Percutaneous transluminal peripheral angioplasty

Background

Percutaneous transluminal peripheral angioplasty (PTPA) is a revascularization procedure that is used to treat narrowing of the arteries caused by peripheral arterial disease or other conditions. A physician performing PTPA makes a small nick in the skin and inserts a balloon catheter or other interventional device. Under imaging guidance, the physician threads the device through the vessel until it reaches the blocked area. A balloon is then inflated to clear the blockage. This process is sometimes supplemented by using a metal stent to prop the artery open.

The first angioplasty procedure was described in the 1960s, and a balloon catheter was used to perform the procedure in the 1970s. An alternative to surgery, PTPA allows for faster recovery and a shorter hospital stay, and also avoids the use of general anesthesia, according to the American Academy of Family Physicians. Potential risks related to the procedure are bleeding, blood clots, heart attack, or rarely stroke, according to the National Institutes of Health.

Involved specialties

Vascular surgeons, interventional cardiologists, and interventional radiologists

Positions of specialty boards

**ABIM**

The American Board of Internal Medicine (ABIM) grants certification in the subspecialty of interventional cardiology. A minimum of 12 months of training is required, following three years of accredited cardiovascular disease training. During interventional cardiology training, fellows must perform at least 250 therapeutic interventional cardiac procedures, documented in a case list and attested to by the training program director.

To receive credit for performance of a therapeutic interventional cardiac procedure, fellows must meet the following criteria:

- Participation in procedural planning
- Performance of critical technical manipulations
- Substantial involvement in post-procedural management
- Supervision by the faculty member responsible for the procedure

The ABIM does not publish standards specific to PTPA.
**ABR**

The American Board of Radiology (ABR) grants certification in vascular/interventional radiology. Following residency, candidates for certification must complete one year of fellowship training in a vascular and interventional radiology program accredited by the Accreditation Council for Graduate Medical Education (ACGME) or the Royal College of Physicians and Surgeons of Canada (RCPSC). The ABR also requires one year of practice or additional approved training, four months of which should be spent in vascular and interventional radiology.

The ABR does not publish standards specific to PTPA.

**AOBIM**

The American Osteopathic Board of Internal Medicine (AOBIM) offers a certificate of added qualifications (CAQ) in interventional cardiology.

To obtain the CAQ, the candidate must complete three years of American Osteopathic Association (AOA)–approved subspecialty training in cardiology, followed by one year of training in interventional cardiology. Candidates must complete a minimum of 300 cardiac interventional procedures and serve as the primary operator in a minimum of 200 of these cases.

The AOBIM does not publish standards specific to PTPA.

**AOBR**

The American Osteopathic Board of Radiology (AOBR) offers a CAQ in vascular and interventional radiology and neuroradiology. The AOBR does not publish standards specific to PTPA.

**ABS**

The American Board of Surgery (ABS) grants certification in vascular surgery. Candidates must successfully complete the vascular surgery qualifying examination as well as the vascular surgery certifying examination to obtain certification in vascular surgery.

In order to take the qualifying examination, applicants must complete a program in vascular surgery accredited by the ACGME or the RCPSC. Candidates must obtain increasing levels of responsibility during vascular surgery training, and serve as chief resident for a 12-month period. They must acquire at least 48 weeks of full-time surgical experience in each residency year.

Candidates must also perform at least 250 major vascular reconstructions. Cases must be from the applicant’s vascular surgery residency or fellowship and verified by the program director.
Upon successful completion of the vascular surgery qualifying examination, applicants are allowed to take the vascular surgery certifying examination, as well as an oral examination, to achieve certification.

The ABS does not publish requirements for training or competency specific to PTPA.

**Positions of societies, academies, colleges, and associations**

**ACC/ACP/SCAI/SVMB/SVS**

The American College of Cardiology (ACC), American College of Physicians (ACP), Society for Cardiovascular Angiography and Interventions (SCAI), Society for Vascular Medicine and Biology (SVMB), and the Society for Vascular Surgery (SVS) published a statement called *ACC/ACP/SCAI/SVMB/SVS Clinical Competence Statement on Vascular Medicine and Catheter-Based Peripheral Vascular Interventions*. The document outlines the training and skills that a physician should have to perform catheter-based peripheral vascular interventions.

A physician performing these interventions should have specific knowledge about vascular biology and vascular diseases in addition to the technical skills needed to perform the procedures.

