage in operative planning and perform vascular procedures, including:
 - open and endovascular (TVAR and EVAR) aortic surgery
 - extracranial arterial revascularization
 - peripheral bypasses (both with vein and prosthetic grafts)
 - thrombolysis procedures
 - IVC filters
 - upper extremity revascularization
3. critically review vascular imaging studies
4. manage post-operative care
5. care for the patient beginning with admission, continuing through the peri-operative period until the time of discharge
6. competently read angiography, CT angiography, MR angiography, and duplex ultra-sound
7. assess vascular out-patients

b. Medical knowledge

1. learn the basic science and clinical fundamentals of vascular surgery
2. critically review and apply current literature

3. attend weekly vascular conference, weekly morbidity and mortality conference, and monthly journal club
4. attend the Moore Course

c. Practice based learning

1. formally meet with the program director to discuss perceptions of strengths and deficiencies
2. incorporate feedback from director into performance
3. become fluent in PubMed in order to search for relevant vascular literature

d. Interpersonal and communication skills

1. begin to acquire basic communication skills across a broad spectrum of patients, family members, physicians, other staff
2. write comprehensive and legible medical records
3. effectively document practice activities

e. Professionalism

1. demonstrate compassion and respect for all patients and coworkers
2. demonstrate honesty and integrity
3. demonstrate respect for patient privacy
4. demonstrate ethical behavior
5. commitment to patient care.

f. Systems based practice

1. work effectively in an academic medical center where the majority of the patient population has veteran's health insurance. The Y1 fellow learns to advocate on behalf of the patient and work through our federal health care system.

Y2 fellow

It is expected that by the conclusion of this rotation, the Y2 fellow will be able to:

- perform a complete vascular history and physical;
- understand the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option;

- understand the elements of informed consent for each diagnostic and therapeutic procedure;
- understand the applications and limitations of vascular therapeutic and diagnostic modalities;
- understand the role of medical therapy in the vascular surgery patient; and,
- demonstrate excellence in vascular operative technique, even for more complex cases.

To ensure that the Y2 fellow has met these Goals and Objectives, the Y2 fellow must demonstrate the following competencies:

a. Patient care

1. perform basic endovascular skills
2. engage in operative planning and perform complex vascular procedures, including:
 - open and endovascular (TVAR and EVAR) aortic surgery
 - extracranial arterial revascularization
 - peripheral bypasses (both with vein and prosthetic grafts)
 - thrombolysis procedures
 - IVC filters
 - upper extremity revascularization
3. critically review vascular imaging studies
4. manage post-operative care
5. care for the patient beginning with admission, continuing through the peri-operative period until the time of discharge, and thereafter if applicable
6. competently read angiography, CT angiography, MR angiography, and duplex ultra-sound
7. assess vascular out-patients

b. Medical knowledge

1. learn the basic science and clinical fundamentals of vascular surgery
2. critically review and apply current literature
3. attend weekly vascular conference, weekly morbidity and mortality conference, and monthly journal club

c. Practice based learning

1. formally meet with the program director to discuss perceptions of strengths and deficiencies
2. incorporate feedback from director into performance
3. become fluent in PubMed in order to search for relevant vascular literature

d. Interpersonal and communication skills

1. begin to acquire basic communication skills across a broad spectrum of patients, family members, physicians, other staff
2. write comprehensive and legible medical records
3. effectively document practice activities

e. Professionalism

1. demonstrate compassion and respect for all patients and coworkers
2. demonstrate honesty and integrity
3. demonstrate respect for patient privacy
4. demonstrate ethical behavior
5. commitment to patient care.

f. Systems based practice

1. work effectively in an academic medical center where the majority of the patient population has veteran's health insurance. The Y2 fellow learns to advocate on behalf of the patient and work through our federal health care system.

