CEREBROVASCULAR DISORDERS ICD-9-CM CODING GUIDELINES

FY 2008 MS-DRG		Prior to 10/1/2007 CMS DRG	
061	Acute ischemic stroke with use of thrombolytic agent with MCC	559	Acute ischemic stroke with use of
062	Acute ischemic stroke with use of thrombolytic agent with CC		thrombolytic agent
063	Acute ischemic stroke with use of thrombolytic agent without CC/ MCC		
064	Intracranial hemorrhage or cerebral infarction with MCC	014	Intracranial hemorrhage or cerebral
065	Intracranial hemorrhage or cerebral infarction with CC		Infarction
066	Intracranial Hemorrhage or Cerebral Infarction without CC/MCC		
067	Nonspecific CVA & precerebral occlusion without infarct with MCC	15	Nonspecific CVA & precerebral
068	Nonspecific CVA & precerebral occlusion without infarct without MCC		occlusion without infarct
069	Transient ischemia	524	Transient ischemia

The below listed cerebrovascular disorder guidelines are not inclusive. The coder should refer to the applicable *Coding Clinic* guidelines for additional information. The Centers for Medicare & Medicaid Services considers *Coding Clinic*, published by the American Hospital Association, to be the official source for coding guidelines. Hospitals should follow the *Coding Clinic* guidelines to assure accuracy in ICD-9-CM coding and DRG assignment.

Definition of Principal Diagnosis

The principal diagnosis is that condition established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care.

Two or more diagnoses may equally meet the definition for principal diagnosis. This is in terms of the circumstances of admission, diagnostic work-up and/or therapy provided. Be aware that there is a difference between admitting a patient to treat two conditions and two conditions being present at the time of admission. The principal diagnosis is always the reason for admission.

Documentation to Support Cerebrovascular Disorders

When reviewing a diagnosis of a cerebrovascular disorder, identify the medical record documentation that substantiates the cerebrovascular disorder. This may include:

- Sudden onset of acute severe headache
- Syncope, loss of consciousness, coma or stupor
- Fever, leukocytosis in conjunction with other signs and symptoms
- Vomiting, confusion, obtundation, dizziness in conjunction with other signs and symptoms
- · Lethargy, delirium
- Seizures
- Stiffness in neck
- Sudden onset of a focal neurological deficit
- Sudden increase in intracranial pressure
- Alteration in mental status
- Hypertension
- Hemiparesis
- Motor dysfunction
- Facial weakness, pain, numbness, hypoesthesia
- CT and MRI scans, brain
- Skull x-rays
- Cerebral angiography
- Lumbar puncture
- ECG
- EEG

Ultrasound

CMS DRG 559, Acute ischemic stroke with use of thrombolytic agent,

DRG 559 was added FY 2006. This new DRG includes diagnosis codes 433.x1 and 434.x1 with procedure code 99.10, injection or infusion of thrombolytic agent. These are diagnosis codes included in DRG 14 unless procedure code 99.10 is present.

Coding Guidelines

Aborted cerebrovascular accident (CVA)

A patient presented to the ER with left-sided weakness, numbness and difficulty speaking. Tissue plasma activator (tPA) was administered and patient's symptoms improved. The computerized axial tomography (CT) of head, magnetic resonance imaging (MRI and magnetic resonance angiography (MRA) were all negative for CVA. The physician's diagnosis was aborted CVA. Assign code 434.91, cerebral artery occlusion, with cerebral infarction. The tPA is a thrombolytic agent, effective in treating ischemic stroke caused by blood clots, but is contraindicated for hemorrhagic strokes. CT scan is immediately performed to rule out hemorrhagic stroke. Normally, a non-hemorrhagic stroke would not be seen on a CT scan within the first 48 to 72 hours. (See *Coding Clinic*, first quarter 2007, pages 23 and 24.)

Selection of the correct code assignment for a condition described as averted or aborted depends on whether the condition actually occurred. (See *Coding Clinic*, third quarter 2007, page 12.)

Acute cerebral artery occlusion with infarction/hemiplegia/aphasia

Codes 430 through 437 require the use of additional codes to identify any sequelae. For example: Acute cerebral artery occlusion with infarction with sequelae of hemiplegia and aphasia is coded 434.91, 342.90 and 784.3. (See *Coding Clinic*, fourth quarter 1998, page 87.)

Acute ischemic cerebrovascular accident with expressive aphasia and left-sided weakness

Acute ischemic cerebrovascular accident is coded 434.91, cerebral artery occlusion, unspecified; expressive aphasia is coded 784.3, aphasia; and left-sided weakness is coded 780.79, other malaise and fatigue. (See *Coding Clinic,* fourth quarter 2004, pages 77 and 78.)