The vascular interventionalist should possess the following minimum knowledge and skills required for competence in peripheral catheter-based interventions:

- Mechanisms that regulate blood vessel function and hemostasis
- Pathophysiology, clinical manifestation, natural history, evaluation, and treatment of peripheral arterial disease, renal artery stenosis, mesenteric ischemia, extracranial cerebrovascular disease, aneurysmal disease, arterial dissection, and arterial and venous thromboembolism
- Noninvasive vascular tests such as segmental blood pressure measurements, arterial and venous duplex ultrasonography, and CT and magnetic resonance angiography
- Accuracy and limitations of diagnostic tests
- Radiation physics, safety, and radiographic imaging equipment
- Principles of image acquisition and display
- Advantages, disadvantages, and potential complications of iodinated and non-iodinated contrast agents
- Advantages, disadvantages, potential outcomes, and complications of interventional procedures
- Indications, alternatives, and contraindications for catheter-based interventions

Physicians performing catheter-based interventions need to have both knowledge of radiation physics and safety and skills in operating radiographic imaging equipment.
The vascular interventionalist should also have the technical skills and ability to:
➤ Safely gain vascular access from multiple sites (femoral, popliteal, and upper extremity arteries, as well as femoral, upper extremity, and neck veins)
➤ Obtain hemostasis, including application of compression and vascular closure devices
➤ Manipulate guide wires and catheters
➤ Place and deploy angioplasty equipment (e.g., balloons, atherectomy devices, stents, distal protection devices)
➤ Recognize and treat procedure-related complications (e.g., dissection, pseudoaneurysms, embolism, vessel perforation or occlusion, stent thrombosis, adverse hemodynamic events)
➤ Perform catheter-directed thrombolysis/thrombectomy
➤ Perform vascular interventions in each of the following: aorta and lower extremity arteries, brachiocephalic and upper extremity arteries, mesenteric and renal arteries, central and peripheral veins, and pulmonary arteries

Physicians performing catheter-based interventions should have completed an approved fellowship, and training should include the following:
➤ A formal, preferably ACGME-approved program
➤ Mentoring by experienced, qualified physicians
➤ Hands-on experience, under supervision, as secondary and primary operator
➤ Documentation of the number of procedures, success and failure rates, complication rates, and outcomes

The ACC/ACP/SCAI/SVMB/SVS Clinical Competence Statement on Vascular Medicine and Catheter-Based Peripheral Vascular Interventions refers to the ACC Core Cardiology Training Symposium document, which provides guidelines for training for cardiovascular physicians in catheter-based peripheral interventions. Cardiovascular physicians should complete the following requirements:
➤ 12 months of training (in addition to the 24 months required for core cardiology training and at least eight months acquiring experience in diagnostic cardiac catheterization in an ACGME-accredited fellowship program)
➤ Performance of 300 diagnostic coronary angiograms, with 200 as the primary operator
➤ Performance of 100 diagnostic peripheral angiograms, with 50 as the primary operator
➤ Performance of 50 peripheral interventional cases, with 25 as the primary operator

Interventional radiologists should complete an ACGME-approved training program in vascular and interventional radiology, and should be eligible for or have received a CAQ from the ABR. During fellowship training and at the time of CAQ examination, trainees should have documented 700 procedures, of which 100 are diagnostic angiograms (50 with supervised, primary responsibility), 50
are peripheral interventions (25 with supervised, primary responsibility), and 10 catheter-directed thrombolysis/thrombectomy cases.

In addition to the training in vascular and interventional radiology, interventional radiologists should complete the following formal training to achieve competence in peripheral catheter-based interventions:

➤ 12 months of training, following completion of ACGME-approved radiology training
➤ Performance of 100 diagnostic peripheral angiograms, with 50 as the primary operator
➤ Performance of 50 peripheral interventional cases, with 25 as the primary operator

The ACGME has made training in endovascular techniques a required component of vascular surgery program, and as such, vascular fellows may obtain training in peripheral catheter-based interventions.

Vascular surgeons should complete the following formal training to achieve competence in peripheral catheter-based interventions:

➤ 12 months of training, following completion of ACGME-approved vascular surgery training
➤ Performance of 100 diagnostic peripheral angiograms, with 50 as the primary operator
➤ Performance of 50 peripheral interventional cases, with 25 as the primary operator
➤ Performance of 10 aortic aneurysm endografts, with five as the primary operator

The ACC/ACP/SCAI/SVMB/SVS Clinical Competence Statement on Vascular Medicine and Catheter-Based Peripheral Vascular Interventions recognizes that different pathways are possible and may be necessary to acquire competence in peripheral intervention. The document lists the following requirements for alternative routes to achieving competence in peripheral catheter-based intervention:

