GUIDELINES
This policy does not certify benefits or authorization of benefits, which is designated by each individual policyholder contract. Paramount applies coding edits to all medical claims through coding logic software to evaluate the accuracy and adherence to accepted national standards. This guideline is solely for explaining correct procedure reporting and does not imply coverage and reimbursement.

DESCRIPTION
Transcranial doppler uses low-frequency doppler transducers applied across the thin portions of the temporal bone (the temporal acoustic windows) to obtain flow velocity information from the basal intracerebral arteries. The transtemporal acoustic window provides access to hemodynamic data from the middle, anterior, and posterior cerebral arteries. A suboccipital approach, with insonation through the foramen magnum, provides access to the intracranial vertebral and basilar arteries, while a transorbital approach can be used to insonate the ophthalmic artery and the carotid siphon via the optic foramen. This data allows evaluation of the direction, depth, speed, and characteristics of flow in these vessels.

POLICY
Transcranial doppler studies (93886, 93888, 93890, 93892 and 93893) do not require prior authorization.

HMO, PPO, Individual Marketplace, Elite, Advantage
Transcranial doppler evaluation of the intracranial cerebrovascular system will be considered medically necessary in any of the following circumstances:

- The patient has suspected severe intracranial arterial stenosis based on finite clinical evidence of focal ischemia, and knowledge of this stenosis is necessary in order to properly care for the patient.
- The patient has areas of known severe stenosis or occlusion of arteries supplying the brain and assessment of the pattern and extent of collateral circulation is necessary in order to properly care for the patient.
- The patient has suffered a subarachnoid hemorrhage and transcranial doppler studies are necessary to assess vasoconstriction of cerebral vessels.
- The patient has suspected or confirmed arteriovenous malformation, and an assessment of the arterial supply and flow pattern is necessary.
- The patient has suspected brain death.

Any vascular studies performed should be as a result of, or to complement, a thorough patient evaluation and neurological examination.

Non-invasive vascular studies done for screening purposes (i.e., without signs or symptoms of disease) are non-covered.

Non-invasive vascular studies are reasonable and necessary only if the outcome will potentially impact the clinical course and treatment of the patient. Non-invasive vascular studies will be considered not medically reasonable and necessary if the study results will have no impact on the decision for further diagnostic or therapeutic procedures. For example, if it is obvious from the findings of the history and physical examination that the patient is going to proceed to angiography, then non-invasive vascular studies are not necessary.

The use of a simple hand-held or other Doppler device that does not produce hard copy output, or that produces a record that does not permit analysis of bidirectional vascular flow, is considered to be part of the physical examination of the vascular system and is not separately reimbursable. Doppler procedures performed with zero-crossers (i.e., analog [strip chart recorder] analysis) are also included in the office visit.

The following indications are considered not medically reasonable and necessary indications for transcranial cerebral vascular studies:

- Evaluation of brain tumors
- Assessment of familial and degenerative diseases of the cerebrum, brainstem, cerebellum, basal ganglia and motor neurons
- Evaluation of infectious and inflammatory conditions
- Evaluation of psychiatric disorders
Epilepsy

The following indications for Transcranial Cerebral Vascular studies are considered investigational and will be denied as not medically reasonable and necessary:

- Assessing patients with migraine or headache
- Monitoring during cardiopulmonary bypass and other cerebrovascular and cardiovascular interventions, and other surgical procedures
- Evaluation of patients with dilated vasculopathies such as fusiform aneurysms
- Assessing autoregulation, physiologic, and pharmacological responses of cerebral arteries
- Evaluating children with various vasculopathies such as sickle cell disease, moya moya disease, and neurofibromatosis

The accuracy of noninvasive vascular diagnostic studies depends on the knowledge, skill, and experience of the technologist and physician performing and interpreting the study. Consequently, the physician performing or interpreting the study must be capable of demonstrating documented training and experience and maintain any applicable documentation. A vascular diagnostic study may be personally performed by a physician or a technologist.

All non-invasive vascular diagnostic studies performed by a technologist must be performed by, or under the direct supervision of, a technologist who has demonstrated competency by being credentialed in vascular technology, or performed under the direct supervision of a physician capable of demonstrating training and experience specific to the study performed, or such studies must be performed in a facility accredited by the Intersocietal Commission for the Accreditation of Vascular Laboratories (ICAVL) or the Non-Invasive Vascular Ultrasound Accreditation of the American College of Radiology (ACR). Examples of appropriate certification include the Registered Vascular Technologist (RVT) credential and the Registered Cardiovascular Technologist (RCVT) credential in Vascular Technology. Direct supervision requires the credentialed individual's presence in the facility and immediate availability to the technologist performing the study.

CODING/BILLING INFORMATION

The appearance of a code in this section does not necessarily indicate coverage. Codes that are covered may have selection criteria that must be met. Payment for supplies may be included in payment for other services rendered.

<table>
<thead>
<tr>
<th>CPT CODE</th>
<th>Description</th>
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<tbody>
<tr>
<td>93886</td>
<td>Transcranial Doppler study of the intracranial arteries; complete study</td>
</tr>
<tr>
<td>93888</td>
<td>Transcranial Doppler study of the intracranial arteries; limited study</td>
</tr>
<tr>
<td>93890</td>
<td>Transcranial Doppler study of the intracranial arteries; vasoreactivity study</td>
</tr>
<tr>
<td>93892</td>
<td>Transcranial Doppler study of the intracranial arteries; emboli detect w/o inj</td>
</tr>
<tr>
<td>93893</td>
<td>Transcranial Doppler study of the intracranial arteries; emboli detect w/inj</td>
</tr>
</tbody>
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TAWG REVIEW DATES: 05/27/2016

REVISION HISTORY EXPLANATION

05/27/16: Policy created to reflect most current clinical evidence per TAWG.

REFERENCES/RESOURCES

Centers for Medicare and Medicaid Services, CMS Manual System and other CMS publications and services
Ohio Department of Medicaid http://jfs.ohio.gov/
American Medical Association, Current Procedural Terminology (CPT®) and associated publications and services
Centers for Medicare and Medicaid Services, Healthcare Common Procedure Coding System, HCPCS Release and Code Sets
Industry Standard Review
Hayes, Inc.