Administration of neuroprotective agent

As of 10/1/00, code 99.75, administration of neuroprotective agent, was created. A neuroprotective agent is a product that works directly at the nerve cell to minimize ischemic injury. Thrombolytic and neuroprotective agents are being used to minimize damage from a stroke. Nimotop (nimodipine) is being used to treat ischemic injury resulting from acute subarachnoid hemorrhage. (See *Coding Clinic*, fourth quarter 2000, pages 68 and 69.)

Amaurosis fugax/carotid artery stenosis

Amaurosis fugax is a unilateral temporary blindness that normally results from a transient ischemia due to carotid arterial disease. A patient presents to the hospital with a diagnosis of amaurosis fugax with an underlying cause of carotid artery stenosis. Carotid arteriography confirmed presence of carotid artery stenosis and a carotid endarterectomy was performed. Principal diagnosis code is 433.10, occlusion and stenosis of precerebral arteries, carotid artery, without mention of cerebral infarction. Secondary diagnosis code is 362.43, transient arterial occlusion, for the amaurosis fugax and the procedure codes are 38.12, endarterectomy, other vessels of head and neck and code 88.41, arteriography of cerebral arteries. (See *Coding Clinic*, first quarter 2000, page 16.)

Atherosclerotic plaque with intimal ulceration/carotid arteries

Atherosclerotic plaque with intimal ulcerations is coded 433.10, occlusion and stenosis of precerebral arteries, carotid artery, without mention of cerebral infarction, and 433.30, occlusion

and stenosis of precerebral arteries, multiple and bilateral, without mention of cerebral infarction. (See *Coding Clinic,* first quarter 2006, page 17.) The intimal ulceration is integral to the disease process and would not be coded separately. Also, the ICD-9-CM Alphabetic Index will direct you to category 433. (See *Coding Clinic,* first quarter 2002, pages 10 and 11.)

Bilateral carotid artery stenosis

For bilateral carotid artery stenosis, both code 433.10, occlusion and stenosis of precerebral arteries, carotid artery without mention of cerebral infarction, and code 433.30, occlusion and stenosis of precerebral arteries, multiple and bilateral, without mention of cerebral infarction, may be assigned. Assigning two codes will show the specific artery and the laterality. This revised previous instructions. (See *Coding Clinic*, first quarter 2006, page 17, *Coding Clinic*, second quarter 2002, page 19 and *Coding Clinic*, first quarter 2002, pages 10 and 11.)

Brain stem stroke

Brain stem stroke is coded 434.91, cerebral artery occlusion, unspecified, with cerebral infarction. (See *Coding Clinic*, fourth quarter 2004, pages 77 and 78.)

Code 436, acute, but ill-defined, cerebrovascular disease

Never use code 436 (stroke, CVA) when a more specific code from categories 430-435 is substantiated. (See *Coding Clinic*, fourth quarter 1993, page 27.) Effective 10/01/02, code 436 was included in redefined DRG 015. Effective 10/1/04, stroke and CVA are no longer coded to 436. They were re-indexed to the default code of 434.91. When more definitive information is available, such as the stroke or CVA being embolic (434.11), hemorrhagic (430, 431, 432.0-432.9) or thrombotic (434.01), the more specific code should be assigned. Stroke and CVA will be included in DRG 14. (See *Coding Clinic*, fourth quarter 2006, page 175, *Coding Clinic*, first quarter 2005, page 48 and *Coding Clinic*, fourth quarter 2004, pages 77-78.)

Codes 438/430-437

Prior to 10/1/97, code 438 was not to be used with a current diagnosis from categories 430-437. (See *Coding Clinic*, first quarter 1993, page 27.) After 9/30/97, code 438 was expanded with the use of fourth and fifth digits so that new sequela from a current stroke and residuals from a previous stroke can both be coded. (See *Coding Clinic*, second quarter 2002, page 35; *Coding Clinic*, fourth quarter 1998, pages 39 and 40; and *Coding Clinic*, fourth quarter 1997, pages 35-37.)

Cognitive deficit

A cognitive deficit unrelated to a CVA is coded 294.9, unspecified persistent mental disorders due to conditions classified elsewhere. If the underlying condition is known, it should be sequenced before code 294.9. (See *Coding Clinic*, second quarter 2007, page 5.)

Diabetes/carotid artery stenosis

A type 2 diabetic patient was admitted with carotid artery stenosis. Vascular studies were performed with findings of generalized atherosclerosis and peripheral vascular disease. An endarterectomy was performed. Physician documentation noted the diabetes was contributory to atherosclerosis. Assign code 433.10, occlusion and stenosis of precerebral arteries, carotid artery, without mention of cerebral infarction, as the principal diagnosis and 250.00, diabetes mellitus without mention of complication type 2, as secondary diagnosis. The physician did not indicate a direct causal relationship between the diabetes and the atherosclerosis. Although the diabetes may have contributed to the patient's condition, the patient had other contributory factors (e.g. hypertension, sedentary life-style, etc.). (See *Coding Clinic*, first quarter 2002, pages 7 and 8.)