➤ Completion of required training within a 24-month period
➤ Training under proctorship of a formally trained vascular interventionalist competent to perform a full range of procedures
➤ Written curriculum with goals and objectives
➤ Regular written evaluations by proctor
➤ Documentation of procedures and outcomes
➤ Supervised experience in inpatient and outpatient vascular consultation settings
➤ Supervised experience in a noninvasive vascular laboratory
➤ Completion of 100 diagnostic peripheral angiograms, with 50 cases as primary operator
➤ Completion of 50 peripheral interventions, with 25 cases as primary operator
➤ No fewer than 20 diagnostic and 10 interventional cases in each area, excluding extracranial cerebral arteries
Completion of 30 cases of extracranial cerebral arteries, with 15 cases as primary operator
Completion of five percutaneous thrombolysis/thrombectomy cases

The document notes that the fulfillment of requirements via an alternative pathway is only appropriate if the candidate physician has the cognitive and technical skills outlined at the start of this section as the minimum knowledge and skills required for competence in peripheral catheter-based interventions. A candidate physician pursuing an alternative pathway should be competent to perform either coronary intervention, interventional radiology, or vascular surgery.

Maintaining competence in catheter-based peripheral vascular interventions should include ongoing education and lifelong learning through documented attendance at CME seminars in the field of expertise, as well as demonstration of routine self-assessment. Technical skills should be maintained via performance of at least 25 peripheral vascular intervention cases annually and with documentation of favorable outcomes and minimal complications.

**ACCF/AHA/SCAI**

The American College of Cardiology Foundation (ACCF), American Heart Association (AHA), and SCAI published a guideline in 2011 called *2011 ACCF/AHA/SCAI Guideline for Percutaneous Coronary Intervention*. The guideline notes that the cognitive knowledge and technical skills required to perform percutaneous coronary intervention (PCI), which includes PTPA, continue to grow. The document directs readers to the most recent *ACCF Core Cardiology Training Statement* for detailed training requirements in interventional cardiology.

The ACCF/AHA/SCAI guideline recommends that PCI should be performed by operators at high-volume centers, although some exceptions do exist. Ideally this means a physician should perform more than 75 PCI cases per year at a facility with on-site cardiac surgery that performs upwards of 400 PCI procedures annually. However, the guidelines note that it is reasonable for operators with greater than 75 PCI procedures per year to perform PCI at low-volume centers (200–400 PCI procedures per year) with on-site cardiac surgery. Likewise, it is reasonable that low-volume operators performing fewer than 75 procedures annually can perform PCI at high-volume centers, ideally under the mentorship of a highly experienced surgeon who performs at least 150 PCI procedures annually.

The ACCF/AHA/SCAI guideline recommends that PCI not be performed by low-volume operators with fewer than 75 procedures annually at low-volume centers (200–400 PCI procedures per year) regardless of whether the center has on-site cardiac surgery. According to the guideline, “an institution with a volume of fewer than 200 procedures per year, unless in a region that is underserved because of geography, should carefully consider whether it should continue to offer this service.”
The guideline states that all physicians who perform PCI should participate in the ABIM interventional cardiology board certification and maintenance of certification programs.

**ACCF**

The ACCF publishes *Training in Diagnostic and Interventional Cardiac Catheterization*, which describes recommendations for training in cardiac catheterization procedures. The document endorses the ACGME standards for program accreditation, and notes that training in diagnostic and interventional cardiac catheterization should occur within an ACGME-accredited program. The ACCF divides trainees into three broad groups:

- **Level 1**—trainees who will practice noninvasive cardiology and whose invasive activities will be confined to critical care unit procedures
- **Level 2**—trainees who will practice diagnostic but not interventional cardiac catheterization
- **Level 3**—trainees who will practice diagnostic and interventional cardiac catheterization (which includes PTPA)

According to ACCF, Level 3 training should be performed during a fourth year of a fellowship dedicated primarily to cardiovascular interventional training. During this training, the trainee should participate in a minimum of 250 coronary procedures, in addition to other non-coronary interventional procedures. The document notes that trainees should gain an understanding of trans-septal catheterization, percutaneous management of access site complications, and management of other complications including, but not limited to, coronary perforation, no reflow, and stent thrombosis. Trainees should obtain core experience in balloon angioplasty, intracoronary stents, atherectomy techniques, distal (and proximal) protection devices, intravascular ultrasound, and measurement of fractional flow reserve.

**SIR**

The Society of Interventional Radiology (SIR) participated in the process of creating *ACC/ACP/SCAI/SVMB/SVS Clinical Competence Statement on Vascular Medicine and Catheter-Based Peripheral Vascular Interventions*, but ultimately disagreed with the guideline and instead issued a statement outlining its reasons for dissen- sion, *Response to the ACC/ACP/SCAI/SVMB/SVS Clinical Competence Statement on Catheter-Based Peripheral Vascular Interventions*. In this document, SIR states that it will instead stand by its earlier credentialing statement, *Training Standards for Physicians Performing Peripheral Angioplasty and Other Percutaneous Peripheral Vascular Interventions*.

