Tissue plasminogen activator (tPA) is an FDA-approved drug used to treat diseases that feature blood clots. tPA uses an enzyme that catalyzes the conversion of plasminogen to plasmin, which is responsible for clot breakdown. Because of the way it is manufactured, tPA may also be referred to as recombinant tissue plasminogen activator (rtPA).

In 1995, the National Institute of Neurological Disorders and Stroke released a landmark report on the use of tPA to treat acute ischemic stroke within the first three hours of onset. As a result, in 1996, the FDA approved tPA for use in early acute ischemic stroke, which required that it be recognized and treated in a time-critical manner.

Traditionally, tPA is given intravenously by a vascular neurointerventionalist, but recent studies have shown the benefits of administering tPA via an intra-arterial (IA) approach, or utilizing a procedure that administers the drug using both IV and IA approaches. In some cases, using an IA approach for tPA has shown beneficial results within six hours of the onset of stroke, according to the Society of Interventional Radiology (SIR).

Recent studies have shown rtPA may be administered in the 3- to 4.5-hour window, instead of strictly within the first three hours. In 2009, a science advisory from the American Heart Association and the American Stroke Association recommended that rtPA be administered within the 3- to 4.5-hour time period after stroke, given the patient meets the appropriate eligibility criteria. However, the efficacy of rtPA during this time period requires further study for patients with particular exclusion criteria, such as 80 years old or greater, an international normalized ratio less than or equal to 1.7, and a baseline stroke scale score greater than 25.

Although tPA can significantly reduce the effects of a stroke, only 3%–5% of stroke patients reach the hospital in time to receive treatment.

For more information, please see the following Clinical Privileging White Papers:
- Neurological surgery—Practice area 155
- Neurology—Practice area 45
- Endovascular surgical neuroradiology—Practice area 104
- Vascular neurology—Practice area 410
**Involved specialties**

Neurologists, neurosurgeons, vascular neurologists, neuroradiologists, endovascular surgical neuroradiologists, interventional radiologists

**Positions of specialty boards**

**ABPN**

The American Board of Psychiatry and Neurology does not publish requirements specific to tPA for stroke.

**ABNS**

The American Board of Neurological Surgery does not publish requirements specific to tPA for stroke.

**ABR**

The American Board of Radiology does not publish requirements specific to tPA for stroke.

**AOBNP**

The American Osteopathic Board of Neurology and Psychiatry does not publish requirements specific to tPA for stroke.

**AOBS**

The American Osteopathic Board of Surgery does not publish requirements specific to tPA for stroke.

**AOBR**

The American Osteopathic Board of Radiology does not publish requirements specific to tPA for stroke.

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

**Neurovascular Coalition**

The Neurovascular Coalition—which includes the Society of NeuroInterventional Surgery; American Academy of Neurology (AAN); American Association of Neurological Surgeons (AANS), Cerebrovascular Section; and Society of Vascular and Interventional Neurology (SVIN)—has published *Performance and Training Standards for Endovascular Ischemic Stroke Treatment*, which provides definitions on what constitutes adequate training to perform neuroendovascular procedures in patients with acute ischemic stroke.
The Neurovascular Coalition recommends the following minimum requirements for acute stroke interventions:

➤ Cognitive training and qualifications:
  − Completion of an Accreditation Council for Graduate Medical Education (ACGME)–approved residency training program that includes documented cerebrovascular training, including the management and diagnosis of acute stroke and interpretation of brain imaging. A minimum of six months of dedicated training is suggested during the four-year residency.
  − One year of graduate medical education in endovascular surgical neuroradiology (an ACGME-approved program is preferred but not required).

