Medical Coverage Policy

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Coverage Policy Number..... 0542

Duplex Scan of Extracranial Arteries

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Atherosclerotic Cardiovascular Disease Risk Assessment: Emerging Laboratory Evaluations
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INSTRUCTIONS FOR USE

The following Coverage Policy applies to health benefit plans administered by Cigna Companies. Certain Cigna Companies and/or lines of business only provide utilization review services to clients and do not make coverage determinations. References to standard benefit plan language and coverage determinations do not apply to those clients. Coverage Policies are intended to provide guidance in interpreting certain standard benefit plans administered by Cigna Companies. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement, Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer's benefit plan document always supersedes the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Each coverage request should be reviewed on its own merits. Medical directors are expected to exercise clinical judgment where appropriate and have discretion in making individual coverage determinations. Where coverage for care or services does not depend on specific circumstances, reimbursement will only be provided if a requested service(s) is submitted in accordance with the relevant criteria outlined in the applicable Coverage Policy, including covered diagnosis and/or procedure code(s). Reimbursement is not allowed for services when billed for conditions or diagnoses that are not covered under this Coverage Policy (see "Coding Information" below). When billing, providers must use the most appropriate codes as of the effective date of the submission. Claims submitted for services that are not accompanied by covered code(s) under the applicable Coverage Policy will be denied as not covered. Coverage Policies relate exclusively to the administration of health

benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. In certain markets, delegated vendor guidelines may be used to support medical necessity and other coverage determinations.

Overview

This Coverage Policy addresses the use of duplex scan to evaluate the extracranial arteries. Duplex scanning is a type of ultrasound that evaluates the carotid artery for interruptions in blood flow.

Coverage Policy

Duplex scan to evaluate the extracranial arteries is considered medically necessary for ANY of the following indications:

- disorders of the carotid artery
- neck trauma
- new or worsening neurologic symptoms, including stroke (i.e., cerebrovascular attack [CVA]), transient ischemic attack (TIA), amaurosis fugax
- unilateral motor or sensory deficit, and speech impairment
- altered level of consciousness
- dementia
- seizures
- carotid bruit
- preoperative evaluation for cardiovascular or carotid surgical procedures
- evaluation of the carotid arteries in an individual with a history of carotid disease or history of head and neck radiation
- suspected carotid artery dissection, fistula, or pseudoaneurysm
- carotid body tumor
- migraine headache
- retinal vein or artery occlusion and hemorrhage
- myocardial infarction
- coronary artery disease
- atrial fibrillation and atrial flutter
- intracranial infarction and hemorrhage
- dissection of the carotid and thoracic artery

Duplex scan of the extracranial arteries is not covered or reimbursable for any other indication including but not limited to screening for carotid artery stenosis in an asymptomatic individual.

Coding Information

Notes:

1. This list of codes may not be all-inclusive since the American Medical Association (AMA) and Centers for Medicare & Medicaid Services (CMS) code updates may occur more frequently than policy updates.
2. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

CPT®* Codes	Description
93880	Duplex scan of extracranial arteries; complete bilateral study
93882	Duplex scan of extracranial arteries; unilateral or limited study

Note: Any covered ICD-10-CM diagnosis code included in a code range below referencing a bilateral study will only apply to CPT 93880.

ICD-10-CM Diagnosis Codes	Description
C75.4	Malignant neoplasm of carotid body
D35.5	Benign neoplasm of carotid body
D44.6	Neoplasm of uncertain behavior of carotid body
E09.311-E09.319	Drug or chemical induced diabetes mellitus with unspecified diabetic retinopathy
E09.3211-E09.3213	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema
E09.3291-E09.3293	Drug or chemical induced diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema
E09.3311-E09.3313	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema
E09.3391-E09.3393	Drug or chemical induced diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema
E09.3411-E09.3413	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema
E09.3491-E09.3493	Drug or chemical induced diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema
E09.3511-E09.3513	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with macular edema
E09.3521-E09.3523	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula
E09.3531-E09.3533	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula
E09.3541-E09.3543	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment
E09.3551-E09.3553	Drug or chemical induced diabetes mellitus with stable proliferative diabetic retinopathy
E09.3591-E09.3593	Drug or chemical induced diabetes mellitus with proliferative diabetic retinopathy without macular edema
E09.37X1-E09.37X3	Drug or chemical induced diabetes mellitus with diabetic macular edema, resolved following treatment
E09.39	Drug or chemical induced diabetes mellitus with other diabetic ophthalmic complication
E09.51-E09.59	Drug or chemical induced diabetes mellitus with circulatory complications

ICD-10-CM Diagnosis Codes	Description
E10.311-E10.319	Type 1 diabetes mellitus with unspecified diabetic retinopathy
E10.3211-E10.3213	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema
E10.3291-E10.3293	Type 1 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema
E10.3311-E10.3313	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema
E10.3391-E10.3393	Type 1 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema
E10.3411-E10.3413	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema
E10.3491-E10.3493	Type 1 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema
E10.3511-E10.3513	Type 1 diabetes mellitus with proliferative diabetic retinopathy with macular edema
E10.3521-E10.3523	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula
E10.3531-E10.3533	Type 1 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula
E10.3541-E10.3543	Type 1 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment
E10.3551-E10.3553	Type 1 diabetes mellitus with stable proliferative diabetic retinopathy
E10.3591-E10.3593	Type 1 diabetes mellitus with proliferative diabetic retinopathy without macular edema
E10.39	Type 1 diabetes mellitus with other diabetic ophthalmic complication
E10.51-E10.59	Type 1 diabetes mellitus with circulatory complications
E11.311-E11.319	Type 2 diabetes mellitus with unspecified diabetic retinopathy
E11.3211-E11.3213	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema
E11.3291-E11.3293	Type 2 diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema
E11.3311-E11.3313	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema
E11.3391-E11.3393	Type 2 diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema
E11.3411-E11.3413	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema
E11.3491-E11.3493	Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema
E11.3511-E11.3513	Type 2 diabetes mellitus with proliferative diabetic retinopathy with macular edema
E11.3521-E11.3523	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula

ICD-10-CM Diagnosis Codes	Description
E11.3531-E11.3533	Type 2 diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula
E11.3541-E11.3543	Type 2 diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment
E11.3551-E11.3553	Type 2 diabetes mellitus with stable proliferative diabetic retinopathy
E11.3591-E11.3593	Type 2 diabetes mellitus with proliferative diabetic retinopathy without macular edema
E11.37X1-E11.37X3	Type 2 diabetes mellitus with diabetic macular edema, resolved following treatment
E11.39	Type 2 diabetes mellitus with other diabetic ophthalmic complication
E11.51-E11.59	Type 2 diabetes mellitus with circulatory complications
E13.311-E13.319	Other specified diabetes mellitus with unspecified diabetic retinopathy
E13.3211-E13.3213	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy with macular edema
E13.3291-E13.3293	Other specified diabetes mellitus with mild nonproliferative diabetic retinopathy without macular edema
E13.3311-E13.3313	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy with macular edema
E13.3391-E13.3393	Other specified diabetes mellitus with moderate nonproliferative diabetic retinopathy without macular edema
E13.3411-E13.3413	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema
E13.3491-E13.3493	Other specified diabetes mellitus with severe nonproliferative diabetic retinopathy without macular edema
E13.3511-E13.3513	Other specified diabetes mellitus with proliferative diabetic retinopathy with macular edema
E13.3521-E13.3523	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment involving the macula
E13.3531-E13.3533	Other specified diabetes mellitus with proliferative diabetic retinopathy with traction retinal detachment not involving the macula
E13.3541-E13.3543	Other specified diabetes mellitus with proliferative diabetic retinopathy with combined traction retinal detachment and rhegmatogenous retinal detachment
E13.3551-E13.3553	Other specified diabetes mellitus with stable proliferative diabetic retinopathy
E13.3591-E13.3593	Other specified diabetes mellitus with proliferative diabetic retinopathy without macular edema
E13.37X1-E13.37X3	Other specified diabetes mellitus with diabetic macular edema, resolved following treatment
E13.39	Other specified diabetes mellitus with other diabetic ophthalmic complication
E13.51-E13.59	Other specified diabetes mellitus with circulatory complications
E34.0	Carcinoid syndrome
E72.11	Homocystinuria