Outpatient Services

Duration: 3 months

Goals and Objectives:

Y1 fellow

It is expected that by the conclusion of this rotation, the Y1 fellow will be able to:

- acquire knowledge of ultrasound physics as it applies to current and established techniques of vascular diagnosis;
- become familiar with the different instruments and technologies used for non-invasive vascular diagnosis;

- learn to perform, supervise, and interpret the results of non-invasive diagnostic modalities;
- become familiar with the application of non-invasive testing modalities in the development of practice guidelines, surveillance, outcome assessment, and clinical research;
- become familiar with the administrative skills necessary to serve as medical director of a non-invasive vascular laboratory;
- understand the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option, including the differences between laser and RFA; and,
- learn how to perform sclerotherapy, micro-phlebectomy, and endovenous thermal ablation of the GSV, SSV, and perforators.

To ensure that the Y1 fellow has met the Goals and Objectives of this rotation, the Y1 fellow must demonstrate the following competencies:

a. Patient care

1. deliver compassionate and competent care to all patients
2. use knowledge and skills to enhance the care of patients.
3. competently read non-invasive imaging studies.

b. Medical knowledge

1. perform and keep a log of complete vascular ultrasound cases, working toward a goal of 500 cases
2. apply knowledge gained from non-invasive imaging studies to venous cases performed

c. Practice based learning

1. formally meet with the program director to discuss perceptions of strengths and deficiencies
2. incorporate feedback from director into performance
3. become fluent in PubMed in order to search for relevant vascular literature

4. know how to locate clinical and scientific information relevant to a particular patient's clinical situation and assimilate and apply that information to patient care.
5. know how to use available technology to access patient information.

d. Interpersonal and communication skills

1. communicate effectively across a broad spectrum of patients, family members and other staff.
2. communicate and work with other referring and consulting physicians, laboratory technicians and nursing staff
3. write comprehensive and legible medical records
4. effectively document practice activities
5. compassionately communicate treatment options and plans

e. Professionalism

1. demonstrate compassion and respect for all patients and coworkers and sensitivity to culturally diverse patient populations
2. demonstrate honesty and integrity
3. demonstrate respect for patient privacy
4. demonstrate ethical behavior
5. commitment to patient care

f. Systems based practice

1. work effectively in an academic medical center where the majority of the patient population either has health insurance or is able to self-pay.
2. incorporate considerations of cost, particularly where new imaging tests and devices may be available but very expensive.
3. understand and demonstrate the importance of coordination of patient care within the health care system
4. consider cost-containment and risk-benefit analysis particularly in the private hospital setting.
5. understand the importance of quality patient care and optimize the delivery of same.

Y2 fellow

It is expected that by the conclusion of this rotation, the Y2 fellow will be able to:

- demonstrate knowledge of ultrasound physics as it applies to current and established techniques of vascular diagnosis;
- demonstrate knowledge of different instruments and technologies used for non-invasive vascular diagnosis;
- demonstrate the ability to perform, supervise, and interpret the results of non-invasive diagnostic modalities;
- demonstrate an understanding of the application of non-invasive testing modalities in the development of practice guidelines, surveillance, outcome assessment, and clinical research;
- demonstrate the administrative skills necessary to serve as medical director of a non-invasive vascular laboratory;
- understand the alternative treatment options that may be available to the patient, along with the attendant risks, benefits and prognosis for each option, including the differences between laser and RFA; and,
- perform sclerotherapy, micro-phlebectomy, and endovenous thermal ablation of the GSV, SSV, and perforators.

To ensure that the Y2 fellow has met the Goals and Objectives of this rotation, the Y2 fellow must demonstrate the following competencies:

a. Patient care

1. deliver compassionate and competent care to all patients
2. use knowledge and skills to enhance the care of patients
3. competently read non-invasive laboratory studies

b. Medical knowledge

1. perform and keep a log of 500 complete vascular ultrasound cases
2. apply knowledge gained from non-invasive imaging studies to venous cases performed.

