

## Vascular Neurology Levels of Care

<b>Procedure/Skill</b>	<b>Level of Care</b>	<b>Supervision</b>	<b>Milestone/ Competency</b>
Obtains history that identifies stroke mimics	5	Oversight	patient care
Treats complex patients with ischemic stroke with IV thrombolysis	5	Oversight	patient care
Manages bleeding complications associated with IV thrombolysis	5	Oversight	patient care
Identifies potential candidates for endovascular recanalization	5	Oversight	patient care
Manages patients at high risk for intracerebral hemorrhage	5	Oversight	patient care
Manages risk factors for intracerebral hemorrhage Identifies patients for surgical or endovascular intervention to prevent ischemic stroke	5	Oversight	patient care
Provides management to prevent or treat acute/subacute complications of stroke	5	Oversight	patient care
Evaluates and manages long-term sequelae of stroke (e.g., vascular dementia, spasticity)	5	Oversight	patient care
Correlates the clinical presentation with presumed pathophysiology (e.g., embolism, thrombosis, hypoperfusion)	5	Oversight	medical knowledge
Uses imaging findings in planning patient management	5	Oversight	medical knowledge
Demonstrates knowledge of common causes of stroke in children and young adults	5	Oversight	medical knowledge
Demonstrates understanding of the acute complications of stroke and stroke treatment	5	Oversight	medical knowledge
Demonstrates understanding of the strategies to prevent stroke	5	Oversight	medical knowledge
Demonstrates understanding of the indications and limitations for surgical interventions to prevent or treat stroke	5	Oversight	medical knowledge
Demonstrates knowledge of the pharmacologic interventions of stroke	5	Oversight	medical knowledge
Demonstrates knowledge of the pharmacologic treatments for intracerebral hemorrhage	5	Oversight	medical knowledge
Demonstrates understanding of uncommon causes of subarachnoid hemorrhage	5	Oversight	medical knowledge
Demonstrates knowledge of the pharmacologic treatments for subarachnoid hemorrhage	5	Oversight	medical knowledge

## Vascular Neurology Levels of Care

Identifies and reports errors and near misses	5	Oversight	system-based practice
Utilizes post-hospital rehabilitation and followup services, including primary care and vascular neurology	5	Oversight	system-based practice
Appropriately utilizes and consults with allied health professionals involved in the care of patients with vascular disease	5	Oversight	System-based practice
Appropriately utilizes and consults with allied health professionals involved in the care of patients with vascular disease	5	Oversight	system-based practice
Uses scholarly articles and guidelines to address patient care issues	5	Oversight	Practice-based Learning and improvement
Describes effects of sleep deprivation and substance abuse on performance	5	Oversight	professionalism
Determines presence of ethical issues in practice	5	Oversight	Professionalism
Manages patient-and/or family-related conflicts	5	Oversight	interpersonal and Communication skills
Engages patients in shared decision making	5	Oversight	interpersonal and Communication skills
Provides effective and timely communication during team meetings, discharge planning, and other transitions of care	5	Oversight	Interpersonal and Communication skills
Obtains history that targets scoring of the modified Rankin Scale	5	Oversight	patient care
Proficiently administers and scores the NIHSS	5	Oversight	patient care
Manages non-bleeding complications associated with IV thrombolysis	5	Oversight	patient care
Manages complications of endovascular therapies for acute ischemic stroke	5	Oversight	patient care
Incorporates multimodality imaging in the assessment of the patient	5	Oversight	patient care
Coordinates interdisciplinary management of patients at high risk for stroke	5	Oversight	patient care
Identifies patients for surgical or endovascular intervention to prevent intracerebral or subarachnoid hemorrhage	5	Oversight	patient care
Manages patients with cerebral venous thrombosis	5	Oversight	patient care
Promptly and accurately localizes vascular lesions based on advanced knowledge of the specific arterial and venous territories of the nervous system	5	Oversight	medical knowledge

