GLOSSARY

**Abbreviations:**
ABMS: American Board of Medical Specialties
ACP: American College of Phlebology
ACPFC: American College of Phlebology Fellowship Committee
ARDMS: American Registry For Diagnostic Medical Sonography
ICAVL: Intersocietal Commission for the Accreditation of Vascular Laboratories
PAF: Program Application Form
QA: Quality Assurance
QI: Quality Improvement
RVT: Registered Vascular Technologist
RPVI: Registered Physician Vascular Interpretation

**Terms:**
Desirable: “Desirable” or “highly desirable” are phrases used for aspects of a training program that are not absolutely essential but are considered very significant.

Essential: Equates with indispensable and definitely identifies an absolute requirement.

Must: Indicates that something is required and connotes an absolute requirement.

Should: Used for those dimensions of a training program that are so important that their absence must be justified. If the program has an alternative way to accomplish the intent of the requirement, this should be fully described. A program is at risk if it is not in compliance with a “should.”

Suggested: A term, along with its companion “strongly suggested,” used to indicate that something is distinctly urged rather than required. An institution or a program will not be cited for failing to do something that is suggested or strongly suggested.
I. Introduction

A. Phlebology is the specialty that is concerned with the study, diagnosis, and treatment of venous disease. The following document describes minimum program requirements to establish an ACP postgraduate fellowship in phlebology. To establish an ACP Phlebology fellowship, all applicants must:
   1. complete a Program Application Form,
   2. fulfill program requirements as detailed below,
   3. be unanimously approved by the American College of Phlebology Fellowship Committee (ACPFC), and
   4. be subsequently approved by the ACP Board of Directors.

B. Duration and Scope of Education
   1. Phlebology fellowships will be approved to offer twelve months of education and experience subsequent to the satisfactory completion of an ACGME accredited residency.
   2. Graduate medical education programs in phlebology must provide an organized, systematic, and progressive educational experience for physicians seeking to acquire advanced competence as a phlebologist. Due to the breadth and depth of program requirements, a multidisciplinary collaboration is essential.
   3. Programs must provide organized education in all current aspects of phlebology, including basic science, anatomy, anesthesia, ethics, pre- and postoperative management, surgical technique, wound healing, diagnostic testing and interpretation, medical and surgical treatments such as compression therapy, sclerotherapy, phlebectomy, endovenous ablation techniques, perforator treatment techniques. In addition, epidemiology, medicolegal and regulatory issues, quality assurance, and quality improvement education should be available.
   4. Applicant Selection Criteria- in addition to the institutional requirements of each program, fellowship applicants should:
      a) be selected from a competitive, open application and interview process, which should include but is not limited to multiple faculty reviewing and interviewing candidates and objective criteria that is consistently applied to all applicants;
      b) have successfully finished at least 75% or more of their clinical training in an ACGME approved residency;
      c) if an applicant interrupts his/her residency training to enter a phlebology fellowship, then he/she must return to such residency training after completing the phlebology fellowship and ultimately be board certified in such specialty within 2 years of residency training. Failure to complete this requirement will void any certificate of completion for the phlebology fellowship and prevent the individual from achieving a Fellow member status in the American College of Phlebology; and
      d) be in good standing by relevant local and national medical regulatory agencies.
II. Institutions

A. Sponsoring Institution
   1. If multiple institutions are involved, one sponsoring institution must assume the ultimate responsibility for the program, and this responsibility extends to fellow assignments at all participating institutions.

B. Participating Institutions
   1. Assignment to an institution must be based on a clear educational rationale, integral to the program curriculum, with clearly stated activities and objectives. When multiple participating institutions are used, there should be assurance of the continuity of the educational experience.
   2. Assignment to a participating institution requires a letter of agreement with the sponsoring institution. Such a letter of agreement should:
      a) Identify the faculty who will esteem both educational and supervisory responsibilities for fellows
      b) Specify their responsibilities for teaching, supervision, and formal evaluation of fellows, as specified later in this document
      c) Specify the duration and content of the educational experience
      d) State the policies and procedures that will govern fellow education during the assignment.

