

**Kettering Medical Center
Credentialing Criteria
for**

Carotid Artery Stenting

These privileges refer to the performance of Carotid Stenting with distal protection. The extra-cerebral internal common carotid and carotid artery bulb that are present within the neck and potentially approachable by an open surgical repair will be the anatomic location for which special privileges for carotid artery stenting will be required. Interventions of the cerebral vascular system are specifically being excluded from these privileges.

Carotid artery stenting is a complex procedure with potentially catastrophic complications. The SCIA/SVMB/SVS writing committee issued the following cognitive, technical, and clinical statements of requirements for reporting carotid stenting:

TABLE I. Cognitive Requirements for Performance of Carotid Stenting

Cognitive elements including the fund of knowledge regarding cerebrovascular disease, its risk criteria for percutaneous natural history, pathophysiology, diagnostic methods, and treatment alternatives.

- I) Pathophysiology of carotid artery disease and stroke
 - a) Causes of Stroke
 - i. Embolization (cardiac, carotid, aortic and stroke)
 - ii. Vasculitis
 - iii. Arteriovenous malformation
 - iv. Intracranial bleeding (subdural, epidural)
 - v. Space Occupying lesions
 - b) Causes of carotid artery narrowing
 - i. Atherosclerosis
 - ii. Fibromuscular dysplasia
 - iii. Spontaneous dissection
 - iv. Other
 - c) Atherogenesis (pathogenesis and risk factors)
- II) Clinical manifestations of stroke
 - a) Knowledge of stroke syndromes (classic and atypical)
 - b) Distinction between anterior and posterior circulation events
- III) Natural history of carotid artery disease
- IV) Associated pathology (e.g. coronary and peripheral artery disease)
- V) Diagnosis of stroke and carotid artery disease
- VI) Angiographic anatomy (arch, extracranial, basic collateral circulation, common anatomic variants, and non-atherosclerotic pathologic processes)
- VII) Knowledge of alternative treatment options for carotid stenosis and their results (immediate success, risk, and long-term outcome)
 - a) Pharmacotherapy (e.g. anti-platelet agents, anticoagulation, lipid-lowering agents)
 - b) Carotid endarterectomy
 - i. Results from major trials (NASCET, ACAS, ECST, ACST)
 - ii. Results in patients with increased surgical risk
 - c) Stent revascularization
 - i. Results with and without distal embolic protection
- VIII) Case selection
 - a) Indications and contraindications for revascularization to prevent stroke
 - b) High risk criteria for carotid intervention
 - c) High risk criteria for percutaneous intervention
- VIII) Role of post-procedure follow up and surveillance

Table II. Technical Requirements for Performance of Carotid Stenting

Minimum numbers to achieve competence

- I) Diagnostic cervico-cerebral angiograms - 30 (≥half as primary operator)
- II) Carotid stent procedures - 25 (≥half as primary operator)

Technical elements for competence in both diagnostic angiography and interventional techniques

- I) High level of expertise with antiplatelet therapy and procedural anticoagulation
- II) Angiographic skills
 - a) Vascular access skills
 - b) Selection of guidewires and angiographic catheters
 - c) Appropriate manipulation of guidewires and catheters
 - d) Use of “closed system” manifold
 - e) Knowledge of normal angiographic anatomy and common variants
 - f) Knowledge of Circle of Willis and typical/atypical collateral pathways
 - g) Proper assessment of aortic arch configuration, as it affects carotid intervention
 - h) Familiarity with use of angulated views and appropriate movement of the xray gantry
- III) Interventional skills
 - a) Guide catheter/sheath placement
 - b) Deployment and retrieval of embolic protection devices
 - c) Pre- and post-dilation
 - d) Stent positioning and deployment
- IV) Recognition and management of intra-procedural complications
 - a) Cerebrovascular events
 - i. Stroke or cerebrovascular ischemia
 - ii. Embolization
 - iii. Hemorrhage
 - iv. Thrombosis
 - v. Dissection
 - vi. Seizure and loss of consciousness
 - b) Cardiovascular events
 - i. Arrhythmias
 - ii. Hypotension
 - iii. Hypertension
 - iv. Myocardial ischemia/infarction
 - c) Vascular access events
 - i. Bleeding
 - ii. Ischemia
 - iii. Thrombosis
- V) Management of vascular access
 - a) Proper sheath removal and attainment of hemostasis
 - b) Closure device utilization

Table III. Clinical Requirements for Performance of Carotid Stenting

Clinical elements, including the ability to manage inpatients and outpatient care

- I) Determine the patient's risk/benefit for the procedure
 - II) Outpatient responsibilities
 - a. Adjust medications pre-procedure
 - b. Counsel patient and family
 - III) Inpatient responsibilities
 - a. Admit patients (privileges required) and write orders
 - b. Obtain informed consent for procedures
 - c. Provide pre and post-procedure hospital care
 - i. Neurological evaluation pre and post procedure
 - ii. Post-procedure pharmacotherapy
 - iii. Monitoring of hemodynamic and cardiac rhythm status
- Coordinate post-stent surveillance and clinical outpatient follow-up

Application for privileges requirements:

1. Applicants for this procedure must be Board certified or eligible by and appropriate ABMS or AOA approved board, AND
2. Applicants must have or meet criteria for peripheral vascular intervention privileges, AND
3. Applicants for this procedure must complete an FDA approved Carotid Stenting Course provided by one of the approved vendors, AND
4. Applicants for this procedure must have participated in at least 30 diagnostic cervico-cerebral angiograms with at least half as primary operator, AND
5. Applicants must have performed at least 25 carotid stent procedures with acceptable outcomes and in at least half of these must have been the primary operator.
6. Applicants that have met all the above with the exception of #5 may apply for temporary, provisional privileges while completing this requirement. Determination of granting unrestricted privileges will be made upon fulfilling this volume requirement with acceptable clinical outcomes.

Requirements for continued privileges at reappointment

Ten (10) cases per year with at least 50% as primary operator.

Participation in Capture II Research study (encouraged that all operators continue with this study).

Mandatory attendance at 50% or more of Endovascular Quality Review meetings (held every other month) with continued monitoring of data.

Documentation of at least 10 hours of category one Continuing Education per year focused on endovascular interventions (required).

Operator collaboration on all cases – would count towards total case count for each operator and could enhance quality of service (strongly encouraged).

Continued multispecialty pre-operative screening of ALL patient candidates as well as post-stent review by Quality Review committee. This stipulation to be reviewed at 6 months following lifting of moratorium to consider lifting this requirement for operators who satisfactorily complete 25 cases.

All credentialed individuals must actively participate in the Endovascular Quality Committee and must attend at least 50% of the bimonthly meetings in order to renew these credentials at the end of the credentialing cycle.

Approved:	Endovascular Sub-Committee	May 5, 2005
	Credentials Committee	May 9, 2005
	Medical Executive Committee	May 17, 2005
	Board of Trustees	May 24, 2005

Revised:	Endovascular Sub-Committee	January 22, 2008
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	Medical Executive Committee	February 19, 2008
	Board of Trustees	March 3, 2008