➤ Technical training:
  − Training in catheter arteriography, including a minimum of 100 cerebral arteriograms
  − Prior training in intracranial microcatheter and microguidewire navigation under supervision of a neurointerventionalist
  − Prior experience in assessment and performance of endovascular stroke interventional procedures as the supervised primary operator in 10 patients
  − Credentialed physicians who perform IA catheter-directed stroke procedures should have documented and clinical outcomes that meet national standards and clinical-based guidelines

Some facilities may choose to credential individuals for IA stroke therapy who have not had a full year of neurointerventional fellowship training. In this case, individuals should still have a minimum of six months of ACGME-approved training, a minimum of 100 supervised cerebral angiograms, 30 cases with cerebral microcatheter procedures in the intracranial internal carotid artery/vertebral basilar circulation, and mentored experience in IA stroke therapy including a minimum of 10 cases mentored by a fellowship-trained neurointerventionalist credentialed in IA stroke therapy. However, the Coalition also notes that by 2012 most stroke centers will be staffed with fellowship-trained neurointerventionalists.

The Coalition does not list a specific number of tPA procedures needed to maintain privileges, but it does suggest physicians have ongoing stroke-specific continuing education of at least 15 hours every two years. Physicians should also have procedural outcomes that conform to national standards and institutional requirements. Inadequate competencies can have grave consequences, according to the Coalition, so stringent neuroscience training should be mandated for all physicians who perform emergency endovascular stroke therapies. According to Coalition, credentialing committees at each health care facility are empowered to enforce training and practice standards and thus have an obligation to maintain recognized accreditation standards and to be aware of recommendations endorsed by the national organizations most directly involved in the diagnosis and management of acute stroke.
ASN

The American Society of Neuroimaging (ASN), in partnership with SVIN, published *Qualification Requirements for Performing Neurointerventional Procedures* in 2008, which was intended to summarize existing guidelines from regulatory bodies and professional organizations that address qualifications required to perform individual neurointerventional procedures.

More hospitals are moving toward “procedure-specific credentialing,” according to the document, since granting broad credentials does not transfer from one procedure to another.

Although ASN recognizes the ACGME *Guidelines for Training in Endovascular Surgical Neuroradiology*, there are few programs that are ACGME-accredited. Furthermore, the document lacks details regarding specific training requirements for each procedure, instead providing a total number of endovascular procedures required for adequate training.

ASN specifically addresses IA thrombolysis and mechanical thrombectomy in the document, stating that both IV an IA thrombolysis are widely underused given the lack of qualified physicians and resources within the hospitals. Hospitals and stroke centers should set strict criteria for these procedures since some data suggests that poor compliance with recommended protocols can result in an increased rate of intracranial hemorrhages following treatment. ASN refers to the credentialing guidelines adopted by the Interventional Management of Stroke study, which reference the following requirements:

➤ The physician should be board eligible or certified in diagnostic radiology, neurosurgery, or vascular neurology

➤ Experience performing and interpreting at least 100 cerebral angiographic procedures

➤ Minimum one-year fellowship in endovascular surgical neuroradiology
  – This training should include at least 10 IA thrombolysis procedures

➤ In the absence of formal training, qualifying training would include completion of a one-year postgraduate fellowship in an accredited program, which would include:
  – Performance and interpretation of at least 200 cerebral angiograms
  – Participation in a least 50 supervised endovascular surgical neuroradiology procedures
  – Performance of at least 50 endovascular surgical neuroradiology procedures as the primary operator, at least 10 of which should be IA thrombolytic procedures

Overall, ASN recommends that physicians meet the volume requirements set by the ACGME *Guidelines for Endovascular Surgical Neuroradiology*, either through an ACGME-accredited program or through documented compliance with the requirements in a non-accredited program. Additionally, all physicians requesting privileges...
must have performed at least 10 IA thrombolytic procedures. It is also recommend-
ed that the interventionalist possess the required training in IV thrombolysis or seek out simultaneous consultation from a qualified individual.

