

02-61000-35

Original Effective Date: 07/15/08

Reviewed: 06/28/18

Revised: 01/01/19

Subject: Endovascular Procedures for Intracranial Arterial Disease (Atherosclerosis and Aneurysms) and Extracranial Vertebral Artery Disease

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DESCRIPTION:

Intracranial Arterial Disease

Intracranial arterial disease includes thromboembolic events, vascular stenoses, and aneurysms. Endovascular techniques have been investigated for treatment of intracranial arterial disease, as an alternative to intravenous tissue plasminogen activator (tPA) and supportive care for acute stenosis and as an alternative to risk factor modification for chronic stenosis. For cerebral aneurysms, stent-assisted coiling and the use of flow-diverting stents have been evaluated as an alternative to endovascular coiling in patients whose anatomy is not amenable to simple coiling.

Cerebrovascular diseases include a range of processes affecting the cerebral vascular system, including arterial thromboembolism, arterial stenosis, and arterial aneurysms, all of which can lead to restrictions in cerebral blood flow due to ischemia or hemorrhage. Endovascular techniques, including endovascular pharmacologic thrombolysis, endovascular mechanical embolectomy; using one of several types of devices, endovascular deployment of several types of stents, and angioplasty with or without stenting, have been investigated for treatment of cerebrovascular diseases.

Several devices for endovascular treatment of intracranial arterial disease have been cleared for marketing by the U.S. Food and Drug Administration (FDA) through the 510(k) process or the humanitarian device exemption (HDE) process.

Extracranial Vertebral Artery Disease

Vertebral artery diseases, including atherosclerotic stenosis, dissections, and aneurysms, can lead to ischemia of the posterior cerebral circulation. Conventional management of extracranial vertebral artery diseases may include medical therapy, including antiplatelet or anticoagulant medications and medications to reduce atherosclerotic disease risk (eg, statins), and/or surgical revascularization. Endovascular therapies have been investigated as an alternative to conventional management.

The management of extracranial vertebral artery aneurysms or dissections is controversial due to uncertainty about the risk of thromboembolic events associated with aneurysms/dissections. Antiplatelet therapy is typically used; surgical repair, which may include vertebral bypass, external carotid autograft, and vertebral artery transposition to the internal carotid artery, or endovascular treatment with stent placement or coil embolization, may also be used. Given the technical difficulties related to surgical access of the extracranial vertebral artery, endovascular therapies have been investigated for extracranial vertebral artery disease. Endovascular therapy may consist of percutaneous transluminal angioplasty (PTA), with or without stent implantation.

POSITION STATEMENT:

Intracranial Arterial Disease

Note: The intracranial arterial disease position statements are not intended to address the use of rescue endovascular therapies, including intra-arterial vasodilator infusion and intracranial percutaneous transluminal angiography, in delayed cerebral ischemia after aneurysmal subarachnoid hemorrhage.

Intracranial stent placement **meets the definition of medical necessity** as part of the endovascular treatment of intracranial aneurysms for members when surgical treatment is not appropriate **AND** standard endovascular techniques do not allow for complete isolation of the aneurysm, (e.g., wide-neck aneurysm of 4 mm or more, or sack-to-neck ratio less than 2:1).

Intracranial flow-diverting stents with FDA approval for the treatment of intracranial aneurysms **meets the definition of medical necessity** as part of the endovascular treatment of intracranial aneurysms that meet anatomic criteria* and are not amenable to surgical treatment or standard endovascular therapy.

*(Flow-diverting stents are indicated for the treatment of large or giant wide-necked intracranial aneurysms, with a size of 10 mm or more and a neck diameter of 4 mm or more, in the internal carotid artery from the petrous to the superior hypophyseal segments.)

The use of endovascular mechanical embolectomy using a device with FDA approval for the treatment of acute ischemic stroke **meets the definition of medical necessity** as part of the treatment of acute ischemic stroke for members who meet **ALL** of the following criteria:

- Have a demonstrated occlusion within the proximal intracranial anterior circulation (intracranial internal carotid artery, or M1 or M2 segments of the middle cerebral artery, or A1 or A2 segments of the anterior cerebral artery); **AND**
- Can receive endovascular mechanical embolectomy within 12 hours of symptom onset **OR** within 24 hours of symptom onset if there is evidence of a mismatch between specific clinical and imaging criteria; **AND**
- Have evidence of substantial and clinically significant neurological deficits (e.g. baseline (post-stroke) National Institutes of Health Stroke Scale (NIHSS) score); **AND**
- Have evidence of salvageable brain tissue in the affected vascular territory (e.g. Alberta Stroke Program Early CT (ASPECTs) score); **AND**

- Have no evidence of intracranial hemorrhage or arterial dissection on CT or MRI imaging.