ICD-10-CM Diagnosis Codes	Description
E72.12	Methylenetetrahydrofolate reductase deficiency
E75.21	Fabry (-Anderson) disease
F01.511-F01.C4	Vascular dementia
F02.811-F02.C4	Dementia in other diseases classified elsewhere
F03.90	Unspecified dementia, unspecified severity, without behavioral disturbance, psychotic disturbance, mood disturbance, and anxiety
F03.911-F03.C4	Unspecified dementia, unspecified severity
F44.4	Conversion disorder with motor symptom or deficit
F44.5	Conversion disorder with seizures or convulsions
F44.6	Conversion disorder with sensory symptom or deficit
F44.7	Conversion disorder with mixed symptom presentation
F44.89	Other dissociative and conversion disorders
F44.9	Dissociative and conversion disorder, unspecified
F45.0	Somatization disorder
F45.8	Other somatoform disorders
F45.9	Somatoform disorder, unspecified
F48.2	Pseudobulbar affect
F80.1	Expressive language disorder
F98.5	Adult onset fluency disorder
G00.9	Bacterial meningitis, unspecified
G04.90	Encephalitis and encephalomyelitis, unspecified
G11.9	Hereditary ataxia, unspecified
G12.20	Motor neuron disease, unspecified
G23.1	Progressive supranuclear ophthalmoplegia [Steele-Richardson-Olszewski]
G30.0-G30.9	Alzheimer's disease
G31.83	Neurocognitive disorder with Lewy bodies
G31.84	Mild cognitive impairment of uncertain or unknown etiology
G31.87	Primary progressive apraxia of speech
G40.001-G40.919	Localization-related (focal) (partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset
G43.101-G43.109	Migraine with aura, not intractable
G43.111-G43.119	Migraine with aura, intractable
G43.401-G43.409	Hemiplegic migraine, not intractable
G43.411-G43.419	Hemiplegic migraine, intractable
G43.501-G43.509	Persistent migraine aura without cerebral infarction, not intractable

ICD-10-CM Diagnosis Codes	Description
G43.511-G43.519	Persistent migraine aura without cerebral infarction, intractable
G43.601-G43.609	Persistent migraine aura with cerebral infarction, not intractable
G43.611-G43.619	Persistent migraine aura with cerebral infarction, intractable
G43.B0-G43.B1	Ophthalmoplegic migraine
G43.E01-G43.E09	Chronic migraine with aura, not intractable
G43.E11-G43.E19	Chronic migraine with aura, intractable
G44.1	Vascular headache, not elsewhere classified
G44.53	Primary thunderclap headache
G44.82	Headache associated with sexual activity
G44.84	Primary exertional headache
G45.0-G45.9	Transient cerebral ischemic attacks and related syndromes
G46.0-G46.8	Vascular syndromes of brain in cerebrovascular diseases
G50.1	Atypical facial pain
G51.0	Bell's palsy
G51.31-G51.33	Clonic hemifacial spasm
G51.4	Facial myokymia
G81.01-G81.04	Flaccid hemiplegia
G81.11-G81.14	Spastic hemiplegia
G81.91-G81.94	Hemiplegia
G82.21	Paraplegia, complete
G82.22	Paraplegia, incomplete
G83.11-G83.14	Monoplegia of lower limb
G83.21-G83.24	Monoplegia of upper limb
G83.31-G83.34	Monoplegia, unspecified
G83.9	Paralytic syndrome, unspecified
G89.0	Central pain syndrome
G90.01	Carotid sinus syncope
G90.2	Horner's syndrome
G93.2	Benign intracranial hypertension
G93.5	Compression of brain
G93.6	Cerebral edema

ICD-10-CM Diagnosis Codes	Description
G93.82	Brain death
H34.01-H34.03	Transient retinal artery occlusion
H34.11-H34.13	Central retinal artery occlusion
H34.211-H34.213	Partial retinal artery occlusion
H34.231-H34.233	Retinal artery branch occlusion
H34.8110-H34.8112	Central retinal vein occlusion, right eye
H34.8120-H34.8122	Central retinal vein occlusion, left eye
H34.8130-H34.8132	Central retinal vein occlusion, bilateral
H34.821-H34.823	Venous engorgement
H34.8310-H34.8312	Tributary (branch) retinal vein occlusion, right eye
H34.8320-H34.8322	Tributary (branch) retinal vein occlusion, left eye
H34.8330-H34.8332	Tributary (branch) retinal vein occlusion, bilateral
H34.9	Unspecified retinal vascular occlusion
H35.00	Unspecified background retinopathy
H35.011-H35.013	Changes in retinal vascular appearance
H35.031-H35.033	Hypertensive retinopathy
H35.051-H35.053	Retinal neovascularization, unspecified
H35.061-H35.063	Retinal vasculitis
H35.61-H35.63	Retinal hemorrhage
H35.711-H35.713	Central serous chorioretinopathy
H35.81	Retinal edema
H35.82	Retinal ischemia
H47.011-H47.013	Ischemic optic neuropathy
H53.10	Unspecified subjective visual disturbances
H53.121-H53.123	Transient visual loss
H53.131-H53.133	Sudden visual loss
H53.2	Diplopia

ICD-10-CM Diagnosis Codes	Description
H53.40	Unspecified visual field defects
H53.411-H53.413	Scotoma involving central area
H53.421-H53.423	Scotoma of blind spot area
H53.451-H53.453	Other localized visual field defect
H53.461-H53.462	Homonymous bilateral field defects
H53.481-H53.483	Generalized contraction of visual field
H53.8	Other visual disturbances
H53.9	Unspecified visual disturbance
H54.3	Unqualified visual loss, both eyes
H54.61	Unqualified visual loss, right eye, normal vision left eye
H54.62	Unqualified visual loss, left eye, normal vision right eye
H54.7	Unspecified visual loss
H57.02	Anisocoria
H57.04	Mydriasis
H57.09	Other anomalies of pupillary function
H81.311-H81.313	Aural vertigo
H81.391-H81.393	Other peripheral vertigo
H81.4	Vertigo of central origin
H81.91-H81.93	Unspecified disorder of vestibular function
H82.1-H82.3	Vertiginous syndromes in diseases classified elsewhere
H83.01-H83.03	Labyrinthitis
H83.2X1-H83.2X3	Labyrinthine dysfunction
H93.A1-H93.A3	Pulsatile tinnitus
I05.0-I05.9	Rheumatic mitral valve diseases
I06.0-I06.9	Rheumatic aortic valve diseases
I07.0-I07.9	Rheumatic tricuspid valve diseases
I08.0-I08.9	Multiple valve diseases
I09.89	Other specified rheumatic heart diseases
I16.9	Hypertensive crisis, unspecified
I20.0-I20.9	Angina pectoris
I21.01-I21.B	Acute myocardial infarction