III. Program Personnel and Resources

A. Program Director
   1. There must be a single program director responsible for the program. The person designated with this authority is accountable for the operation of the program. In the event of a change of either program director or department chair, the program director should promptly notify in writing the fellowship committee of the ACP.
   2. The Program Director, together with the faculty, is responsible for the general administration of the program, and for the establishment and maintenance of a stable educational environment. Adequate lengths of appointment for both the program director and faculty are essential to maintaining such an appropriate continuity of leadership.
   3. Qualifications of the program director are as follows:
      a) The program director must possess the requisite specialty expertise, as well as documented leadership, educational, and administrative abilities,
      b) The program director must be:
         i. Certified in a specialty recognized by the ABMS
         ii. A fellow of the ACP or obtain fellow status within three years of approval as a Fellowship Program Director. Further, while serving as a program director, an individual must remain active in the ACP and not have more than two consecutive absences from ACP annual congress meetings
         iii. Based at the primary teaching site and be appointed in good standing
      c) The program director must have:
i. At least five years of patient care experience as a board certified physician in good standing by the relevant specialty societies

ii. At least five years of experience as a teacher in graduate medical education of residents and or fellows in a relevant specialty as well as an ongoing clinical practice in phlebology

4. Responsibilities of the program director are as follows:
   a) The program director must oversee and organize the activities of the educational program in all institutions that participate in the program. This includes selecting and supervising the faculty and other program personnel at each participating institution, appointing a local site director, and monitoring appropriate fellow supervision at all participating institutions.
   b) The program director is responsible for preparing an accurate statistical and narrative description of the program as requested by the ACPFC, as well as updating both program and fellow records through the ACPFC on an annual basis.
   c) The program director must ensure the implementation of fair policies, grievance procedures, and due process, as established by the sponsoring institution and in compliance with the Institutional Requirements.
   d) The program director must seek the prior approval of the ACPFC for any changes in the program that may significantly alter the educational experience of the fellows. Such changes, for example, include:
      i. The addition or deletion of a participating institution
      ii. A change in the format of the educational program
      iii. A change in the approved fellow complement for those specialties that approve fellow complement. On review of a proposal for any such major change in a program, the ACPFC may determine that a site visit is necessary.
   e) Committing sufficient time (at least ten hours a week) to the administrative and teaching tasks inherent in achieving the educational goals of the program.

B. Faculty
1. At each participating institution, there must be a sufficient number of faculty with documented qualifications to adequately instruct and supervise all fellows in the program. A multidisciplinary faculty is essential.
   a) All programs should have at least two faculties who are actively involved in the clinical practice of phlebology and have significant responsibility for the instruction and supervision of all fellows during the 12 months of accredited education.
   b) In the short-term absence of the program director, one member of the teaching staff must assume the responsibility for the direction of the program.
2. The faculty, furthermore, must devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities. They must demonstrate a strong interest in the education of fellows; and must support the goals and objectives of the educational program of which they are a member.
3. Qualifications of the physician faculty are as follows:
   a) The physician faculty must possess the requisite specialty expertise and competence in clinical care and teaching abilities, as well as documented educational and administrative abilities and clinical experience in phlebology.
   b) The physician faculty must be certified in the specialty by an ABMS board, or possess qualifications judged to be acceptable by the ACPFC.
   c) The physician faculty must be appointed in good standing to the staff of an institution participating in the program and be of good standing in their respective state medical societies.

4. The responsibility for establishing and maintaining an environment of inquiry and scholarship rests with the faculty, and an active research component must be included in each program. Scholarship is defined as the following:
   a) The scholarship of discovery, as evidenced by peer-reviewed funding or by publication of original research in a peer-reviewed journal
   b) The scholarship of dissemination, as evidenced by review articles or chapters in textbooks
   c) The scholarship of application, as evidenced by the publication or presentation of, for example, case reports or clinical series at local, regional, or national professional and scientific society meetings. Complementary to the above scholarship is the regular participation of the teaching staff in clinical discussions, rounds, journal clubs, and research conferences in a manner that promotes a spirit of inquiry and scholarship (e.g., the offering of guidance and technical support for fellows involved in research such as research design and statistical analysis); and the provision of support for fellows' participation, as appropriate, in scholarly activities.

5. Qualifications of the nonphysician faculty (i.e. RVT) are as follows:
   a) Nonphysician faculty must be appropriately qualified in their fields.
   b) Nonphysician faculty must possess appropriate institutional appointments.

C. Other Program Personnel
1. Additional necessary professional, technical, and clerical personnel must be provided to support the program.
2. As the care of patients with venous diseases involves collaboration with other specialties, fellows should have an opportunity to work with health care personnel from other specialties, such as radiology, interventional radiology, vascular surgery, anesthesiology, dermatology when appropriate.