*Training Standards for Physicians Performing Peripheral Angioplasty and Other Percutaneous Peripheral Vascular Interventions* states that physician applicants should have extensive clinical training in the diagnosis and treatment of patients...
Percutaneous transluminal peripheral angioplasty

Specific training or experience in peripheral diagnostic angiography and PTPA is required. This may be obtained through one of the following methods:

- Completion of a training program that includes extensive experience in diagnostic angiography and percutaneous transluminal angioplasty of peripheral vessels. The candidate must perform a minimum of 100 diagnostic peripheral angiograms and 50 renal and/or peripheral percutaneous transluminal angioplasties. The candidate must be the primary operator for at least half of these procedures.

- Previous experience in peripheral angiographic diagnosis and percutaneous transluminal angioplasty with acceptable complication and success rates. This experience must include performance of a minimum of 100 diagnostic angiograms and 50 percutaneous transluminal angioplasties of the peripheral arteries, and for at least half of these procedures, the applicant must be primary operator.

- Apprenticeship, in which applicants must demonstrate a clear understanding of the method of diagnostic angiography, including knowledge of appropriate radiographic equipment, catheters and catheter techniques, and radiation safety associated with diagnostic and interventional procedures. The apprenticeship should be thoroughly documented and should include documented performance of each of the following:
  - 100 diagnostic peripheral angiograms
  - 50 peripheral percutaneous transluminal angioplasty procedures
  - 10 peripheral arterial thrombolysis procedures

The procedures listed above must be performed under the direct supervision of a qualified physician preceptor. The applicant must have been the primary operator for at least half of these procedures, using the same standard for indications, success rates, and complications.

According to SIR, maintenance of privileges for percutaneous transluminal angioplasty requires ongoing experience in performing the procedures with acceptable success and complication rates. The determination of a minimum number of procedures per year is at the discretion of the credentials or clinical privileges committee at each hospital.

**ACGME**

The ACGME publishes *Program Requirements for Graduate Medical Education in Interventional Cardiology (Internal Medicine)*. According to these guidelines, the educational program in interventional cardiology must be 12 months in length. As part of training, fellows must demonstrate competence in the performance of coronary interventions. Each fellow must perform a minimum of 250 coronary
interventions, including application and usage of balloon angioplasty, stents, and other commonly used interventional devices, as well as femoral and brachial/radial cannulation of normally and abnormally located coronary ostia.

The ACGME also publishes *Program Requirements for Graduate Medical Education in Vascular and Interventional Radiology*. Training should consist of one year of graduate medical education in vascular and interventional radiology, following the successful completion of an ACGME-accredited diagnostic radiology residency program. Training includes both vascular and nonvascular interventional procedures. The guidelines do not provide specific training requirements for PTPA or coronary interventions.

The ACGME publishes *Program Requirements for Graduate Medical Education in Vascular Surgery*. Candidates may pursue either an integrated program or an independent program in vascular surgery. Integrated programs must consist of five years of vascular surgery education and clinical surgical education. The curriculum of an integrated program should include core surgical education, critical care and trauma management, and basic technical experience in skin and soft tissue, abdomen and alimentary tract, airway management, laparoscopic surgery, and thoracic surgery. Three of the five years must include documented educational experiences concentrated in vascular surgery. Vascular surgery in the independent format must progress in one of the following ways:

- A minimum of three years of education with progressive responsibility in a general surgery residency and three years of education with progressive responsibility in vascular surgery
- A successfully completed general surgery residency followed by a minimum of two years in vascular surgery education at the same institution
- Completion of the general surgery residency portion of the Early Specialization Program, in which four years of general surgery are completed before entering a vascular surgery residency at the same institution

According to the ACGME, residents in the integrated program should perform a minimum of 500 operations, including 250 major vascular reconstructive procedures. In an independents program, residents should perform a minimum of 250 major vascular reconstructive procedures that reflect an adequate representation of current trends, as well as a breadth and balance of experience in the surgical care of vascular diseases. The document does not make specific recommendations regarding PTPA.

**AOA**

The AOA publishes *Basic Standards for Fellowship Training in Neuroradiology, Pediatric Radiology, and Vascular and Interventional Radiology*. According to the guidelines, vascular and interventional training programs must include a minimum of one year of concentrated study during which the trainee must participate in a minimum of 500 procedures. The program should include didactic
Percutaneous transluminal peripheral angioplasty

courses focusing on the choice, methods, and techniques of angiographic and interventional radiology procedures.