ICD-10-CM Diagnosis Codes	Description
I22.0- I22.9	Subsequent ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction
I23.7	Postinfarction angina
I23.8	Other current complications following acute myocardial infarction
I24.0	Acute coronary thrombosis not resulting in myocardial infarction
I24.1	Dressler's syndrome
I24.81-I24.89	Other forms of acute ischemic heart disease
I24.9	Acute ischemic heart disease, unspecified
I25.10	Atherosclerotic heart disease of native coronary artery without angina pectoris
I25.110-I25.119	Atherosclerotic heart disease of native coronary artery with angina pectoris
I25.2	Old myocardial infarction
I25.3	Aneurysm of heart
I25.41	Coronary artery aneurysm
I25.42	Coronary artery dissection
I25.5	Ischemic cardiomyopathy
I25.6	Silent myocardial ischemia
I25.700-I25.709	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris
I25.710-I25.719	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris
I25.720-I25.729	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris
I25.730-I25.739	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with angina pectoris
I25.750-I25.759	Atherosclerosis of native coronary artery of transplanted heart with angina pectoris
I25.760-I25.769	Atherosclerosis of bypass graft of coronary artery of transplanted heart with angina pectoris
I25.790-I25.799	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris
I25.810-I25.9	Other forms of chronic ischemic heart disease
I38	Endocarditis, valve unspecified
I48.0-I48.92	Atrial fibrillation and flutter
I49.01	Ventricular fibrillation
I49.02	Ventricular flutter
I51.0	Cardiac septal defect, acquired
I51.3	Intracardiac thrombosis, not elsewhere classified
I60.01-I60.02	Nontraumatic subarachnoid hemorrhage from carotid siphon and bifurcation
I60.11-I60.12	Nontraumatic subarachnoid hemorrhage from middle cerebral artery

ICD-10-CM Diagnosis Codes	Description
I60.2	Nontraumatic subarachnoid hemorrhage from anterior communicating artery
I60.31-I60.32	Nontraumatic subarachnoid hemorrhage from posterior communicating artery
I60.4	Nontraumatic subarachnoid hemorrhage from basilar artery
I60.51-I60.52	Nontraumatic subarachnoid hemorrhage from vertebral artery
I60.6	Nontraumatic subarachnoid hemorrhage from other intracranial arteries
I60.7	Nontraumatic subarachnoid hemorrhage from unspecified intracranial artery
I60.8	Other nontraumatic subarachnoid hemorrhage
I60.9	Nontraumatic subarachnoid hemorrhage, unspecified
I61.0- I61.9	Nontraumatic intracerebral hemorrhage
I62.01-I62.03	Nontraumatic subdural hemorrhage
I62.1	Nontraumatic extradural hemorrhage
I62.9	Nontraumatic intracranial hemorrhage, unspecified
I63.011-I63.013	Cerebral infarction due to thrombosis of vertebral artery
I63.02	Cerebral infarction due to thrombosis of basilar artery
I63.031-I63.033	Cerebral infarction due to thrombosis of carotid artery
I63.09	Cerebral infarction due to thrombosis of other precerebral artery
I63.111-I63.113	Cerebral infarction due to embolism of vertebral artery
I63.12	Cerebral infarction due to embolism of basilar artery
I63.131-I63.133	Cerebral infarction due to embolism of carotid artery
I63.19	Cerebral infarction due to embolism of other precerebral artery
I63.211-I63.213	Cerebral infarction due to unspecified occlusion or stenosis of vertebral arteries
I63.22	Cerebral infarction due to unspecified occlusion or stenosis of basilar artery
I63.231-I63.233	Cerebral infarction due to unspecified occlusion or stenosis of carotid arteries
I63.29	Cerebral infarction due to unspecified occlusion or stenosis of other precerebral arteries
I63.311-I63.313	Cerebral infarction due to thrombosis of middle cerebral artery
I63.321-I63.323	Cerebral infarction due to thrombosis of anterior cerebral artery
I63.331-I63.333	Cerebral infarction due to thrombosis of posterior cerebral artery
I63.341-I63.343	Cerebral infarction due to thrombosis of cerebellar artery
I63.39	Cerebral infarction due to thrombosis of other cerebral artery
I63.411-I63.413	Cerebral infarction due to embolism of middle cerebral artery

ICD-10-CM Diagnosis Codes	Description
I63.421-I63.423	Cerebral infarction due to embolism of anterior cerebral artery
I63.431-I63.433	Cerebral infarction due to embolism of posterior cerebral artery
I63.441-I63.443	Cerebral infarction due to embolism of cerebellar artery
I63.49	Cerebral infarction due to embolism of other cerebral artery
I63.511-I63.513	Cerebral infarction due to unspecified occlusion or stenosis of middle cerebral artery
I63.521-I63.523	Cerebral infarction due to unspecified occlusion or stenosis of anterior cerebral artery
I63.531-I63.533	Cerebral infarction due to unspecified occlusion or stenosis of posterior cerebral artery
I63.541-I63.543	Cerebral infarction due to unspecified occlusion or stenosis of cerebellar artery
I63.59	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery
I63.6	Cerebral infarction due to cerebral venous thrombosis, nonpyogenic
I63.81-I63.89	Other cerebral infarction
I63.9	Cerebral infarction, unspecified
I65.01-I65.03	Occlusion and stenosis of vertebral artery
I65.1	Occlusion and stenosis of basilar artery
I65.21-I65.23	Occlusion and stenosis of carotid artery
I65.8	Occlusion and stenosis of other precerebral arteries
I66.01-I66.03	Occlusion and stenosis of middle cerebral artery
I66.11-I66.13	Occlusion and stenosis of anterior cerebral artery
I66.21-I66.23	Occlusion and stenosis of posterior cerebral artery
I66.3	Occlusion and stenosis of cerebellar arteries
I66.8	Occlusion and stenosis of other cerebral arteries
I66.9	Occlusion and stenosis of unspecified cerebral artery
I67.0- I67.9	Other cerebrovascular diseases
I69.010-I69.018	Cognitive deficits following nontraumatic subarachnoid hemorrhage
I69.020-I69.028	Speech and language deficits following nontraumatic subarachnoid hemorrhage
I69.031-I69.034	Monoplegia of upper limb following nontraumatic subarachnoid hemorrhage
I69.041-I69.044	Monoplegia of lower limb following nontraumatic subarachnoid hemorrhage
I69.051-I69.054	Hemiplegia and hemiparesis following nontraumatic subarachnoid hemorrhage

ICD-10-CM Diagnosis Codes	Description
I69.061-I69.065	Other paralytic syndrome following nontraumatic subarachnoid hemorrhage
I69.090-I69.098	Other sequelae of nontraumatic subarachnoid hemorrhage
I69.110-I69.118	Cognitive deficits following nontraumatic intracerebral hemorrhage
I69.120-I69.128	Speech and language deficits following nontraumatic intracerebral hemorrhage
I69.131-I69.134	Monoplegia of upper limb following nontraumatic intracerebral hemorrhage
I69.141-I69.144	Monoplegia of lower limb following nontraumatic intracerebral hemorrhage
I69.151-I69.154	Hemiplegia and hemiparesis following nontraumatic intracerebral hemorrhage
I69.161-I69.165	Other paralytic syndrome following nontraumatic intracerebral hemorrhage
I69.190-I69.198	Other sequelae of nontraumatic intracerebral hemorrhage
I69.210-I69.218	Cognitive deficits following other nontraumatic intracranial hemorrhage
I69.220-I69.228	Speech and language deficits following other nontraumatic intracranial hemorrhage
I69.231-I69.234	Monoplegia of upper limb following other nontraumatic intracranial hemorrhage
I69.241-I69.244	Monoplegia of lower limb following other nontraumatic intracranial hemorrhage
I69.251-I69.254	Hemiplegia and hemiparesis following other nontraumatic intracranial hemorrhage
I69.261-I69.265	Other paralytic syndrome following other nontraumatic intracranial hemorrhage
I69.290-I69.298	Other sequelae of other nontraumatic intracranial hemorrhage
I69.310-I69.318	Cognitive deficits following cerebral infarction
I69.320-I69.328	Speech and language deficits following cerebral infarction
I69.331-I69.334	Monoplegia of upper limb following cerebral infarction
I69.341-I69.344	Monoplegia of lower limb following cerebral infarction
I69.351-I69.354	Hemiplegia and hemiparesis following cerebral infarction
I69.361-I69.365	Other paralytic syndrome following cerebral infarction
I69.390-I69.398	Other sequelae of cerebral infarction
I69.810-I69.818	Cognitive deficits following other cerebrovascular disease