**AAN/AANS/ASITN/American Society of Neuroradiology/CNS/The AANS/ CNS Cerebrovascular Section/SIR**

In 2004, the AAN, AANS, American Society of Interventional and Therapeutic Neuroradiology (ASITN), American Society of Neuroradiology, Congress of Neurological Surgeons (CNS), the AANS/CNS Cerebrovascular Section, and SIR released a joint statement titled *Training, Competency, and Credentialing Standards for Diagnostic Cervicocerebral Angiography, Carotid Stenting, and Cerebrovascular Intervention*.

The neuroscience societies recognize the necessity of three components of adequate training to perform cervicocerebral diagnostic and interventional procedures:

- Formal training that imparts an adequate depth of cognitive knowledge of the brain and its associated pathophysiologic vascular processes, including management of complications of endovascular procedures
- Adequate procedural skills achieved through supervised training
- Diagnostic and therapeutic experience by studying and interpreting a large number of diagnostic procedures

In addition to procedural technical experience, the neuroscience societies require a minimum of six months of formal ACGME-approved training in cognitive neuroscience through a radiology, neuroradiology, neurosurgery, neurology, and/or vascular neurology program. Additionally, practitioners should accumulate at least 10 diagnostic cervicocerebral angiograms before postgraduate training on cervicocerebral interventional procedures. The joint statement also includes a specific endorsement of the principles of ACGME training programs in endovascular surgical neuroradiology, vascular neurology, and neuroradiology.

**SIR**

In 2009, SIR published *Training Guidelines for Intra-arterial Catheter-Directed Treatment of Acute Ischemic Stroke*. In this document, SIR focuses not only on time spent training or case experience, but also on the knowledge that must be acquired and mastery demonstrated by examination. SIR recommends that training include the interpretation of:

- 200 CT and 50 computerized tomographic angiography scans
- 200 MRI and 50 magnetic resonance angiogram scans
- 25 CT/MR perfusion scans
- 200 cerebral arteriogram interpretations
Additionally, SIR suggests that physicians meet the following technical skill requirements:

➤ Hands-on equipment experience
➤ Arteriography performance
   – 100 cerebral or 50 cerebral and 150 non-cerebral procedures
   – 30 selective microcatheter procedures including five internal carotid artery/external carotid artery

SIR’s training requirements indicate that physicians should perform five stroke procedures proctored in person, or complete visiting training and five stroke procedures proctored electronically.

**ACGME**

The ACGME recognizes fellowships in endovascular surgical neuroradiology, the primary training background for physicians who perform tPA procedures for stroke. ACGME publishes *Program Requirements for Graduate Medical Education in Endovascular Surgical Neuroradiology*. Fellows entering from a residency in radiology must meet the following requirements:

➤ Completed an ACGME-accredited residency in diagnostic radiology
➤ Completed an ACGME-accredited fellowship (subspecialty residency) in neurology
➤ Performed and interpreted a minimum of 100 diagnostic neuroangiograms
➤ Completed six months of training in neurologic surgery, vascular neurology, and neurointensive care with proficiency in the evaluation, management, and care of patients in both the outpatient and neurointensive care environment, which may be completed during the radiology residency

Fellows coming from a neurological surgery background should meet the following requirements:

➤ Completed an ACGME-accredited residency in neurological surgery.
➤ Completed a preparatory year of neuroradiology training, which can occur during the neurological surgery residency. This should include:
   – A course in basic radiographic skills
   – Performing and interpreting a minimum of 100 supervised diagnostic neuroangiograms
   – The use of needles, catheters, guidewires, and angiographic devices and materials
   – Recognition and management of complications in angiographic procedures
   – Understanding the fundamentals of noninvasive neurovascular imaging studies pertinent to the practice of endovascular surgical neuroradiology

Fellows entering from a neurology background should meet the following requirements:

➤ Completed an ACGME-accredited residency in neurology
➤ Completed a one-year vascular/stroke neurology program that includes at
least three months of neurointensive care

