Cerebrovascular accident (CVA)

Clinical overview

Definition

A cerebrovascular accident (CVA), also known as a stroke, is an interruption or disruption of blood flow to the brain. When blood flow to an area of the brain stops, oxygen and nutrients cannot get to that area of the brain, and brain cells begin to die, resulting in permanent damage.[1]

Types[1]

- **Ischemic:** This type is usually caused by a blood clot that blocks an artery (or in rare instances a vein) that supplies oxygen-rich blood to the brain.
  - **Thrombotic stroke:** A blood clot forms inside an artery that supplies blood to the brain, blocking blood flow.
  - **Embolic stroke:** A blood clot or plaque debris that forms in a vessel in another part of the body and then travels to and blocks a blood vessel in the brain.
  - **Other types of ischemic stroke** include very low blood pressure or narrowing or tears in the lining of one of the blood vessels that carry blood to the brain (e.g., carotid arteries), all of which decrease blood flow to the brain.
- **Hemorrhagic:** A blood vessel within the brain weakens and ruptures, causing bleeding in the brain.
  - **Intracerebral hemorrhage:** Bleeding within the brain.
  - **Subarachnoid hemorrhage:** Bleeding into the subarachnoid space – the space between the brain and the membranes that cover the brain.

Some causes of ischemic CVA[2]

Conditions that can cause blood clots:

- Atherosclerosis, irregular heart rhythms (such as atrial fibrillation), heart valve problems, congenital heart defects or blood-clotting disorders
- Injuries or surgeries to the head and neck, cancer radiation treatments to the neck or brain, or inflammation or other disorders of blood vessels
- Certain drugs/medications

Some causes of hemorrhagic CVA[2]

- Untreated or uncontrolled high blood pressure
- Traumatic injuries or surgeries to the head and neck
- Brain aneurysms, other abnormalities of blood vessels in and around the brain, or brain tumors
- Blood-thinning medications, bleeding disorders or liver disease (associated with increased bleeding)

Risk factors[2]

- Lifestyle risk factors (obesity, alcoholism, smoking)
- Chronic conditions (hypertension, diabetes, high cholesterol, cardiovascular disease)
- Age/Gender (males and people 55 or older)
- Personal or family history of stroke, heart attack or transient ischemic attack

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Signs and symptoms[2]

Sometimes there are no signs or symptoms. Signs or symptoms that may occur include, but are not limited to:

- Unilateral paralysis, weakness or numbness which may cause lack of coordination or balance
- Confusion, difficulty speaking or visual disturbance
- Headache

Complications[2]

Complications depend on the type of stroke, degree of brain damage, the body systems affected and how quickly treatment is received. Complete recovery can occur or there may be permanent residual deficits.

Diagnostic tools[3]

- Medical history, physical and neurological exam
- Laboratory testing (to check clotting factors, blood sugar and other blood chemicals)
- Electrocardiogram, echocardiogram and other cardiac monitoring to check for heart problems
- Imaging tests (ultrasound of the carotid arteries, CT, MRI, MRA and CTA)

Treatment options[3]

An acute stroke represents a medical emergency. Prompt evaluation and treatment are critical to save brain tissue and avoid or reduce complications, residual effects and disability. Treatment depends on the cause and type of stroke and can include:

- For ischemic CVA, clot-busting drugs (must be administered within three hours of the onset of symptoms), blood thinners and carotid artery surgery, if indicated
- For hemorrhagic CVA, surgical intervention, if indicated, to control bleeding
- Pain medications as indicated (e.g., for headache)
- Control and management of underlying causal conditions
- Physical (PT), occupational (OT) and speech therapy (SLP) for residual conditions

Best documentation practices for healthcare providers

Subjective

In the subjective section of the office note, document the presence of current symptoms or manifestations related to cerebrovascular accident (e.g., unilateral paralysis, weakness, numbness, lack of coordination or balance, confusion, difficulty speaking, visual disturbance or headache, etc.) or current residual deficits that are due to a past CVA (e.g., unilateral hemiparesis or hemiparalysis, impaired speech or swallowing, cognitive difficulties, or mood or behavior changes, etc.).

Objective

The objective section should include positive physical exam findings of current CVA or current residual deficits that are due to a past CVA (motor, sensory and cranial nerve function, cognitive testing, results of PT/OT/SLP evaluations, etc.). Include results of related diagnostic testing.