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Correlates the clinical presentation with presumed etiologic subtype (e.g., cardioembolism, aneurysm, cerebral amyloid angiopathy)	5	Oversight	medical knowledge
Recognizes subtle abnormalities on brain imaging	5	Oversight	medical knowledge
Selects imaging modalities based on comparative effectiveness and cost	5	Oversight	medical knowledge
Individualizes diagnostic approach to the specific patient	5	Oversight	medical knowledge
Demonstrates knowledge of the issues in regard to treating patients with stroke in complex situations (e.g., pregnancy, perioperative, spinal cord ischemia)	5	Oversight	medical knowledge
Demonstrates knowledge of causes of intracerebral hemorrhage in children and young adults	5	Oversight	medical knowledge
Demonstrates knowledge of causes of subarachnoid hemorrhage in children and young adults	5	Oversight	medical knowledge
Makes clinical decisions that balance cost- and riskbenefit ratios	5	Oversight	systems-based practice
Describes potential sources of system failure in clinical care, such as minor, major, and sentinel events	5	Oversight	systems-based practice
Engages pre-hospital emergency medical services (EMS) in the optimal care of the stroke patient	5	Oversight	systems-based practice
Understands the differences in expectations of care in stroke-ready hospitals, primary stroke centers, and comprehensive stroke centers	5	Oversight	systems-based practice
Develops an appropriate learning plan based upon clinical experience	5	Oversight	practice-based Learning and improvement
Critically evaluates scientific literature	5	Oversight	practice-based Learning and improvement
Demonstrates compassionate practice of medicine, even in the context of disagreement with patient beliefs	5	Oversight	professionalism
Analyzes and manages ethical issues in straightforward clinical situations	5	Oversight	professionalism
Uses easy-to-understand language in all phases of communication	5	Oversight	interpersonal and Communication skills
Effectively communicates the results of a neurologic consultation in a timely manner	5	Oversight	interpersonal and Communication skills

## Vascular Neurology Levels of Care

Consistently obtains a history sufficient to guide the subsequent vascular neurology examination, investigation, and treatment	5	Oversight	patient care
Obtains history that identifies unusual causes of stroke	5	Oversight	patient care
Consistently and efficiently performs a vascular neurology examination to guide and prioritize subsequent investigation and treatment	5	Oversight	patient care
Performs an examination to identify unusual causes of stroke	5	Oversight	patient care
Engages a multidisciplinary team in management of a complex case	5	Oversight	patient care
Provides remote consultation of acute stroke patients	5	Oversight	patient care
Provides acute and chronic management of patients with uncommon or complex cerebrovascular diseases	5	Oversight	patient care
Coordinates post-stroke care and reintegration into the community, as part of a multidisciplinary team	5	Oversight	patient care
Demonstrates knowledge of vascular neuroanatomy to localize uncommon syndromes of the brain, eye, and spinal cord	5	Oversight	medical knowledge
Correlates the atypical presentations of common vascular lesions of the brain, eye, and spinal cord with presumed etiology	5	Oversight	medical knowledge
Correlates the typical clinical presentations of uncommon vascular lesions of the brain, eye, and spinal cord with presumed etiology	5	Oversight	medical knowledge
Recognizes subtle abnormalities on vascular imaging	5	Oversight	medical knowledge
Explains diagnostic yield and cost-effectiveness of testing	5	Oversight	medical knowledge
Recognizes indications and implications of less common testing (e.g., genetic testing, coagulation testing)	5	Oversight	medical knowledge
Demonstrates knowledge of basic scientific underpinnings of acute brain ischemia	5	Oversight	medical knowledge
Demonstrates understanding of the indications, complications, and limitations of surgical interventions for intracerebral hemorrhage	5	Oversight	medical knowledge
Demonstrates understanding of the indications, complications, and limitations of surgical and endovascular interventions for subarachnoid hemorrhage	5	Oversight	medical knowledge
Incorporates available quality measures in patient care	5	Oversight	system-based practice

## Vascular Neurology Levels of Care

Participates in a teambased approach to medical error analysis	5	Oversight	system-based practice
Utilizes the entire system of stroke care throughout the continuum: stroke prevention, emergency stroke care, rehabilitation and recovery, and community reintegration	5	Oversight	systems-based practice
Completes an appropriate learning plan based upon clinical experience	5	Oversight	Practice-based Learning and improvement
Incorporates appropriate evidence-based information into patient care	5	Oversight	Practice-based Learning and improvement
Understands the limits of evidence-based medicine in patient care	5	Oversight	Practice-based Learning and improvement
Mentors others in the compassionate practice of medicine, even in the context of disagreement with patient beliefs	5	Oversight	professionalism
Analyzes and manages ethical issues in complex clinical situations, including end-of-life and withdrawal of care	5	Oversight	professionalism
Leads team-based patient care activities	5	Oversight	interpersonal and communication skills
Effectively leads family meetings, including those related to end-of-life decisions and withdrawal of care	5	Oversight	interpersonal and communication skills

<b>KEY</b>
<b>* Supervision</b>
<b>Direct</b> -the supervising physician is physically present with the resident and patient.
*A faculty physician, other than another resident, is physically present during the key portions of the procedure or is immediately available.
<b>Indirect</b> -the supervising physician is physically within the hospital or other site of patient care and is immediately available to provide direct supervision.
<b>Oversight</b> - the supervising physician is available to provide review of procedures/encounters with feedback after care is provided.
<b>**Core Competencies</b>

# Vascular Neurology Levels of Care

1. Patient Care (PC)
2. Medical Knowledge (MK)
3. Practice-Based Learning & Improvement (PBL)
4. Systems-Based Practice (SBP)
5. Interpersonal & Communication Skills (IC)
6. Professionalism (P)