The use of endovascular mechanical embolectomy for all other indications is considered **experimental or investigational**. The evidence is insufficient to determine the effects of the technology on health outcomes.

Intracranial stent placement is considered **experimental or investigational** in the treatment of intracranial aneurysms except as noted above. The evidence is insufficient to determine the effects of the technology on health outcomes.

Intracranial percutaneous transluminal angioplasty with or without stenting is considered **experimental or investigational** in the treatment of atherosclerotic cerebrovascular disease. The evidence is sufficient to determine qualitatively that the technology is unlikely to improve the net health outcome.

Extracranial Vertebral Artery Disease

Endovascular therapy, including percutaneous transluminal angioplasty with or without stenting, is considered **experimental or investigational** for the management of extracranial vertebral artery disease. The evidence is insufficient to determine the effects of the technology on health outcomes.

BILLING/CODING INFORMATION:

CPT Coding

61630	Balloon angioplasty, intracranial (e.g., atherosclerotic stenosis), percutaneous (Investigational)
61635	Transcatheter placement of intravascular stent(s), intracranial (e.g., atherosclerotic stenosis), including balloon angioplasty, if performed
61640	Balloon dilatation of intracranial vasospasm, percutaneous; initial vessel (Investigational)
61641	Balloon dilatation of intracranial vasospasm, percutaneous; each additional vessel in same vascular territory (List separately in addition to code for primary procedure) (Investigational)
61642	Balloon dilatation of intracranial vasospasm, percutaneous; each additional vessel in different vascular territory (List separately in addition to code for primary procedure) (Investigational)
61645	Percutaneous arterial transluminal mechanical thrombectomy and/or infusion for thrombolysis, intracranial, any method, including diagnostic angiography, fluoroscopic guidance, catheter placement, and intraprocedural pharmacological thrombolytic injection(s)
0075T	Transcatheter placement of extracranial vertebral artery stent(s), including radiologic supervision and interpretation, open or percutaneous; initial vessel (Investigational)

0076T	Transcatheter placement of extracranial vertebral artery stent(s), including radiologic supervision and interpretation, open or percutaneous; each additional vessel (List separately in addition to code for primary procedure) (Investigational)
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ICD-10 Diagnose Codes That Support Medical Necessity for codes 61635, 61645:

I63.00-I63.9	Cerebral infarction due to thrombosis of precerebral arteries
I66.01-I66.9	Occlusion and stenosis of middle cerebral artery
I67.0-I67.9	Other cerebrovascular diseases

REIMBURSEMENT INFORMATION:

Refer to sections entitled **POSITION STATEMENT**.

PROGRAM EXCEPTIONS:

Federal Employee Program (FEP): Follow FEP guidelines.

State Account Organization (SAO): Follow SAO guidelines.

Medicare Advantage products:

The following National Coverage Determination (NCD) was reviewed on the last guideline reviewed date: Percutaneous Transluminal Angioplasty (PTA) (20.7) located at cms.gov.

DEFINITIONS:

Alberta Stroke Program Early CT (ASPECTs) score- <https://www.mdcalc.com/alberta-stroke-program-early-ct-score-aspects>

National Institutes of Health Stroke Scale (NIHSS) score- <https://www.mdcalc.com/nih-stroke-scale-score-nihss>

RELATED GUIDELINES:

None applicable.

OTHER:

None applicable.

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COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the BCBSF Medical Policy & Coverage Committee on 06/28/18.

GUIDELINE UPDATE INFORMATION:

07/15/08	New Medical Coverage Guideline.
09/15/09	Scheduled review; no change in position statement; references updated.
04/15/10	Revision to add rationale for position statement.
09/15/10	Scheduled review; position statement unchanged, references updated.
12/15/11	Reviewed with revision of Position Statement and Coding section; references updated, formatting changes.
08/15/12	Reviewed with no change to Position Statement; references updated.
09/15/13	Scheduled review; position statement unchanged; Program Exceptions section updated; references updated.
08/15/14	Annual review; position statement revised to address endovascular interventions for the treatment of acute ischemic stroke; MCG title revised; references updated.
04/15/15	Revision; position statement, title, description, coding, and references updated; formatting changes.
11/01/15	Revision: ICD-9 Codes deleted.
11/15/15	Revision; position statement, coding, and references updated; formatting changes.
01/01/16	Annual CPT/HCPCS update: codes 61645, 61650, 61651 added.
08/01/17	Revision; Endovascular therapy position statement revised; references updated; formatting changes.
07/15/18	Review; position statements, coding, and references updated.
01/01/19	Annual CPT/HCPCS coding update. Revised codes 61641 & 61642.