- Completed three months of clinical experience within a neurological surgery program
- Completed a preparatory year of neuroradiology training that includes:
  - A course in basic radiographic skills
  - Performing and interpreting a minimum of 100 supervised diagnostic neuroangiograms
  - The use of needles, catheters, guidewires, and angiographic devices and materials
  - Recognition and management of complications in angiographic procedures
  - Understanding the fundamentals of noninvasive neurovascular imaging studies pertinent to the practice of endovascular surgical neuroradiology

During the fellowship, individuals will perform and analyze a variety of endovascular procedures, including vascular anomalies of the head and neck. Fellows will perform at least 100 therapeutic endovascular procedures. Under close supervision, the fellow will also perform diagnostic and therapeutic surgical neuroradiology procedures. They will also gain basic knowledge in pharmacology involving the central nervous system and vasculature, and relevant brain physiology including thrombolytics. Additionally, fellows must demonstrate knowledge of the classification, clinical presentation, imaging appearance, natural history, epidemiology, and hemodynamic and physiologic basis for disease and treatment; indications and techniques for treatment; contraindications for treatment; treatment alternatives; combined therapies; risks of treatment; and complication management of stroke and cerebral ischemia.

ACGME also publishes Program Requirements for Graduate Medical Education in Vascular Neurology. According to ACGME program requirements, vascular neurologists are expected to “manage stroke patients in outpatient and inpatient settings, including critical care units.” Vascular neurology includes the treatment of “vascular insults to the nervous system,” including hemodynamic brain ischemia.

Training in vascular neurology must be one year in length following the completion of an ACGME-accredited residency program in neurology or child neurology. Fellowship training must provide clinical experience with inpatient and critical care management of patients with both ischemic and hemorrhagic stroke, as well as emergent management of patients with stroke.

Fellows must also have instruction and practical experience that includes learning about effective stroke management procedures.

As stated previously, fellows may come from a variety of residency backgrounds. The ACGME’s required length for a residency in neurological surgery is 72 months. Programs can be approved for up to 84 months of neurological surgery training, with 72 months of didactic and clinical training and 12 months of...
research or advanced training. During this program, residents are also expected
to participate in the management and surgical care of patients, to include a “full
spectrum of neurological disorders.”

A residency in diagnostic radiology is four years long and includes documented
supervised experience in interventional procedures. This includes image-guided
biopsies, drainage procedures, angioplasty, embolization and infusion proce-
dures, and other percutaneous interventional procedures, according to ACGME
guidelines.

A residency in neurology is four years long and includes evaluation of patients in
various settings, with various disorders, as well as experience with neuroimaging.

AOA

The American Osteopathic Association (AOA) publishes Basic Standards for
Residency Training in General Neurology. The AOA requires a four-year residency
program that includes “two months neurology, one month emergency medi-
cine, one month surgery selective (vascular, neurosurgery, orthopedics, etc.),
one month elective (as agreed upon with the residency training director), seven
months internal medicine—to include mandatory one month cardiology, mini-
imum one month intensive care unit rotation, three months general internal
medicine, and two months elective internal medicine specialties.”

The program must also expose residents to a variety of neurological disorders,
including various vascular disorders and traumatic conditions of the nervous sys-
tem. As part of the didactic curriculum, residency programs must include a regu-
larly scheduled curriculum that would include clinical diagnosis and treatment
of neurological disorders in pediatric, adult, and geriatric populations.

Positions of subject matter experts

Justin Zivin, MD, PhD
San Diego

Privileging physicians to perform tPA therapy for stroke is fairly simple and
straightforward, says Justin Zivin, MD, PhD, professor of neurosciences at the
University of California San Diego, a staff physician at the San Diego Veteran
Affairs Medical Center, and coauthor of the book tPA for Stroke: The Story of a
Controversial Drug. Board-certified neurologists learn how to give the therapy
according to available national guidelines, but they should also be able to inter-
pret a CT scan during the procedure to ensure safety of the drug therapy.