Assessment

Specificity: Describe each final diagnosis to the highest level of specificity. For example:

- Document the type of CVA (ischemic, hemorrhagic, postoperative, etc.), affected artery (e.g., intracerebral, intracranial, subarachnoid) and the cause, if known.
- For related neurologic deficits, specify laterality (right or left, dominant or non-dominant) or type (e.g., dysphagia oral phase, dysphagia pharyngeal phase, neurogenic dysphagia, etc.).
- Document the severity of deficit(s): mild, moderate, or severe

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Associated conditions and manifestations:

- Clearly link associated conditions or manifestations to cerebrovascular accident by using linking terms such as "with," "due to," "secondary to," "associated with," "related to," etc. Examples:
  - Acute ischemic cerebrovascular accident due to bilateral carotid artery atherosclerosis
  - Acute right ischemic cerebral infarction with associated left hemiplegia
  - Facial droop related to past hemorrhagic stroke that occurred six months ago

Current versus historical:

- Do not document a past CVA as if it is current. An acute CVA represents a medical emergency that requires prompt medical treatment.
  - A final diagnosis stated as simply "CVA" indicates a current CVA, which would not correlate with a treatment plan to "follow up in one year."
  - Rather, this documentation suggests the CVA occurred in the past and should have been described as "history of CVA."

- On the other hand, do not use past-tense terms such as "status post," "history of," "recent," "past," "prior," etc., to describe current residual deficits of past CVA.
  - In diagnosis coding, a residual deficit of CVA described as "history of," "status post," etc., indicates a historical condition that no longer exists as a current problem.
  - Contrast these two examples:

"History of CVA with facial weakness"
This documentation supports a historical condition (at some time in the past, the patient had a CVA with associated facial weakness).

"Residual facial weakness due to past CVA"
This documentation supports current facial weakness due to past CVA.

- Codes for residual effects/late effects/sequelae cannot be assigned based on the status of the condition in the past. Rather, code assignment must be based on documentation that clearly shows the residual condition is current. For example:
  - A final diagnosis of "residual left hemiparesis due to CVA one year ago" should be supported by a notation of left hemiparesis in the neurological exam.
  - Documentation of a detailed and completely normal neurologic exam would contradict a diagnosis of current left hemiparesis.

Plan

Document a clear and concise treatment plan for CVA or residual deficits or disability related to past CVA. Examples:

- Admit from emergency department to intensive care unit for acute cerebrovascular accident.
- Referral to ABC provider for physical therapy evaluation and treatment of residual right-sided hemiparesis, due to past CVA.
- Document when the patient will be seen again, even if only on an as-needed basis.

Coding tips

For accurate and specific diagnosis code assignment, review the entire medical record to verify CVA or residual late effect or sequelae of past CVA is current. Next, note the exact description of CVA or residual late effect of past CVA documented in the medical record. Then, in accordance with ICD-10-CM official coding conventions and guidelines:[4]

- Search the alphabetic index main terms and subterms for that specific description.
- Verify the code in the tabular list, carefully following all instructional notes.[5]

Categories	Description	Additional characters specify
I6Ø – I62	Nontraumatic intracranial hemorrhage	▪ Location ▪ Affected artery ▪ Laterality (right vs. left)
I63	Ischemic CVA due to thrombosis or embolus	▪ Cause (thrombosis, embolus or unspecified) ▪ Location/affected artery ▪ Laterality (right vs. left)
I69	Sequelae of CVA	▪ Type of CVA that caused the sequela ▪ Specific sequela (residual late effect) ▪ Laterality (right vs. left) with dominance or nondominance

Current acute CVA

- The terms "stroke," "cerebral infarction" and "cerebrovascular accident" are often used interchangeably. These terms with no other specification or description are all indexed to the default code I63.9, Cerebral infarction, unspecified. Additional code(s) are assigned for any neurologic deficit associated with acute CVA, even when it has been resolved prior to discharge from the hospital.
- An acute CVA represents a medical emergency that requires prompt medical treatment. A final diagnosis of CVA with no supporting information and no related treatment plan does not support CVA as an acute event. Rather, this documentation suggests history of CVA. When there is no opportunity to query the provider for clarification, no diagnosis code can be assigned.
- Intraoperative or post-procedural CVA is coded when the medical record documentation clearly specifies cause-and-effect relationship between the medical intervention and the CVA. Proper code assignment depends on the specific descriptions documented in the record and the coding path in the ICD-10-CM coding manual.[5]

Sequelae of CVA (formerly referred to as "late effects")[5]

Codes from category I69, Sequelae of cerebrovascular disease, include neurologic deficits that persist after the initial episode of care for CVA.

- The neurologic deficits caused by CVA may be present from the onset or may arise at any time after the onset of the CVA.
- After the patient is discharged from the initial episode of care for an acute CVA – even if transferred to a rehabilitation facility – any remaining residual neurologic deficit is considered a sequela/late effect and should be coded from category I69.
- Fourth characters specify the causal conditions as Sequelae of.
- Fifth characters specify the particular neurological deficits.
- Sixth characters specify the laterality and dominant versus non-dominant side.
- Documentation must clearly link the residual deficit, late effect or sequela to the past CVA as the cause.