ICD-10-CM Diagnosis Codes	Description
I69.820-I69.828	Speech and language deficits following other cerebrovascular disease
I69.831-I69.834	Monoplegia of upper limb following other cerebrovascular disease
I69.841-I69.844	Monoplegia of lower limb following other cerebrovascular disease
I69.851-I69.854	Hemiplegia and hemiparesis following other cerebrovascular disease
I69.861-I69.865	Other paralytic syndrome following other cerebrovascular disease
I69.890-I69.898	Other sequelae of other cerebrovascular disease
I70.0	Atherosclerosis of aorta
I71.00	Dissection of unspecified site of aorta
I71.010-I71.019	Dissection of thoracic aorta
I71.03	Dissection of thoracoabdominal aorta
I71.10-I71.13	Thoracic aortic aneurysm, ruptured
I71.20-I71.23	Thoracic aortic aneurysm, without rupture
I71.50-I71.52	Thoracoabdominal aortic aneurysm, ruptured
I71.60-I71.62	Thoracoabdominal aortic aneurysm, without rupture
I72.0	Aneurysm of carotid artery
I72.6	Aneurysm of vertebral artery
I73.1	Thromboangiitis obliterans [Buerger's disease]
I74.01	Saddle embolus of abdominal aorta
I77.71	Dissection of carotid artery
I77.74	Dissection of vertebral artery
I77.75	Dissection of other precerebral arteries
I97.611	Postprocedural hemorrhage of a circulatory system organ or structure following cardiac bypass
M31.4	Aortic arch syndrome [Takayasu]
M31.5	Giant cell arteritis with polymyalgia rheumatica
M31.6	Other giant cell arteritis
M31.9	Necrotizing vasculopathy, unspecified
M47.021-M47.029	Vertebral artery compression syndromes
Q04.9	Congenital malformation of brain, unspecified
Q21.0	Ventricular septal defect
Q21.10-Q21.19	Atrial septal defect

ICD-10-CM Diagnosis Codes	Description
Q21.20-Q21.23	Atrioventricular septal defect
Q25.42	Hypoplasia of aorta
Q25.43	Congenital aneurysm of aorta
Q25.44	Congenital dilation of aorta
Q28.1	Other malformations of precerebral vessels
Q28.2	Arteriovenous malformation of cerebral vessels
Q28.3	Other malformations of cerebral vessels
Q79.60	Ehlers-Danlos syndrome, unspecified
Q79.61	Classical Ehlers-Danlos syndrome
Q79.62	Hypermobile Ehlers-Danlos syndrome
Q79.63	Vascular Ehlers-Danlos syndrome
Q79.69	Other Ehlers-Danlos syndromes
Q87.40	Marfan syndrome, unspecified
Q87.410	Marfan syndrome with aortic dilation
Q87.418	Marfan syndrome with other cardiovascular manifestations
R07.9	Chest pain, unspecified
R09.89	Other specified symptoms and signs involving the circulatory and respiratory systems
R20.0-R20.9	Disturbances of skin sensation
R25.0	Abnormal head movements
R25.1	Tremor, unspecified
R25.9	Unspecified abnormal involuntary movements
R26.0-R26.9	Abnormalities of gait and mobility
R27.0-R27.9	Other lack of coordination
R29.2	Abnormal reflex
R29.5	Transient paralysis
R29.6	Repeated falls
R29.810-R29.818	Other symptoms and signs involving the nervous system
R40.0	Somnolence
R40.1	Stupor
R40.4	Transient alteration of awareness
R41.0	Disorientation, unspecified
R41.2	Retrograde amnesia
R41.3	Other amnesia
R41.4	Neurologic neglect syndrome
R41.81	Age-related cognitive decline
R41.82	Altered mental status, unspecified
R41.840	Attention and concentration deficit

ICD-10-CM Diagnosis Codes	Description
R41.89	Other symptoms and signs involving cognitive functions and awareness
R41.9	Unspecified symptoms and signs involving cognitive functions and awareness
R42	Dizziness and giddiness
R44.0-R44.9	Other symptoms and signs involving general sensations and perceptions
R45.1	Restlessness and agitation
R45.86	Emotional lability
R46.4	Slowness and poor responsiveness
R47.01	Aphasia
R47.02	Dysphasia
R47.1	Dysarthria and anarthria
R47.81	Slurred speech
R55	Syncope and collapse
R56.9	Unspecified convulsions
R57.0	Cardiogenic shock
R70.1	Abnormal plasma viscosity
R90.82	White matter disease, unspecified
R93.0	Abnormal findings on diagnostic imaging of skull and head, not elsewhere classified
R94.02	Abnormal brain scan
S06.340A	Traumatic hemorrhage of right cerebrum without loss of consciousness, initial encounter
S06.340D	Traumatic hemorrhage of right cerebrum without loss of consciousness, subsequent encounter
S06.341A	Traumatic hemorrhage of right cerebrum with loss of consciousness of 30 minutes or less, initial encounter
S06.341D	Traumatic hemorrhage of right cerebrum with loss of consciousness of 30 minutes or less, subsequent encounter
S06.342A	Traumatic hemorrhage of right cerebrum with loss of consciousness of 31 minutes to 59 minutes, initial encounter
S06.342D	Traumatic hemorrhage of right cerebrum with loss of consciousness of 31 minutes to 59 minutes, subsequent encounter
S06.343A	Traumatic hemorrhage of right cerebrum with loss of consciousness of 1 hours to 5 hours 59 minutes, initial encounter
S06.343D	Traumatic hemorrhage of right cerebrum with loss of consciousness of 1 hours to 5 hours 59 minutes, subsequent encounter
S06.344A	Traumatic hemorrhage of right cerebrum with loss of consciousness of 6 hours to 24 hours, initial encounter
S06.344D	Traumatic hemorrhage of right cerebrum with loss of consciousness of 6 hours to 24 hours, subsequent encounter
S06.345A	Traumatic hemorrhage of right cerebrum with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter
S06.345D	Traumatic hemorrhage of right cerebrum with loss of consciousness greater than 24 hours with return to pre-existing conscious level, subsequent encounter