3. after completing those 500 cases, take the RPVI review course offered through the Society of Vascular Ultrasound and take and pass the RPVI certifying examination.

c. Practice based learning

1. formally meet with the program director to discuss perceptions of strengths and deficiencies
2. incorporate feedback from director into performance
3. become fluent in PubMed in order to search for relevant vascular literature
4. know how to locate clinical and scientific information relevant to a particular patient's clinical situation and assimilate and apply that information to patient care.
5. know how to use available technology to access patient information.

d. Interpersonal and communication skills

1. communicate effectively across a broad spectrum of patients, family members and other staff
2. communicate and work with other referring and consulting physicians, laboratory technicians and nursing staff
3. write comprehensive and legible medical records
4. effectively document practice activities
5. compassionately and with sensitivity to cultural differences, communicate treatment options and plans

e. Professionalism

1. demonstrate compassion and respect for all patients and coworkers and sensitivity to culturally diverse patient populations
2. demonstrate honesty and integrity
3. demonstrate respect for patient privacy
4. demonstrate ethical behavior
5. commitment to patient care

f. Systems based practice

1. work effectively in an academic medical center where the majority of the patient population either has health insurance or is able to self-pay.
2. incorporate considerations of cost, particularly where new imaging tests and devices may be available but very expensive.
3. understand and demonstrate the importance of coordination of patient care within the health care system
4. consider cost-containment and risk-benefit analysis particularly in the private hospital setting.
5. understand the importance of quality patient care and optimize the delivery of same

Research

Goals and Objectives:

It is expected that each year during the fellowship program, each fellow will:

- demonstrate initiative by selecting an area of interest and, working with a mentor, pursuing a research project within this area;
- design a research project or join an ongoing research project;
- submit at least one abstract to a national vascular meeting;
- submit at least one manuscript to a peer-reviewed journal; and,
- demonstrate competency in all areas of research including grant preparation, experimental design, data collection, data analysis and data publication.

**NYU Langone Medical Center
Division of Vascular and Endovascular Surgery
Evaluations**

There are several mechanisms by which the fellows evaluate the Program:

E-Value system

The Vascular Surgery Fellowship Program utilizes an electronic evaluation system called E-Value. This system operates by coordinating a schedule of evaluations that must be submitted by all of the participants in the program (including the fellows, attending faculty, the Program Director, and other personnel at the medical center) and email reminders to each of these participants.

Each email reminder contains a link to the actual evaluation, so that a simple click enables the fellow to do the evaluation electronically. The system compiles the evaluations into a report for the Program Director so that he is able to monitor compliance with all of the rules and requirements of the Program. If, for example, the evaluations point out a deficiency in a particular area, the Director is made aware and can take steps to remediate the deficiency. Additionally, the system also sends the Director reports about the instances of failure to complete the evaluations themselves, ensuring the ability to monitor compliance with the Program requirements.

ACGME Survey

The ACGME conducts an annual survey of the fellows about the Program and sends the information to the Program Director. The Program Director reviews the survey and takes steps to address any deficiencies that the survey identifies.

Meetings between fellows and the Program Director/Program Retreat

The Program Director is well aware that the small size of the program may negatively impact the anonymity of the program evaluation survey. The fellows are encouraged to offer comments about the program during their frequent meetings with the Program Director, who goes to great lengths to solicit information from the fellows that may have bearing on the program and makes a great effort to not allow any negative consequences to flow from candid expressions by fellows about the program. For example, the Program Director may allow some time to pass before talking to a faculty member about an issue so as to protect the identity of the fellow who raised the issue (of course, without compromising patient care). The Program Director and members of the faculty are able to develop close relationships with the fellows and elicit information from the fellows on account of this close working relationship. Additionally, a retreat comprising selected fellows and faculty is set up to review the program each June. The summary of this retreat is kept in Divisional files.

Collective Evaluation of Program by Fellows

At the end of each Program year, the Program Director asks the fellows to meet and generate a collective evaluation of the Program and of each member of the faculty. This allows another opportunity for anonymous input by the fellows. By submitting one collective evaluation for the group of fellows, there can be no attribution of authorship to any particular fellow.