Training should include instruction in:

➤ The use of needles, catheters, and guide wires
➤ The clinical aspects of patient assessment, clinical indications, risks, and limitations of vascular and interventional procedures
➤ Physiologic monitoring devices, their interpretations, as well as proper interpretation of noninvasive tests as they pertain to vascular and interventional radiology
➤ Vascular procedures to include, but not limited to:

− Arteriography
− Venography
− Lymphography
− Angioplasty
− Vascular stenting
− Percutaneous revascularization procedures
− Embolotherapy
− Transcatheter infusion therapy
− Intravascular foreign body removal
− Percutaneous placement of endovascular prostheses, such as stent grafts and inferior vena cava filters, and insertion of vascular access catheters
➤ Nonvascular procedures such as percutaneous imaging-guided biopsy and percutaneous gastronomy
➤ Performance and interpretation of vascular ultrasound studies, magnetic resonance angiograms, and CT angiograms

The AOA also publishes Specific Basic Standards for Osteopathic Fellowship Training in Interventional Cardiology. The training program must be 12 months, following the completion of a three-year general cardiology fellowship. During training, fellows should perform a minimum of 400 interventional procedures and should serve as primary operator on at least 250 of those cases. During training, fellows should have learning activities in the selection and use of vascular access devices, guiding catheters, guide wires, and balloon catheters.

Positions of subject matter experts

*Mark Creager, MD*

*Boston*

Mark Creager, MD, director of the Vascular Center at Brigham and Women’s Hospital in Boston, says there are three groups of physicians that typically perform PTPA: vascular surgeons, interventional cardiologists, and interventional radiologists.
In the past, this procedure was almost exclusively performed by interventional radiologists. In the past decade, however, the procedure is being performed more often by interventional cardiologists and vascular surgeons, says Creager.

In order to perform this procedure, a physician needs to be knowledgeable about vascular disease. Physicians performing peripheral interventional procedures should have the cognitive and clinical skills to thoroughly understand the disease that they are treating. “You don’t want to perform the procedure without understanding the disease process,” says Creager. This means understanding how to make a diagnosis, treatment options, and potential treatment complications and drawbacks.

In addition, physicians should have the technical skills to perform this procedure. They need to know how to use the catheter to access the site, what types of wires, catheters, and devices are available for the intervention, and how to deploy them and how to treat potential adverse events.

The education needed to perform these procedures should be obtained in a formal ACGME-approved training program. Physicians performing this procedure should have appropriate mentorship when they are learning the procedure, says Creager. While a number of devices are available for this procedure, industry-sponsored training should not be the means of becoming skilled in these procedures, he says.

Creager chaired the writing committee of a multi-professional society competency document which indicated that a physician should typically perform at least 50 angioplasty cases, with 25 as the primary operator, to obtain competence in this procedure. “I think that’s the minimum and outcomes are likely to be better for physicians who perform even more,” he says. A physician should perform at least 25 of these procedures each year to maintain their competence, he adds.

Credentialing staff at each institution should also pay close attention to quality and outcomes related to this procedure. “Someone can perform 50 cases and still not have favorable outcomes,” says Creager. If this is the case, that individual may need additional training.

Physicians should keep a record of and report their outcomes and their complication rates, and these should be reviewed on an annual basis by each hospital.

Timothy Murphy, MD
Providence, R.I.

Timothy Murphy, MD, medical director of the Vascular Disease Research Center at Lifespan Health System in Providence, R.I., says that ACGME has established pathways in the main specialty areas related to PTPA, which are interventional radiology, vascular surgery, and cardiology.
For interventional radiologists, this curriculum has been in place for the past 25 years, but it was added in the past 10 years for cardiologists and surgeons. Therefore, it’s important for credentialing staff to be aware that a physician in cardiology or vascular surgery may not have had training in this area unless they were board certified in the past decade.

Training in PTPA is sometimes offered by device manufacturers, but the problem is nobody really knows the quality of the materials that are taught and the qualifications of the people giving the course, says Murphy. For this reason, it’s best for training to come from ACGME-approved training programs, which are subject to outside review of training quality and curriculum.

Murphy says he agrees with the SIR guidelines with regard to the minimum number of procedures required for a physician to become competent in this procedure. However, the number of procedures they should perform to maintain competence is more controversial, he says.

“We would prefer that these numbers are outcome-based rather than volume-based, but in general a physician should perform 50 representative procedures every two years,” he says.

It’s important for credentialing staff to keep in mind that they may want to credit the performance of other similar procedures toward that number. Interventional radiologists typically perform a wide range of procedures that all use the same skill set. These procedures should be taken into account when considering the number of procedures needed annually to maintain competence, says Murphy.