ICD-10-CM Diagnosis Codes	Description
S06.346A	Traumatic hemorrhage of right cerebrum with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter
S06.346D	Traumatic hemorrhage of right cerebrum with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, subsequent encounter
S06.349A	Traumatic hemorrhage of right cerebrum with loss of consciousness of unspecified duration, initial encounter
S06.349D	Traumatic hemorrhage of right cerebrum with loss of consciousness of unspecified duration, subsequent encounter
S06.350A	Traumatic hemorrhage of left cerebrum without loss of consciousness, initial encounter
S06.350D	Traumatic hemorrhage of left cerebrum without loss of consciousness, subsequent encounter
S06.351A	Traumatic hemorrhage of left cerebrum with loss of consciousness of 30 minutes or less, initial encounter
S06.351D	Traumatic hemorrhage of left cerebrum with loss of consciousness of 30 minutes or less, subsequent encounter
S06.352A	Traumatic hemorrhage of left cerebrum with loss of consciousness of 31 minutes to 59 minutes, initial encounter
S06.352D	Traumatic hemorrhage of left cerebrum with loss of consciousness of 31 minutes to 59 minutes, subsequent encounter
S06.353A	Traumatic hemorrhage of left cerebrum with loss of consciousness of 1 hours to 5 hours 59 minutes, initial encounter
S06.353D	Traumatic hemorrhage of left cerebrum with loss of consciousness of 1 hours to 5 hours 59 minutes, subsequent encounter
S06.354A	Traumatic hemorrhage of left cerebrum with loss of consciousness of 6 hours to 24 hours, initial encounter
S06.354D	Traumatic hemorrhage of left cerebrum with loss of consciousness of 6 hours to 24 hours, subsequent encounter
S06.355A	Traumatic hemorrhage of left cerebrum with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter
S06.355D	Traumatic hemorrhage of left cerebrum with loss of consciousness greater than 24 hours with return to pre-existing conscious level, subsequent encounter
S06.356A	Traumatic hemorrhage of left cerebrum with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter
S06.356D	Traumatic hemorrhage of left cerebrum with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, subsequent encounter
S06.359A	Traumatic hemorrhage of left cerebrum with loss of consciousness of unspecified duration, initial encounter
S06.359D	Traumatic hemorrhage of left cerebrum with loss of consciousness of unspecified duration, subsequent encounter
S06.360A	Traumatic hemorrhage of cerebrum, unspecified, without loss of consciousness, initial encounter
S06.360D	Traumatic hemorrhage of cerebrum, unspecified, without loss of consciousness, subsequent encounter

ICD-10-CM Diagnosis Codes	Description
S06.361A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 30 minutes or less, initial encounter
S06.361D	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 30 minutes or less, subsequent encounter
S06.362A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 31 minutes to 59 minutes, initial encounter
S06.362D	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 31 minutes to 59 minutes, subsequent encounter
S06.363A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 1 hours to 5 hours 59 minutes, initial encounter
S06.363D	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 1 hours to 5 hours 59 minutes, subsequent encounter
S06.364A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 6 hours to 24 hours, initial encounter
S06.364D	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of 6 hours to 24 hours, subsequent encounter
S06.365A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter
S06.365D	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness greater than 24 hours with return to pre-existing conscious level, subsequent encounter
S06.366A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter
S06.366D	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, subsequent encounter
S06.369A	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of unspecified duration, initial encounter
S06.369D	Traumatic hemorrhage of cerebrum, unspecified, with loss of consciousness of unspecified duration, subsequent encounter
S06.5X0A	Traumatic subdural hemorrhage without loss of consciousness, initial encounter
S06.5X0D	Traumatic subdural hemorrhage without loss of consciousness, subsequent encounter
S06.5X1A	Traumatic subdural hemorrhage with loss of consciousness of 30 minutes or less, initial encounter
S06.5X1D	Traumatic subdural hemorrhage with loss of consciousness of 30 minutes or less, subsequent encounter
S06.5X2A	Traumatic subdural hemorrhage with loss of consciousness of 31 minutes to 59 minutes, initial encounter
S06.5X2D	Traumatic subdural hemorrhage with loss of consciousness of 31 minutes to 59 minutes, subsequent encounter
S06.5X3A	Traumatic subdural hemorrhage with loss of consciousness of 1 hour to 5 hours 59 minutes, initial encounter
S06.5X3D	Traumatic subdural hemorrhage with loss of consciousness of 1 hour to 5 hours 59 minutes, subsequent encounter

ICD-10-CM Diagnosis Codes	Description
S06.5X4A	Traumatic subdural hemorrhage with loss of consciousness of 6 hours to 24 hours, initial encounter
S06.5X4D	Traumatic subdural hemorrhage with loss of consciousness of 6 hours to 24 hours, subsequent encounter
S06.5X5A	Traumatic subdural hemorrhage with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter
S06.5X5D	Traumatic subdural hemorrhage with loss of consciousness greater than 24 hours with return to pre-existing conscious level, subsequent encounter
S06.5X6A	Traumatic subdural hemorrhage with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter
S06.5X6D	Traumatic subdural hemorrhage with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, subsequent encounter
S06.5X9A	Traumatic subdural hemorrhage with loss of consciousness of unspecified duration, initial encounter
S06.5X9D	Traumatic subdural hemorrhage with loss of consciousness of unspecified duration, subsequent encounter
S06.6X0A	Traumatic subarachnoid hemorrhage without loss of consciousness, initial encounter
S06.6X0D	Traumatic subarachnoid hemorrhage without loss of consciousness, subsequent encounter
S06.6X1A	Traumatic subarachnoid hemorrhage with loss of consciousness of 30 minutes or less, initial encounter
S06.6X1D	Traumatic subarachnoid hemorrhage with loss of consciousness of 30 minutes or less, subsequent encounter
S06.6X2A	Traumatic subarachnoid hemorrhage with loss of consciousness of 31 minutes to 59 minutes, initial encounter
S06.6X2D	Traumatic subarachnoid hemorrhage with loss of consciousness of 31 minutes to 59 minutes, subsequent encounter
S06.6X3A	Traumatic subarachnoid hemorrhage with loss of consciousness of 1 hour to 5 hours 59 minutes, initial encounter
S06.6X3D	Traumatic subarachnoid hemorrhage with loss of consciousness of 1 hour to 5 hours 59 minutes, subsequent encounter
S06.6X4A	Traumatic subarachnoid hemorrhage with loss of consciousness of 6 hours to 24 hours, initial encounter
S06.6X4D	Traumatic subarachnoid hemorrhage with loss of consciousness of 6 hours to 24 hours, subsequent encounter
S06.6X5A	Traumatic subarachnoid hemorrhage with loss of consciousness greater than 24 hours with return to pre-existing conscious level, initial encounter
S06.6X5D	Traumatic subarachnoid hemorrhage with loss of consciousness greater than 24 hours with return to pre-existing conscious level, subsequent encounter
S06.6X6A	Traumatic subarachnoid hemorrhage with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter
S06.6X6D	Traumatic subarachnoid hemorrhage with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, subsequent encounter

ICD-10-CM Diagnosis Codes	Description
S06.6X9A	Traumatic subarachnoid hemorrhage with loss of consciousness of unspecified duration, initial encounter
S06.6X9D	Traumatic subarachnoid hemorrhage with loss of consciousness of unspecified duration, subsequent encounter
S10.93XA	Contusion of unspecified part of neck, initial encounter
S10.93XD	Contusion of unspecified part of neck, subsequent encounter
S11.91XA	Laceration without foreign body of unspecified part of neck, initial encounter
S11.91XD	Laceration without foreign body of unspecified part of neck, subsequent encounter
S15.001A	Unspecified injury of right carotid artery, initial encounter
S15.001D	Unspecified injury of right carotid artery, subsequent encounter
S15.002A	Unspecified injury of left carotid artery, initial encounter
S15.002D	Unspecified injury of left carotid artery, subsequent encounter
S15.011A	Minor laceration of right carotid artery, initial encounter
S15.011D	Minor laceration of right carotid artery, subsequent encounter
S15.012A	Minor laceration of left carotid artery, initial encounter
S15.012D	Minor laceration of left carotid artery, subsequent encounter
S15.021A	Major laceration of right carotid artery, initial encounter
S15.021D	Major laceration of right carotid artery, subsequent encounter
S15.022A	Major laceration of left carotid artery, initial encounter
S15.022D	Major laceration of left carotid artery, subsequent encounter
S15.091A	Other specified injury of right carotid artery, initial encounter
S15.091D	Other specified injury of right carotid artery, subsequent encounter
S15.092A	Other specified injury of left carotid artery, initial encounter
S15.092D	Other specified injury of left carotid artery, subsequent encounter
S15.101A	Unspecified injury of right vertebral artery, initial encounter
S15.101D	Unspecified injury of right vertebral artery, subsequent encounter
S15.102A	Unspecified injury of left vertebral artery, initial encounter
S15.102D	Unspecified injury of left vertebral artery, subsequent encounter
S15.111A	Minor laceration of right vertebral artery, initial encounter
S15.111D	Minor laceration of right vertebral artery, subsequent encounter
S15.112A	Minor laceration of left vertebral artery, initial encounter
S15.112D	Minor laceration of left vertebral artery, subsequent encounter
S15.121A	Major laceration of right vertebral artery, initial encounter
S15.121D	Major laceration of right vertebral artery, subsequent encounter
S15.122A	Major laceration of left vertebral artery, initial encounter
S15.122D	Major laceration of left vertebral artery, subsequent encounter
S15.191A	Other specified injury of right vertebral artery, initial encounter
S15.191D	Other specified injury of right vertebral artery, subsequent encounter
S15.192A	Other specified injury of left vertebral artery, initial encounter
S15.192D	Other specified injury of left vertebral artery, subsequent encounter