D. Resources
1. The program must ensure that adequate resources (e.g., sufficient laboratory space and equipment, computer and statistical consultation services) are available.
2. Adequate space should be dedicated to the performance of vein procedures; this should include a vascular lab exposure with appropriate diagnostic equipment in the evaluation of vein patients. Exposure to a wound care center is highly encouraged.
3. Program laboratories should be in compliance with all federal, state and local regulations regarding a work environment (e.g., OSHA, ICAVL).
4. There should be appropriate space for fellows to read, study, and complete their paperwork.

IV. Fellow Appointments

A. Eligibility Criteria: The program director must comply with the criteria as specified in the Sponsoring Academic Institution’s Institutional Requirements for fellow eligibility, if any.

B. Number of Fellows: The ACPFC will approve the number of fellows based upon established written criteria that include the adequacy of resources for fellow education (e.g., the quality and volume of patients and related clinical material available for education), faculty-fellow ratio, institutional funding, and the quality of faculty teaching.

C. Fellow Transfers: To determine the appropriate level of education for fellows who are transferring from another program, the program director must receive written verification of previous educational experiences and a statement regarding the performance evaluation of the transferring fellow prior to their acceptance into the program. A program director is required to provide verification of education for fellows who may leave the program prior to completion of their education.

D. Appointment of Other Students: The appointment of fellows from other programs, residents or students must not dilute or detract from the educational opportunities available to regularly appointed fellows.

V. Program Curriculum (Please refer to the Phlebology Curriculum document)

A. Program Design
   1. Format: The program design and sequencing of educational experiences will be approved by the ACPFC as part of the review process.
   2. Goals and Objectives: The program must possess a written statement that outlines its educational goals with respect to the knowledge, skills, and other attributes of fellows for each major assignment and for each level of the program. This statement must be distributed to fellows and faculty, and must be reviewed with fellows prior to their assignments.

B. Subspecialty Curriculum
   The program must possess a well-organized and effective curriculum, both didactic and clinical. The curriculum must also provide fellows with direct experience in progressive responsibility for patient management.
   1. Didactic components
      a) Programs must be structured so that fellows are involved in phlebology throughout the year and must include the systematic study of the body of knowledge that phlebologists have utilized in the diagnosis and treatment of venous diseases. In particular, evaluation and medical or surgical intervention must be based on an advanced understanding of venous anatomy and pathophysiology, diagnostic testing and interpretation as they
relate to venous disease. Phlebology training is broadly categorized into the following three areas:

i. Anatomy and physiology

ii. Diagnostic evaluation

iii. Treatment

b) Fellows must also expand their knowledge of related disciplines such as surgical anatomy, sterilization of equipment, aseptic technique, anesthesia (including preoperative sedation, local and regional anesthesia, tumescent anesthesia, and indications for conscious sedation and general anesthesia), closure materials (sutures, staples), and instrumentation. Appropriate evaluation and management skills must be mastered for all vein patients, including preoperative, perioperative, and postoperative evaluation. Training with certification in advanced cardiopulmonary resuscitation is required. Training in wound healing, including basic science, clinical aspects, and the use of specialized wound dressings appropriate to the clinical problem must be provided.

c) Competency and training in duplex ultrasonography and other diagnostic studies for venous disease is essential to the consummate phlebologist. This may be accomplished through successful completion of the RPVI examination, RVT certification, or other specific training approved by the ACPFC.

d) Lectures, tutorials, seminars, and conferences with clinical services must be regularly scheduled and held. There must be systematic study of the body of knowledge upon which phlebology procedures are based as well as the review of study materials and files of usual and unusual cases.