- In some cases, a patient is admitted with a current acute CVA with associated neurologic deficits, while at the same time having current residual neurologic deficits that result from an old, past or healed CVA. In this scenario, codes may be assigned together from categories I6Ø – I63 and I69 as indicated by the specific documentation in the medical record.
- Unilateral weakness documented as related to past CVA is considered synonymous with hemiparesis and should be coded as such. Likewise, weakness of one extremity noted as related to past CVA is synonymous with monoplegia and should be coded as such.
- Residual weakness (without further description or specification of site) due to past CVA is coded I69.398, Other sequelae of cerebral infarction and R53.1, Weakness.
- Residual *muscle* weakness (without further description or site) related to a past CVA is coded as I69.398 and M62.81, Muscle weakness (generalized).
- The codes under category I69 that specify hemiplegia, hemiparesis and monoplegia also identify whether the dominant or non-dominant side is affected. If the affected side is documented but not specified as dominant or non-dominant, and the classification system does not indicate a default, code selection is as follows:[4]
    - For ambidextrous patients, the default is dominant.
    - If the left side is affected, the default is non-dominant.
    - If the right side is affected, the default is dominant.
- Hemiparesis or hemiplegia documented without further specification or stated to be old or longstanding but of unspecified cause – i.e., no documented link to past CVA as the cause – is coded to category G81. Review and follow all instructional notes under this category.

History of CVA

History of CVA with no current associated residual deficits codes to Z86.73, Personal history of transient ischemic attack (TIA), and cerebral infarction without residual deficits.

Coding examples

Example 1	
Assessment	Embolic stroke involving left vertebral artery with dysphasia
Plan	Admit and request stat neurology consult
ICD-10-CM codes	**I63.112** Cerebral infarction due to embolism of left vertebral artery **R47.Ø2** Dysphasia
Rationale	The plan supports the condition as an acute event. Dysphasia is not coded as a residual effect (sequela) during the initial admission for active care. If dysphasia persists after discharge from the initial admission, it would then be coded as a sequela.

Example 2	
Assessment	CVA
Plan	Continue current medications and return in six months for annual exam
ICD-10-CM code	Query the provider for clarification
Rationale	Documentation suggests the CVA is historical.

Example 3	
Assessment	Admit for acute CVA in patient with old right hemiparesis from past stroke
ICD-10-CM codes	**I63.9** Cerebral infarction, unspecified **I69.351** Hemiplegia and hemiparesis following cerebral infarction affecting right dominant side
Rationale	• Unspecified code **I63.9** is assigned since cerebral infarction is not further specified. • Old hemiparesis from a past stroke (**I69.351**) can be coded along with an acute CVA (**I63.9**) when the record shows both conditions coexist. • Right hemiparesis defaults to dominant side.[4]

Example 4	
Assessment	Receiving home health speech therapy services related to oropharyngeal dysphagia caused by CVA one month ago
ICD-10-CM codes	**I69.391** Dysphagia following cerebral infarction **R13.12** Dysphagia, oropharyngeal phase
Rationale	• Oropharyngeal dysphagia is clearly linked to past CVA as the cause. • The provider documented a timeline for the CVA (one month ago) but did not specify the type of CVA. • The provider appropriately specified the type of dysphagia.

Example 5	
Medical record documentation	Detailed neurological exam - normal. Assessment: Status post CVA with residual left hemiplegia
ICD-10-CM code	Query the provider for clarification
Rationale	• The above statement suggests a historical condition. • There is no mention of left hemiplegia in the physical exam or elsewhere in the medical record. • It is not clear that left hemiplegia due to past CVA is still present, as the neurology exam contradicts the final diagnosis.

Example 6	
Assessment	Residual facial droop from past CVA
ICD-10-CM code	**I69.392** Facial weakness following cerebral infarction
Rationale	Facial droop is documented as a current condition caused by a past CVA.

References

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3. Brown R. Stroke - Diagnosis and Treatment. Mayo Clinic. Published Oct. 1, 2024. https://www.mayoclinic.org/diseases-conditions/stroke/diagnosis-treatment/drc-20350119

4. CMS. *ICD-10-CM Official Guidelines for Coding and Reporting*.; 2024. Accessed Oct. 3, 2024. https://www.cms.gov/files/document/fy-2025-icd-10-cm-coding-guidelines.pdf

5. AAPC. *ICD-10-CM Complete Code Set 2025*. AAPC; 2024.