ICD-10-CM Diagnosis Codes	Description
T82.01XA	Breakdown (mechanical) of heart valve prosthesis, initial encounter
T82.01XD	Breakdown (mechanical) of heart valve prosthesis, subsequent encounter
T82.02XA	Displacement of heart valve prosthesis, initial encounter
T82.02XD	Displacement of heart valve prosthesis, subsequent encounter
T82.03XA	Leakage of heart valve prosthesis, initial encounter
T82.03XD	Leakage of heart valve prosthesis, subsequent encounter
T82.09XA	Other mechanical complication of heart valve prosthesis, initial encounter
T82.09XD	Other mechanical complication of heart valve prosthesis, subsequent encounter
T82.856A	Stenosis of peripheral vascular stent, initial encounter
T82.856D	Stenosis of peripheral vascular stent, subsequent encounter
T82.857A	Stenosis of other cardiac prosthetic devices, implants and grafts, initial encounter
T82.857D	Stenosis of other cardiac prosthetic devices, implants and grafts, subsequent encounter
T82.867A	Thrombosis due to cardiac prosthetic devices, implants and grafts, initial encounter
T82.867D	Thrombosis due to cardiac prosthetic devices, implants and grafts, subsequent encounter
T82.897A	Other specified complication of cardiac prosthetic devices, implants and grafts, initial encounter
T82.897D	Other specified complication of cardiac prosthetic devices, implants and grafts, subsequent encounter
T82.9XXA	Unspecified complication of cardiac and vascular prosthetic device, implant and graft, initial encounter
T82.9XXD	Unspecified complication of cardiac and vascular prosthetic device, implant and graft, subsequent encounter
Z01.810	Encounter for preprocedural cardiovascular examination
Z48.812	Encounter for surgical aftercare following surgery on the circulatory system
Z86.73	Personal history of transient ischemic attack (TIA), and cerebral infarction without residual deficits
Z86.74	Personal history of sudden cardiac arrest
Z92.3	Personal history of irradiation
Z94.1	Heart transplant status
Z95.820	Peripheral vascular angioplasty status with implants and grafts
Z95.828	Presence of other vascular implants and grafts
Z95.9	Presence of cardiac and vascular implant and graft, unspecified

Not Covered or Reimbursable:

ICD-10-CM Diagnosis Codes	Description
	All other codes

General Background

The brain is supplied by four vessels – the right and left internal carotid and vertebral arteries – and receives 15% of the cardiac output. The term extracranial cerebral arteries refers to all the arteries that carry blood from the heart up to the base of the skull. The left and right sides of the extracranial circulation are not symmetrical.

Duplex ultrasound modalities combine 2-dimensional real-time imaging with Doppler flow analysis to evaluate vessels of interest (typically the cervical portions of the common, internal, and external carotid arteries) and measure blood flow velocity. The method does not directly measure the diameter of the artery or stenotic lesion. Instead, blood flow velocity is used as an indicator of the severity of stenosis. Although results vary greatly between laboratories and operators, the sensitivity and specificity for detection or exclusion of >70% stenosis of the internal carotid artery are 85% to 90% compared with conventional angiography (Brott, 2011).

The Coverage Criteria in this Medical Coverage Policy are primarily based on recommendations from published practice parameters, recommendations and professional society/organization consensus guidelines. Duplex scanning of the carotid arteries to evaluate for stenosis is recommended when an individual has symptoms that may suggest blockage. Screening for carotid artery stenosis by duplex scan is not clinically useful for an individual without symptoms indicating a possible blockage.

Professional Societies/Organizations

U.S. Preventive Services Task Force (USPSTF)
The USPSTF Final Recommendation Statement on Screening for Asymptomatic Carotid Artery Stenosis (February 02, 2021) states:

Asymptomatic adults	The USPSTF recommends against screening for asymptomatic carotid artery stenosis in the general adult population. See the Practice Considerations section for a description of adults at increased risk.	Grade: D The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits. Discourage the use of this service.

This recommendation is consistent with the 2014 USPSTF recommendation. This is not a change. This recommendation applies to adults without a history of transient ischemic attack, stroke, or other neurologic signs or symptoms referable to the carotid arteries.

American Heart Association/American Stroke Association (AHA/ASA)
The AHA/ASA 2024 Guideline for the Primary Prevention of Stroke Recommendations for Asymptomatic Carotid Artery Stenosis include:

- Screening Intervention - In the asymptomatic population, routine screening for carotid artery stenosis is not recommended to reduce the risk of stroke (Class 3, No benefit; Level of Evidence B-NR*).
- Other Intervention - In patients with ACS >50%, annual carotid duplex ultrasound every 6 to 12 months might be reasonable to assess progression of disease and subsequent increased risk of stroke (Class IIb; Level of Evidence B-NR) (Bushnell, et al., 2024).

The AHA/ASA 2021 Guideline for the Prevention of Stroke in Patients With Stroke and Transient Ischemic Attack (Kleindorfer, et al., 2021) recommends under section 3 - Diagnostic Evaluation for Secondary Stroke Prevention:

- In patients with symptomatic anterior circulation cerebral infarction or TIA who are candidates for revascularization, noninvasive cervical carotid imaging with carotid ultrasonography, CT angiography (CTA), or magnetic resonance angiography (MRA) is recommended to screen for stenosis. (*COR: 1; LOE: B-NR)

  *Class (Strength) of Recommendation, COR)
  Class 1: Strong (is recommended)
  Class 2a: Moderate (Is reasonable)
  Class 2b: Weak (may be reasonable)
  Class 3: No benefit (Moderate)
  Class 3: Harm (Strong)

  Level (Quality) of Evidence (LOE)
  Level A: high quality evidence from more than one RCT
  Level B-R: Moderate quality evidence from one or more RCT
  Level B-NR: Moderate quality evidence from one or more well designed nonrandomized studies
  Level C-LD: Randomized or nonrandomized observation or registry studies
  Level C-EO: expert opinion

The AHA Scientific Statement on Treatment and Outcomes of Cervical Artery Dissection in Adults does not make any graded recommendations. It does state: Ultrasound with color Doppler is noninvasive but is operator dependent and is of poor diagnostic utility, especially when the dissection is high cervical. Ultrasound may be helpful in rare cases with hyperacute dissection where the intramural hematoma can be visualized on ultrasound but not MRA. Ultrasound generally requires confirmation by CTA or MRA. Ultrasound has been shown to be useful for follow-up assessments within the first 4 weeks, when arterial remodeling is most prevalent (Yaghi, et al., 2024).