Dysphagia due to late effect of CVA

Dysphagia due to late effect of CVA, coded 438.82, requires an additional code as of 10/1/2007. Code 787.2, dysphagia, was expanded to create separate codes to identify the distinct phases

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(oral, oropharyngeal, pharyngeal, pharyngoesophageal, other and unspecified) of dysphagia. For example, oropharyngeal dysphagia that is a late effect of CVA is coded 438.82 and 787.22. (See *Coding Clinic*, fourth quarter 2007, pages 91-95.)

Embolic hemorrhagic infarct of the temporal lobe

Embolic hemorrhagic infarct of the temporal lobe is coded 434.11. The hemorrhage is considered a component of the occlusion so code 431, intracerebral hemorrhage, is not used as an additional code. (See *Coding Clinic*, third quarter 1997, page 11.)

Facial weakness/droop

Facial weakness that is due to a late effect of cerebrovascular accident is coded 438.83. Facial weakness that is not due to a late effect of a cerebrovascular disease is coded 781.94, facial weakness. (See *Coding Clinic*, fourth quarter 2003, page 72.)

Fifth digits for categories 433 and 434

For categories 433, occlusion and stenosis of precerebral arteries, and 434, occlusion of cerebral arteries, the fifth digits must modify the fourth digit to which they are applied. A fifth digit of "1" cannot be added to 433.1, occlusion of the right carotid artery, to indicate the patient had a cerebral infarction. The infarction must be in the carotid artery to use the fifth digit of "1." (See *Coding Clinic*, second quarter 1995, page 14 and 15.)

The fifth digit of "1" (with cerebral infarction) is only used for the admission in which the infarction occurs. (See *Coding Clinic*, second quarter 1995, page 16.)

Fifth digits were added to categories 433 and 434 on 10/1/93. These were added to differentiate between occlusions of cerebral and precerebral arteries with and without cerebral infarction. (See *Coding Clinic*, fourth quarter 1993, page 27.)

Hemorrhagic metastasis to brain

A patient is diagnosed with metastatic brain tumor and intracerebral hemorrhage. Assign code 198.3, secondary malignant neoplasm of other specified sites, brain and spinal cord, and 431, intracerebral hemorrhage. (See *Coding Clinic*, third quarter 2007, page 4.)

History of a CVA

When there is a history of a CVA and no residuals are present, use code V12.59 until 10/1/07 when new code V12.54 was created.

When there is a history of a CVA and there are residuals present, use the appropriate codes from category 438.

(See *Coding Clinic*, fourth quarter 2007, page 166, *Coding Clinic*, fourth quarter 2006 page 176, *Coding Clinic*, fourth quarter 1998, pages 88 and 89, and *Coding Clinic*, fourth quarter 1997, page 37.)

Hypertensive cerebrovascular disease

"First assign codes from 430-438, cerebrovascular disease, then the appropriate hypertension code from categories 401-405" unless there is a specific code for the hypertensive condition; i.e., hypertensive encephalopathy, coded 437.2. (See *Coding Clinic*, fourth quarter 2007, page 164, *Coding Clinic*, fourth quarter 2006, page 174 and *Coding Clinic*, third quarter 1990, page 3.)

Intrauterine stroke

A child has a history of an intrauterine stroke, but does not have any residual conditions (neurological deficits) present. Code V12.59, personal history of other diseases of the

circulatory system was assigned until 10/1/2007 when code V12.54, TIA and cerebral infarction without residual deficits, was created. (See *Coding Clinic*, second quarter 2007, page 3.)

Lacunar infarction

An acute lacunar infarction is coded 434.91. (See Coding Clinic, second quarter 1996, page 5.)

Late effects of cerebrovascular disease

There were major modifications to category 438 that became effective for discharges on and after 10/1/97. Category 438, late effects of cerebrovascular disease, was expanded to four or five digit codes. This was done so that specific deficits that are late effects can be identified, as well as a current diagnosis from categories 430-437 and any new sequela. (See *Coding Clinic*, fourth quarter 1997, pages 35, 36, 59 and 60.)

Category 438 is unlike other late effect codes in that it is used as the principal diagnosis and the residual effect is a secondary diagnosis. For example: Contractures of the right and left wrist due to a previous stroke is coded 438.89 and 718.43. (See *Coding Clinic*, fourth quarter 1998, pages 39 and 40.)