2. Clinical Components

a) Procedural Volume

The program must provide a sufficient volume and variety of cases for the fellow to acquire the experience of a subspecialist in venous disease. Program faculty must collectively perform at least 250 vein procedures per fellow, per year.

i. Qualifying for these 250 procedures are endovenous ablations (thermal, chemical), ambulatory phlebectomy, ultrasound guided sclerotherapy, and perforator therapies.

ii. Other procedures not listed above (visual sclerotherapy, cutaneous laser, etc), although essential to the fellow’s training, do not qualify for the collective 250 cases.

b) Selection and Referral of Patients

The program must be designed to ensure that fellows develop an advanced competence in the identification of patients whose conditions should be treated by minimally invasive surgical procedures and others, such as those requiring general anesthesia, who should be referred to other specialists for multidisciplinary care. A multidisciplinary and collaborative environment is essential.

c) Procedural Skills

The program must be designed to ensure that all fellows develop advanced skills in the performance of compression, sclerotherapy (liquid, foam, visual, duplex guided), laser surgery, phlebectomy,
and endovenous ablation. In addition, the educational program should include instruction in perforator ablation techniques.

i. The provision of practical training in diagnostic testing, such as ultrasonography and ankle brachial index exams, is mandatory. Knowledge of adjunctive diagnostic tests such as manual Doppler and photoplethysmography is highly desirable.

ii. The program must provide training in anesthesia techniques, such as tumescent anesthesia, local anesthesia for outpatient surgery and knowledge of when adjunctive anesthesia and sedation techniques are required.

iii. Exposure of the fellow to a wound care center is essential, as it broadens the understanding of lower extremity disease, wound healing, and promotes multidisciplinary collaboration.

d) Laboratory Management

The program must provide the fellow with the knowledge to develop a venous vascular laboratory.

e) Quality Assurance (QA) & Quality Improvement (QI) Activities and Documentation:

i. There should be an ongoing QA and QI program that encourages outcome metrics and efforts to improve patient safety and care.

ii. Documentation of cases and complications in a case log for departmental files and the personal files of all fellows is required. There should be regularly scheduled conferences to consider complications and outcomes and utilization review.

iii. There should be documentation of the fellows’ surgical experience. This should include a case log with operative reports and pre- and postoperative photographs in appropriate cases. The surgical director should review and confirm the operative experience records of all fellows.

C. Scholarly Activities

Each program must provide an opportunity for fellows to participate in research or other scholarly activities, and fellows must participate actively in such scholarly activities. Fellows are encouraged to become a member of the ACP. Within twelve months of completing training, all phlebology fellowship graduates are expected to:

1. Present at an ACP annual congress
2. Submit at least one article for publication in Phlebology

VI. Fellow Duty Hours and the Working Environment

Providing fellows with a sound didactic and clinical education must be carefully planned and balanced with concerns for patient safety and fellow well being. Each program must ensure that the learning objectives of the program are not compromised by excessive reliance on fellows to fulfill service obligations. Didactic and clinical education must have priority in the allotment of fellow’s time and energy. Duty hour assignments must recognize that faculty and fellows collectively have responsibility for the safety and welfare of patients.
A. Supervision of Fellows
   1. Qualified faculty must supervise all patient care. The program director must ensure, direct, and document adequate supervision of fellows at all times. Fellows must be provided with rapid, reliable systems for communicating with supervising faculty.
   2. Faculty schedules must be structured to provide fellows with continuous supervision and consultation.
   3. Faculty and fellows must be educated to recognize the signs of fatigue, and adopt and apply policies to prevent and counteract its potential negative effects.

B. Duty Hours
   1. Duty hours are defined as all clinical and academic activities related to the program; e.g., patient care (both inpatient and outpatient), administrative duties relative to patient care, the provision for transfer of patient care, time spent in-house during call activities, and scheduled activities such as conferences. Duty hours do not include reading and preparation time spent away from the duty site.
   2. Duty hours must be limited to eighty hours per week, averaged over a four-week period, inclusive of all in-house call activities.
   3. Fellows must be provided with one day in seven free from all educational and clinical responsibilities, averaged over a four-week period, inclusive of call. One day is defined as one continuous 24-hour period free from all clinical, educational, and administrative duties.
   4. Adequate time for rest and personal activities must be provided. This should consist of a ten-hour time period provided between all daily duty periods and after in-house call.