American College of Cardiology Foundation (ACCF)
The ASA/ACCF/ASA and numerous other organizations published joint consensus guidelines regarding the management of extracranial carotid and vertebral artery disease (Brott, et al., 2011):

- In asymptomatic patients with known or suspected carotid stenosis, duplex ultrasonography, performed by a qualified technologist in a certified laboratory, is recommended as the initial diagnostic test to detect hemodynamically significant carotid stenosis. (*Class I, Level of Evidence: C)
- It is reasonable to perform duplex ultrasonography to detect hemodynamically significant carotid stenosis in asymptomatic patients with carotid bruit. (Class IIA, Level of Evidence: C)

- It is reasonable to repeat duplex ultrasonography annually by a qualified technologist in a certified laboratory to assess the progression or regression of disease and response to therapeutic interventions in patients with atherosclerosis who have had stenosis greater than 50% detected previously. Once stability has been established over an extended period or the patient's candidacy for further intervention has changed, longer intervals or termination of surveillance may be appropriate. (Class IIA, Level of Evidence: C)
- Duplex ultrasonography to detect hemodynamically significant carotid stenosis may be considered in asymptomatic patients with symptomatic PAD, coronary artery disease (CAD), or atherosclerotic aortic aneurysm, but because such patients already have an indication for medical therapy to prevent ischemic symptoms, it is unclear whether establishing the additional diagnosis of ECVD in those without carotid bruit would justify actions that affect clinical outcomes. (Class IIb, Level of Evidence: C)
- Duplex ultrasonography might be considered to detect carotid stenosis in asymptomatic patients without clinical evidence of atherosclerosis who have 2 or more of the following risk factors: hypertension, hyperlipidemia, tobacco smoking, a family history in a first-degree relative of atherosclerosis manifested before age 60 years, or a family history of ischemic stroke. However, it is unclear whether establishing a diagnosis of ECVD would justify actions that affect clinical outcomes. (Class IIb, Level of Evidence: C)
- Carotid duplex ultrasonography is not recommended for routine screening of asymptomatic patients who have no clinical manifestations of or risk factors for atherosclerosis. (Class III, Level of Evidence: C)
- Carotid duplex ultrasonography is not recommended for routine evaluation of patients with neurological or psychiatric disorders unrelated to focal cerebral ischemia, such as brain tumors, familial or degenerative cerebral or motor neuron disorders, infectious and inflammatory conditions affecting the brain, psychiatric disorders, or epilepsy. (Class III, Level of Evidence: C)
- Routine serial imaging of the extracranial carotid arteries is not recommended for patients who have no risk factors for development of atherosclerotic carotid disease and no disease evident on initial vascular testing. (Class III, Level of Evidence: C)
- Duplex ultrasonography is recommended to detect carotid stenosis in patients who develop focal neurological symptoms corresponding to the territory supplied by the left or right internal carotid artery. (Class I, Level of Evidence: C)
- Duplex carotid ultrasonography might be considered for patients with nonspecific neurological symptoms when cerebral ischemia is a plausible cause. (Class IIB, Level of Evidence: C)

  *Key: Class I = Procedure should be performed. Class IIa = It is reasonable to perform procedure Class IIb = Procedure may be considered. Class III = No benefit. Level of Evidence: C: Very limited populations evaluated. Only consensus opinion of experts, case studies, or standard of care.

The ACCF/American College of Radiology (ACR) and numerous other organizations published Appropriate Use Criteria for Peripheral Vascular Ultrasound and Physiological Testing (2012). Regarding use of carotid duplex screening ultrasound in an asymptomatic individual the guideline notes that the test is inappropriate for an individual with a low Framingham risk score with no prior risk assessment imaging study or a low or intermediate Framingham risk score with normal prior risk assessment imaging study.

Society for Vascular Surgery
The Society for Vascular Surgery clinical practice guidelines for Management of Extracranial Cerebrovascular disease (AbuRahma, et al., 2022) recommends the following:

4A. Is screening for asymptomatic carotid stenosis recommended for the general population?
4.1. We recommend against routine screening for clinically asymptomatic carotid artery stenosis in individuals without cerebrovascular symptoms or significant risk factors for carotid artery disease. Level of recommendation: grade 1 (strong); quality of evidence: B (moderate).

4B. Is screening for carotid stenosis recommended for high-risk asymptomatic patients?
4.2. In selected asymptomatic patients who are at an increased risk of carotid stenosis, we suggest screening for clinically asymptomatic carotid artery stenosis, especially if patients are willing to consider carotid intervention if significant stenosis is discovered. Level of recommendation: grade 2 (weak); quality of evidence: B (moderate).

4C. What imaging test is best for screening for carotid stenosis in asymptomatic patients?
4.3. In asymptomatic patients who are undergoing screening for carotid artery stenosis, we recommend duplex ultrasound performed in an accredited vascular laboratory as the imaging modality of choice instead of CTA, MRA, or other imaging modalities. Level of recommendation: grade 1 (strong); quality of evidence: B (moderate).

American Institute of Ultrasound in Medicine (AIUM)
The AIUM Practice Parameter for the Performance and Interpretation of Diagnostic Ultrasound of the Thyroid and Extracranial Head and Neck (2023) states that Indications for an ultrasound (US) examination of the thyroid and extracranial head and neck include, but are not limited to:

- Evaluation of abnormalities detected by other imaging examinations, such as thyroid nodules and/or other neck masses that satisfy criteria for a thyroid ultrasound examination that are detected on computed tomography (CT), positron emission tomography (PET), PET/CT, magnetic resonance imaging (MRI), or other ultrasound examinations (eg, carotid duplex).

The AIUM Practice Parameter for the Performance of an Ultrasound Examination of the Extracranial Cerebrovascular System (2022) notes that the following are indications for an ultrasound examination of the carotid and vertebral arteries:

- Evaluation of patients with hemispheric neurologic symptoms, including stroke, transient ischemic attack, and amaurosis fugax
- Evaluation of patients with a cervical bruit
- Evaluation of pulsatile neck masses
- Preoperative evaluation of patients scheduled for major cardiovascular surgical procedures
- Evaluation of nonhemispheric or unexplained neurologic symptoms
- Follow-up evaluation of patients with proven carotid disease
- Evaluation of postoperative or post interventional patients after cerebrovascular revascularization, including carotid endarterectomy, stenting, or carotid-to-subclavian artery bypass graft
- Intraoperative monitoring of vascular surgery
- Evaluation of suspected subclavian steal syndrome
- Evaluation for suspected carotid artery dissection, arteriovenous fistula, or pseudoaneurysm
- Evaluation of patients with carotid reconstruction after extracorporeal membrane oxygenation
  bypass
- Evaluation of patients with syncope, seizures, or dizziness

- Screening high-risk patients: atherosclerosis elsewhere, history of head and neck radiation, known fibromuscular dysplasia (FMD), Takayasu arteritis, or other vasculopathy in another circulation
- Neck trauma
- Hollenhorst plaque visualized on retinal examination

Health Equity Considerations

Health equity is the highest level of health for all people; health inequity is the avoidable difference in health status or distribution of health resources due to the social conditions in which people are born, grow, live, work, and age.

Social determinants of health are the conditions in the environment that affect a wide range of health, functioning, and quality of life outcomes and risks. Examples include safe housing, transportation, and neighborhoods; racism, discrimination and violence; education, job opportunities and income; access to nutritious foods and physical activity opportunities; access to clean air and water; and language and literacy skills.