A history of a cerebral artery occlusion with infarction with residuals of hemiplegia and aphasia is coded 438.20 and 438.11. (See *Coding Clinic*, fourth quarter 1998, pages 39 and 40.) If this was an admission for an acute cerebral infarction with hemiplegia and aphasia, the correct codes would be 434.91, cerebral artery occlusion, unspecified, with cerebral infarction as the principal diagnosis; plus codes 342.90, hemiplegia, unspecified; and 784.3, aphasia. (See *Coding Clinic*, fourth quarter 2006, pages 175 and 176, and *Coding Clinic*, fourth quarter 1998, page 87.)

A patient was admitted to a skilled nursing facility for intensive physical therapy rehabilitation following hospital treatment for a stroke. Rehabilitation was for severe ataxia and blurry vision due to the stroke. Code V57.1, other physical therapy, is the principal diagnosis. Code secondary diagnoses of blurred vision (438.7, late effects of cerebrovascular disease, disturbances of vision; and 368.8, other specified visual disturbances) and ataxia (438.84, late effects of cerebrovascular disease, ataxia). (See *Coding Clinic*, fourth quarter 2002, page 56.)

Dysphagia due to late effect of CVA, coded 438.82, requires an additional code as of 10/1/2007. Code 787.2, dysphagia, was expanded to create separate codes to identify the distinct phases (oral, oropharyngeal, pharyngeal, pharyngoesophageal, other and unspecified) of dysphagia. For example, oropharyngeal dysphagia that is a late effect of CVA is coded 438.82 and 787.22. (See *Coding Clinic*, fourth quarter 2007, pages 91-95.)

Muscle weakness/CVA

Residual deficit of muscle weakness secondary to late effect of CVA is coded 438.89, other effects of cerebrovascular disease and 728.87, muscle weakness. (See *Coding Clinic*, first quarter 2005, page 13.)

Neurological deficit

Cerebrovascular disease classifiable to codes in the 430-437 series with a fixed or ongoing neurological deficit at the time of discharge from the hospital require an additional code or codes to classify the neurological deficit(s). If no neurological deficits remain at the time of discharge from the hospital, only code the appropriate code from the 420-437 series. (See *Coding Clinic*, March-April 1985, page 7.)

Neuroprotective agent administration

A neuroprotective agent is a product that works directly at the nerve cell to minimize ischemic injury. Effective 10/1/00, a new code 99.75, administration of neuroprotective agent was created. One neuroprotective agent, Nimotop (nimodipine), is used for treating ischemic injury

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resulting from acute subarachnoid hemorrhage. (See *Coding Clinic*, fourth quarter 2000, pages 68 and 69.)

Postoperative cerebral vascular accident (CVA)

A cerebrovascular hemorrhage or infarction that occurs as a result of medical intervention is coded 997.02, iatrogenic cerebrovascular infarction or hemorrhage. Documentation must specify cause and effect relationship between the medical intervention and the CVA. Use a secondary diagnosis code to identify type of hemorrhage or infarct. (A code from 430-432 or subcategories 433 or 434 with a fifth digit of "1.") Code 436, acute, but ill-defined, cerebrovascular disease, should not be used as a secondary code with code 997.02. (See *Coding Clinic,* fourth quarter 2007, page 166, and *ICD-9-CM Official Guidelines for Coding and Reporting*, effective 12/1/05, page 26.)

Postoperative stroke

Postoperative stroke is coded 997.02, iatrogenic cerebrovascular infarction or hemorrhage. Use an additional code to specify the type of stroke/cerebrovascular accident. (See *Coding Clinic*, second quarter 2004, pages 8 and 9.)

Reversible ischemic neurologic deficit (RIND)

The coding of RIND depends on the context in which it is used. (See *Coding Clinic*, March-April 1985, pages 6 and 7 for information regarding RIND.)

Stroke/CVA

Stroke and CVA are no longer coded to 436 effective 10/1/04. They were re-indexed to the default code of 434.91. When more definitive information is available, such as the stroke or CVA being embolic (434.11), hemorrhagic (430, 431, 432.0-432.9) or thrombotic (434.01), the more specific code should be assigned. (See *Coding Clinic*, fourth quarter 2004, pages 77-78.)

Terson's syndrome

Two codes are required to code Terson's syndrome; code 379.23, vitreous hemorrhage, and a code for the subarachnoid hemorrhage, either 430 if it is nontraumatic, or if it is traumatic use code 852.0x or 852.1x, depending on whether or not there is an open intracranial wound. (See *Coding Clinic*, third quarter 1991, pages 15 and 16.)

Procedures

Injection/infusion thrombolytic agent

Injection or infusion of a thrombolytic agent (e.g. alteplase, streptokinase, tissue plasminogen activator, etc.) is coded 99.10. Prior to 10/1/98, this was coded 99.29, injection or infusion of other therapeutic or prophylactic substance. (See *Coding Clinic*, fourth quarter 1998, pages 83-85.)

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