**Positions of accreditation bodies**

**CMS**

CMS has no formal position concerning the delineation of privileges for PTPA. However, the CMS *Conditions of Participation (CoP)* define a requirement for a criteria-based privileging process in §482.22(c)(6) stating, “The bylaws must include criteria for determining the privileges to be granted to individual practitioners and a procedure for applying the criteria to individuals requesting privileges.”

§482.12(a)(6) states, “The governing body must assure that the medical staff bylaws describe the privileging process. The process articulated in the bylaws, rules or regulations must include criteria for determining the privileges that may be granted to individual practitioners and a procedure for applying the criteria to individual practitioners that considers:

- Individual character
- Individual competence
Percutaneous transluminal peripheral angioplasty

Procedure 18

➤ Individual training
➤ Individual experience
➤ Individual judgment

The governing body must ensure that the hospital’s bylaws governing medical staff membership or the granting of privileges apply equally to all practitioners in each professional category of practitioners.”

Specific privileges must reflect activities that the majority of practitioners in that category can perform competently and that the hospital can support. Privileges are not granted for tasks, procedures, or activities that are not conducted within the hospital, regardless of the practitioner’s ability to perform them.

Each practitioner must be individually evaluated for requested privileges. It cannot be assumed that every practitioner can perform every task, activity, or privilege specific to a specialty, nor can it be assumed that the practitioner should be automatically granted the full range of privileges. The individual practitioner’s ability to perform each task, activity, or privilege must be individually assessed.

CMS also requires that the organization have a process to ensure that practitioners granted privileges are working within the scope of those privileges.

CMS’ CoPs include the need for a periodic appraisal of practitioners appointed to the medical staff/granted medical staff privileges (§482.22[a][1]). In the absence of a state law that establishes a time frame for the periodic appraisal, CMS recommends that an appraisal be conducted at least every 24 months. The purpose of the periodic appraisal is to determine whether clinical privileges or membership should be continued, discontinued, revised, or otherwise changed.

**The Joint Commission**

The Joint Commission has no formal position concerning the delineation of privileges for PTPA. However, in its Comprehensive Accreditation Manual for Hospitals, The Joint Commission states, “The hospital collects information regarding each practitioner’s current license status, training, experience, competence, and ability to perform the requested privilege” (MS.06.01.03).

In the introduction for MS.06.01.03, The Joint Commission states that there must be a reliable and consistent system in place to process applications and verify credentials. The organized medical staff must then review and evaluate the data collected. The resultant privilege recommendations to the governing body are based on the assessment of the data.

The Joint Commission introduces MS.06.01.05 by stating, “The organized medical staff is responsible for planning and implementing a privileging process.” It goes on to state that this process typically includes:
Developing and approving a procedures list
Processing the application
Evaluating applicant-specific information
Submitting recommendations to the governing body for applicant-specific delineated privileges
Notifying the applicant, relevant personnel, and, as required by law, external entities of the privileging decision
Monitoring the use of privileges and quality-of-care issues

MS.06.01.05 further states, “The decision to grant or deny a privilege(s) and/or to renew an existing privilege(s) is an objective, evidence-based process.”

The EPs for standard MS.06.01.05 include several requirements as follows:
- The need for all licensed independent practitioners who provide care, treatment, and services to have a current license, certification, or registration, as required by law and regulation
- Established criteria as recommended by the organized medical staff and approved by the governing body with specific evaluation of current licensure and/or certification, specific relevant training, evidence of physical ability, professional practice review data from the applicant’s current organization, peer and/or faculty recommendation, and a review of the practitioner’s performance within the hospital (for renewal of privileges)
- Consistent application of criteria
- A clearly defined (documented) procedure for processing clinical privilege requests that is approved by the organized medical staff
- Documentation and confirmation of the applicant’s statement that no health problems exist that would affect his or her ability to perform privileges requested
- A query of the NPDB for initial privileges, renewal of privileges, and when a new privilege is requested
- Written peer recommendations that address the practitioner’s current medical/clinical knowledge, technical and clinical skills, clinical judgment, interpersonal skills, communication skills, and professionalism
- A list of specific challenges or concerns that the organized medical staff must evaluate prior to recommending privileges (MS.06.01.05, EP 9)
- A process to determine whether there is sufficient clinical performance information to make a decision related to privileges
- A decision (action) on the completed application for privileges that occurs within the time period specified in the organization’s medical staff bylaws
- Information regarding any changes to practitioners’ clinical privileges, updated as they occur

The Joint Commission further states, “The organized medical staff reviews and analyzes information regarding each requesting practitioner’s current licensure status, training, experience, current competence, and ability to perform the requested privilege” (MS.06.01.07).
In the EPs for standard MS.06.01.07, The Joint Commission states that the information review and analysis process is clearly defined and that the decision process must be timely. The organization, based on recommendations by the organized medical staff and approval by the governing body, develops criteria that will be considered in the decision to grant, limit, or deny a request for privileges. The criteria must be consistently applied and directly relate to the quality of care, treatment, and services. Ultimately, the governing body or delegated governing body has the final authority for granting, renewing, or denying clinical privileges. Privileges may not be granted for a period beyond two years.