“You really need a CT scan to be available so you can be sure the patient has not
had a hemorrhage prior to the outset of the treatment,” Zivin says.
More recently neurologists have been combining tPA IV therapy in conjunction with the use of laser therapy to further reduce the severity of stroke. In some cases, administering laser therapy can help brain cells recover faster and sustain less lasting damage. However, in order for neurologists to use laser therapy, they need to be certified by the manufacturer on laser safety.

Still, the manufacturer’s certification, along with the tPA training that most neurologists receive during their residency, make privileging for this procedure very straightforward, Zivin says. Particularly since the use of lasers is a relatively new intervention, there aren’t any guidelines that require a specific number of procedures to obtain privileges.

“I don’t expect there to be much in the way of those sorts of requirements because this isn’t a highly skilled kind of procedure,” Zivin says.

Jeffrey Saver, MD
Los Angeles

General neurologists, neurosurgeons, and stroke neurologists most commonly perform this procedure; however, in some places emergency physicians and hospitalists may also be privileged for tPA for stroke, says Jeffrey Saver, MD, stroke neurology director and the UCLA stroke unit director at UCLA Health System in Los Angeles.

“It’s a time-urgent procedure and if you can’t get a neurologist into an emergency department in time, sometimes there will be a different specialist available,” he says.

Although there is no formal training curriculum or certification program to perform tPA for stroke, most general neurology residency training adequately prepares neurologists for this procedure. ACGME-accredited facilities are inspected to ensure residents are receiving appropriate training on tPA usage, but there is no hard number for the number of procedures that are required for privileges. In ACGME-accredited facilities, tPA treatment for stroke would be covered both in clinical practice and on the graduating exam, which would meet the required amount of experience and competency.

“It’s a core aspect of general neurology training,” Saver says. “It would be useful for physicians to be up to date on the national guidelines for acute ischemic stroke, but in terms of training requirements, I think that board certification would be all that’s needed for a neurologist.”

Specifically, privileged neurologists should be aware of the guidelines published by the American Heart Association and American Stroke Council, which are endorsed by the American Academy of Neurology. These guidelines specify indications and
contraindications for which patients should receive tPA treatment.

Similarly for reprivileging, simply maintaining board certification in neurology should be enough to prove competency with the procedure, Saver says.

**Positions of other interested parties**

The Brain Attack Coalition is a group consisting of various neurological, interventional, and emergency associations and societies that deal specifically with physicians who treat stroke. Although The Brain Attack Coalition does not reference specific training and privileging requirements for tPA, it does offer practice guidelines for appropriate implementation of tPA, along with guidelines for establishing a stroke center.

**Positions of accreditation bodies**

**CMS**

CMS has no formal position concerning the delineation of privileges for tPA for stroke. 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
- 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 tPA for stroke. 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 tPA for stroke. 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 tPA for stroke. 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 the use of tPA for stroke.
**Minimum threshold criteria for requesting privileges in tPA for stroke**

**Basic education:** MD or DO  
**Minimal formal training:** Successful completion of an ACGME- or AOA-accredited program in neurology, neurological surgery, interventional radiology, vascular neurology, or endovascular surgical neuroradiology.  
**Required current experience:** Demonstrated current competence and evidence of the performance of an adequate volume of tPA procedures in the past 12 months or successful completion of an ACGME- or AOA-accredited residency or clinical fellowship within 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.

Applicants must be able to demonstrate that they have maintained competence by showing evidence that they have performed an adequate volume of tPA procedures in the past 24 months based on the results of ongoing professional practice evaluation and outcomes. Evidence of current physical and mental ability to perform privileges requested is required of all applicants for renewal of privileges.

In addition, continuing education related to tPA for stroke should be required.

**For more information**

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American Association of Neurological Surgeons
5550 Meadowbrook Drive
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Website: www.aans.org

The American Board of Neurological Surgery
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American Osteopathic Association
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American Society of Neuroradiology
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Website: www.snisonline.org

Society of Vascular and Interventional Neurology
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