Medicare Coverage Determinations

	Contractor	Determination Name/Number	Revision Effective Date
NCD	National	Noninvasive Tests of Carotid Function (20.17)	Nov 15, 1980
LCD		Numerous	

Note: Please review the current Medicare Policy for the most up-to-date information.
(NCD = National Coverage Determination; LCD = Local Coverage Determination)

References

1. AbuRahma AF, Avgerinos ED, Chang RW, Darling RC 3rd, Duncan AA, et al. Society for Vascular Surgery clinical practice guidelines for management of extracranial cerebrovascular disease. J Vasc Surg. 2022 Jan;75(1S):4S-22S.

2. AIUM Practice Parameter for the Performance and Interpretation of Diagnostic Ultrasound of the Thyroid and Extracranial Head and Neck. J Ultrasound Med. 2023 Sep;42(9):E55-E62.

3. AIUM Practice Parameter for the Performance of an Ultrasound Examination of the Extracranial Cerebrovascular System. J Ultrasound Med. 2022 Apr;41(4):E21-E27.

4. American Academy of Neurology. Practice Guidelines. Accessed April 2025. Available at URL address: https://www.aan.com/practice/guidelines

5. American College of Cardiology Foundation (ACCF); American College of Radiology (ACR); American Institute of Ultrasound in Medicine (AIUM); American Society of Echocardiography (ASE); American Society of Nephrology (ASN); Intersocietal Commission for the Accreditation of Vascular Laboratories (ICAVL); Society for Cardiovascular Angiography and Interventions (SCAI); Society of Cardiovascular Computed Tomography (SCCT); Society for Interventional Radiology (SIR); Society for Vascular Medicine (SVM); Society for Vascular Surgery (SVS), Mohler ER 3rd, et al. ACCF/ACR/AIUM/ASE/ASN/ICAVL/SCAI/SCCT/SIR/SVM/SVS/SVU [corrected] 2012

appropriate use criteria for peripheral vascular ultrasound and physiological testing part I: arterial ultrasound and physiological testing: a report of the American College of Cardiology Foundation appropriate use criteria task force, American College of Radiology, American Institute of Ultrasound in Medicine, American Society of Echocardiography, American Society of Nephrology, Intersocietal Commission for the Accreditation of Vascular Laboratories, Society for Cardiovascular Angiography and Interventions, Society of Cardiovascular Computed Tomography, Society for Interventional Radiology, Society for Vascular Medicine, Society for Vascular Surgery, [corrected] and Society for Vascular Ultrasound. [corrected]. J Am Coll Cardiol. 2012 Jul 17;60(3):242-76. Accessed April 2025. Available at URL address: https://www.jacc.org/guidelines/appropriate-use-criteria

6. American Heart Association, Inc. Guidelines & Statements. Accessed April 2025. Available at URL address: https://professional.heart.org/en/guidelines-and-statements

7. American Institute of Ultrasound in Medicine (AIUM). Accessed April 2025. Available at URL address: https://www.aium.org/resources/practice-parameters

8. Brott TG, American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines, American Stroke Assocation, American Association of Neuroscience Nurse, American Association of Neurological Surgeons, American College of Radiology, American Society of Neuroradiology, Congress of Neurolgocial Surgeons, Society of Atherosclerosis Imaging and Prevention, Society for Cardiovascular Angiography and Interventions, Society of Interventional Radiology, Society of NeuroInterventional Surgery, Society for Vascular Medicine, Society for Vascular Surgery, American Academy of Neurology and Society of Cardiovascular Computed Tomography, et al. 2011 ASA/ACCF/AHA/AANN/AANS/ACR/ASNR/CNS/SAIP/SCAI/SIR/SNIS/SVM/SVS guideline on the management of patients with extracranial carotid and vertebral artery disease. Stroke. 2011 Aug;42(8):e464-540. Accessed April 2025. Available at URL address: https://www.acc.org/guidelines/hubs/extracranial-carotid-and-vertebral-artery-disease

9. Bushnell C, Kernan WN, Sharrief AZ, Chaturvedi S, Cole JW, et al. 2024 Guideline for the Primary Prevention of Stroke: A Guideline From the American Heart Association/American Stroke Association. Stroke. 2024 Dec;55(12):e344-e424. doi: 10.1161/STR.0000000000000475. Epub 2024 Oct 21. Erratum in: Stroke. 2024 Dec;55(12):e439. doi: 10.1161/STR.0000000000000482. Erratum in: Stroke. 2025 Feb;56(2):e98.

10. Centers for Medicare and Medicaid Services (CMS). Medicare Coverage Database. Accessed April 2025. Available at URL address: https://www.cms.gov/medicare-coverage-database/search.aspx

11. Johri AM, Nambi V, Naqvi TZ, Feinstein SB, Kim ESH, et al. Recommendations for the Assessment of Carotid Arterial Plaque by Ultrasound for the Characterization of Atherosclerosis and Evaluation of Cardiovascular Risk: From the American Society of Echocardiography. J Am Soc Echocardiogr. 2020 Aug;33(8):917-933. Accessed April 2025. Available at URL address: https://www.asecho.org/guidelines-search/

12. Kleindorfer DO, Towfighi A, Chaturvedi S, Cockroft KM, Gutierrez J, et al. 2021 Guideline for the Prevention of Stroke in Patients With Stroke and Transient Ischemic Attack: A Guideline From the American Heart Association/American Stroke Association. Stroke. 2021 Jul;52(7):e364-e467. doi: 10.1161/STR.0000000000000375. Epub 2021 May 24. Erratum in: Stroke. 2021 Jul;52(7):e483-e484.

13. Lal BK, Meschia JF, Brott TG, Jones M, Aronow HD, Lackey A, Howard G. Race Differences in High-Grade Carotid Artery Stenosis. Stroke. 2021 Jun;52(6):2053-2059.

14. Lin PY, Cheng PC, Hsu WL, Lo WC, Hsieh CH, Shueng PW, Liao LJ. Risk of CVD Following Radiotherapy for Head and Neck Cancer: An Updated Systematic Review and Meta-Analysis. Front Oncol. 2022 Jun 1;12:820808.

15. Montorfano MA, Pla F, Vera L, Cardillo O, Nigra SG, Montorfano LM. Point-of-care ultrasound and Doppler ultrasound evaluation of vascular injuries in penetrating and blunt trauma. Crit Ultrasound J. 2017 Dec;9(1):5

16. Radiology Key. Ultrasound assessment of the extracranial cerebral circulation. Accessed May 2025. Available at URL address: https://radiologykey.com/ultrasound-assessment-of-the-extracranial-cerebral-circulation/

17. Schiro B, Hasan M, Bryce Y, Peña C. Intracranial and Extracranial Evaluation. Tech Vasc Interv Radiol. 2022 Dec;25(4):100862.

18. Society for Vascular Surgery. Clinical Practice Guidelines. Accessed April 2025. Available at URL address: https://vascular.org/vascular-specialists/practice-and-quality/clinical-guidelines/clinical-guidelines-and-reporting

19. U.S. Preventive Services Task Force. Final Recommendation Statement. Screening for Asymptomatic Carotid Artery Stenosis. February 02, 2021. Accessed April 2025. Available at URL address: https://uspreventiveservicestaskforce.org/uspstf/recommendation/carotid-artery-stenosis-screening

20. Yaghi S, Engelter S, Del Brutto VJ, Field TS, Jadhav AP, American Heart Association Stroke Council; Council on Cardiovascular and Stroke Nursing; Council on Clinical Cardiology; and Council on Peripheral Vascular Disease et al. Treatment and Outcomes of Cervical Artery Dissection in Adults: A Scientific Statement From the American Heart Association. Stroke. 2024 Mar;55(3):e91-e106.

Revision Details

Type of Revision	Summary of Changes	Date
Focused Review	• No policy statement changes	10/15/2025
Annual Review	• Title change • Added policy statement for neck trauma • Revised policy statement for carotid body tumor	7/15/2025
Annual review	• Revised policy statement	6/15/2024