Criteria that determine a practitioner’s ability to provide patient care, treatment, and services within the scope of the privilege(s) requested are consistently evaluated.

The Joint Commission further states, “Ongoing professional practice evaluation information is factored into the decision to maintain existing privilege(s), to revise existing privileges, or to revoke an existing privilege prior to or at the time of renewal” (MS.08.01.03).

In the EPs for MS.08.01.03, The Joint Commission says there is a clearly defined process facilitating the evaluation of each practitioner’s professional practice, in which the type of information collected is determined by individual departments and approved by the organized medical staff. Information resulting from the ongoing professional practice evaluation is used to determine whether to continue, limit, or revoke any existing privilege.

HFAP

The Healthcare Facilities Accreditation Program (HFAP) has no formal position concerning the delineation of privileges for PTPA. The bylaws must include the criteria for determining the privileges to be granted to the individual practitioners and the procedure for applying the criteria to individuals requesting privileges (03.01.09). Privileges are granted based on the medical staff’s review of an individual practitioner’s qualifications and its recommendation regarding that individual practitioner to the governing body.

It is also required that the organization have a process to ensure that practitioners granted privileges are working within the scope of those privileges.

Privileges must be granted within the capabilities of the facility. For example, if an organization is not capable of performing open-heart surgery, no physician should be granted that privilege.

In the explanation for standard 03.01.13 related to membership selection criteria, HFAP states, “Basic criteria listed in the bylaws, or the credentials manual, include the items listed in this standard. (Emphasis is placed on training and competence in the requested privileges.)"
The bylaws also define the mechanisms by which the clinical departments, if applicable or the medical staff as a whole establish criteria for specific privilege delineation.

Periodic appraisals of the suitability for membership and clinical privileges is required to determine whether the individual practitioner’s clinical privileges should be approved, continued, discontinued, revised, or otherwise changed (03.00.04). The appraisals are to be conducted at least every 24 months.

The medical staff is accountable to the governing body for the quality of medical care provided, and quality assessment and performance improvement (03.02.01) information must be used in the process of evaluating and acting on re-privileging and reappointment requests from members and other credentialed staff.

**DNV**

DNV has no formal position concerning the delineation of privileges for PTPA. MS.12 Standard Requirement (SR) #1 states, “The medical staff bylaws shall include criteria for determining the privileges to be granted to individual practitioners and a procedure for applying the criteria to those individuals that request privileges.”

The governing body shall ensure that under no circumstances is medical staff membership or professional privileges in the organization dependent solely upon certification, fellowship, or membership in a specialty body or society.

Regarding the Medical Staff Standards related to Clinical Privileges (MS.12), DNV requires specific provisions within the medical staff bylaws for:

- The consideration of automatic suspension of clinical privileges in the following circumstances: revocation/restriction of licensure; revocation, suspension, or probation of a DEA license; failure to maintain professional liability insurance as specified; and noncompliance with written medical record delinquency/deficiency requirements
- Immediate and automatic suspension of clinical privileges due to the termination or revocation of the practitioner’s Medicare/Medicaid status
- Fair hearing and appeal

The Interpretive Guidelines also state that core privileges for general surgery and surgical subspecialties are acceptable as long as the core is properly defined. DNV also requires a mechanism (outlined in the bylaws) to ensure that all individuals provide services only within the scope of privileges granted (MS.12, SR.4).

Clinical privileges (and appointments or reappointments) are for a period as defined by state law or, if permitted by state law, not to exceed three years (MS.12, SR.2).

Individual practitioner performance data must be measured, utilized, and evaluated as a part of the decision-making for appointment and reappointment.
Although not specifically stated, this would apply to the individual practitioner’s respective delineation of privilege requests.

**CRC draft criteria**

The following draft criteria are intended to serve solely as a starting point for the development of an institution’s policy regarding this procedure.