C. On-call Activities
   The objective of on-call activities is to provide fellows with continuity of patient care experiences throughout a 24-hour period. In-house call is defined as those duty hours beyond the normal workday, when fellows are required to be immediately available in the assigned institution.
   1. In-house call must occur no more frequently than every third night, averaged over a four-week period.
   2. Continuous on-site duty, including in-house call, must not exceed consecutive hours. Fellows may remain on duty for up to six additional hours to participate in didactic activities, transfer care of patients, conduct outpatient clinics, and maintain continuity of medical and surgical care.
   3. No new patients may be accepted after 24 hours of continuous duty.
   4. At-home call (or pager call) is defined as a call taken from outside the assigned institution.
      a) The frequency of at-home call is not subject to the every-third-night limitation. At-home call, however, must not be so frequent as to preclude rest and reasonable personal time for each fellow. Fellows taking at-home call must be provided with one day in seven completely free from all educational and clinical responsibilities, averaged over a four-week period.
      b) When fellows are called into the hospital from home, the hours fellows spend in-house are counted toward the eighty-hour limit.
      c) The program director and the faculty must monitor the demands of at-home call in their programs, and make scheduling adjustments.
as necessary to mitigate excessive service demands and/or fatigue.

D. Moonlighting
1. Because graduate medical education is a full-time endeavor, the program director must ensure that moonlighting does not interfere with the ability of the fellow to achieve the goals and objectives of the educational program.
2. The program director must comply with the sponsoring institution’s written policies and procedures regarding moonlighting, in compliance with the Institutional Requirements.
3. Any hours a fellow works for compensation at the sponsoring institution or any of the sponsor’s primary clinical sites must be considered part of the eighty-hour weekly limit on duty hours. This refers to the practice of internal moonlighting.

E. Oversight
1. Each program must have written policies and procedures consistent with the Institutional and Program Requirements for fellow duty hours and the working environment. These policies must be distributed to the fellows and the faculty. Duty hours must be monitored with a frequency sufficient to ensure an appropriate balance between education and service.
2. Back-up support systems must be provided when patient care responsibilities are unusually difficult or prolonged, or if unexpected circumstances create fellow fatigue sufficient to jeopardize patient care.

F. Duty Hours Exceptions
The ACPFC may grant exceptions for up to 10% of the eighty-hour limit to individual programs based on a sound educational rationale. Prior permission of the institution’s GMEC, however, is required.

VII. Evaluation

A. Fellow
1. Formative Evaluation
   The faculty must evaluate in a timely manner the fellows whom they supervise. In addition, the program must demonstrate that it has an effective mechanism for assessing fellow performance throughout the program, and for utilizing the results to improve fellow performance.
   a) Assessment should include the use of methods that produce an accurate assessment of fellows’ competence in patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice.
   b) Assessment should include the regular and timely performance feedback to fellows that includes at least semiannual written evaluations. Such evaluations are to be communicated to each fellow in a timely manner, and
   c) Maintained in a record that is accessible to each fellow.
d) Assessment should include the use of assessment results, including evaluation by faculty, patients, peers, self, and other professional staff, to achieve progressive improvements in fellows' competence and performance.

2. Final Evaluation
The program director must provide a final evaluation for each fellow who completes the program. This evaluation must include a review of the fellow's performance during the final period of education, and should verify that the fellow has demonstrated sufficient professional ability to practice competently and independently. The final evaluation must be part of the fellow's permanent record maintained by the institution.

B. Faculty
The program must evaluate the performance of the faculty no less frequently than at the midpoint of the accreditation cycle, and again prior to the next site visit. The evaluations should include a review of their teaching abilities, commitment to the educational program, clinical knowledge, and scholarly activities. This evaluation must include annual written confidential evaluations by fellows.

C. Program
The educational effectiveness of a program must be evaluated at least annually in a systematic manner.

1. Representative program personnel (i.e., at least the program director, representative faculty, and one fellow) must be organized to review program goals and objectives, and the effectiveness with which they are achieved. This group must conduct a formal documented meeting at least annually for this purpose. In the evaluation process, the group must take into consideration written comments from the faculty, the most recent report of the GMEC of the sponsoring institution, and the fellow's confidential written evaluations. If deficiencies are found, the group should prepare an explicit plan of action, which should be approved by the faculty and documented in the minutes of the meeting.

2. The program should use fellow performance and outcome assessment in its evaluation of the educational effectiveness of the program. Performance of program graduates on the certification examination should be used as one measure of evaluating program effectiveness.

3. The program should maintain a process for using assessment results together with other program evaluation results to improve the program.

VIII. Experimentation and Innovation

Since responsible innovation and experimentation are essential to improving professional education, experimental projects along sound educational principles are encouraged. Requests for experimentation or innovative projects that may deviate from the program requirements must be approved in advance by the ACPFC, and must include the educational rationale and method of evaluation. The sponsoring institution and program are jointly responsible for the quality of education offered to fellows for the duration of such a project.