*Minimum threshold criteria for requesting privileges in PTPA*

- **Basic education:** MD or DO
- **Minimal formal training:** Successful completion of an ACGME- or AOA-accredited training program in interventional cardiology, vascular surgery, or interventional radiology.
- **Required current experience:** Current demonstrated competence and evidence of the performance of at least 25 PTPA procedures in the past 12 months or completion of training in the past 12 months.

**References**

If the applicant is recently trained, a letter of reference should come from the director of the applicant’s training program. Alternatively, a letter of reference may come from the applicable department chair and/or clinical service chief at the facility where the applicant most recently practiced.

**Reappointment**

Reappointment should be based on unbiased, objective results of care according to a hospital’s quality assurance mechanism.

Candidates for reappointment should demonstrate current competence and provide evidence of the performance of at least 50 PTPA procedures in the past 24 months based on results of ongoing professional practice evaluation or outcomes.

In addition, continuing education related to PTPA should be required.

**For more information**

**American Board of Internal Medicine**
510 Walnut Street, Suite 1700
Philadelphia, PA 19106-3699
Telephone: 215-446-3500
Website: [www.abim.org](http://www.abim.org)
Percutaneous transluminal peripheral angioplasty

American Board of Radiology
5441 East Williams Boulevard, Suite 200
Tucson, AZ 85711
Telephone: 520-790-2900
Fax: 520-790-3200
Website: www.theabr.org

American Board of Surgery
1617 John F. Kennedy Blvd., Suite 860
Philadelphia, PA 19103
Telephone: 215-468-4000
Website: www.absurgery.org

American College of Cardiology
Heart House
9111 Old Georgetown Road
Bethesda, MD 20814-1699
Telephone: 301-897-5400
Website: www.acc.org

American College of Physicians
190 North Independence Mall West
Philadelphia, PA 19106-1572
Telephone 800-523-1546
Website: www.acponline.org

Accreditation Council for Graduate Medical Education
515 North State Street, Suite 2000
Chicago, IL 60654
Telephone: 312-755-5000
Website: www.acgme.org

American Osteopathic Board of Internal Medicine
1111 West 17th Street
Tulsa, OK 74107
Website: www.aobim.org

American Osteopathic Board of Radiology
119 East Second Street
Milan, MO 63556
Telephone: 660-265-4011
Website: www.aocr.org
Percutaneous transluminal peripheral angioplasty

**Brigham and Women’s Hospital**
75 Francis Street
Boston, MA 02115
Telephone: 617-732-5500
Website: www.brighamandwomens.org

**Centers for Medicare & Medicaid Services**
7500 Security Boulevard
Baltimore, MD 21244
Telephone: 800-633-4227
Website: www.cms.gov

**DNV Healthcare, Inc.**
1400 Ravello Drive
Katy, TX 77449
Telephone: 281-396-1000
Website: www.dnvusa.com

**Healthcare Facilities Accreditation Program**
142 E. Ontario Street
Chicago, IL 60611
Telephone: 312-202-8258
Website: www.hfap.org

**Lifespan Health System**
167 Point Street
Providence, RI 02903
Telephone: 401-444-3500
Website: www.lifespan.org

**The Society for Cardiovascular Angiography and Interventions**
2400 N Street, NW, Suite 500
Washington DC 20037-1153
Telephone: 202-741-9854
Website: www.scai.org

**The Society for Pediatric Radiology**
1891 Preston White Drive
Reston, VA 20191
Telephone: 703-648-0680
Website: www.pedrad.org
Percutaneous transluminal peripheral angioplasty

The Society for Vascular Medicine
111 Deer Lake Road, Suite 100
Deerfield, IL 60015
Telephone: 847-480-2961
Website: www.svmb.org

Society for Vascular Surgery
633 North Saint Clair Street, 22nd Floor
Chicago, IL 60611
Telephone: 312-334-2300
Website: www.vascularweb.org

Society of Interventional Radiology
3975 Fair Ridge Drive, Suite 400 North
Fairfax, VA 22033
Telephone: 800-488-7284
Website: www.sirweb.org

The Joint Commission
One Renaissance Blvd.
Oakbrook Terrace, IL 60181
Telephone: 630-792-5000
Website: www.jointcommission.org

The information contained in this document is general. It has been designed and is intended for use by hospitals and their credentials committees in developing their own local approaches and policies for various credentialing issues. This information, including the materials, opinions, and draft criteria set forth herein, should not be adopted for use without careful consideration, discussion, additional research by physicians and counsel in local settings, and adaptation to local needs. The Credentialing Resource Center does not provide legal or clinical advice; for such advice, the counsel of competent individuals in these fields must be obtained.

Reproduction in any form outside the recipient’s institution is forbidden without prior written permission. Copyright © 2012 HCPro, Inc., Danvers, MA 01923.