

Review criteria for hospital utilization for patients with cerebrovascular disease

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In September 1992, the Practice Committee of the American Academy of Neurology approved an ad hoc Task Force on Hospital Utilization for Stroke. The mission of the Task Force was to facilitate the development and evaluation of utilization review screening criteria for hospitalization of patients admitted with cerebrovascular disease. The organization of the Task Force was precipitated by concerns about proposed hospital utilization review criteria developed by the Health Care Financing Administration (HCFA).¹

Hospital utilization criteria development process. From November 1992 to November 1993, members of the Task Force (1) examined evolving HCFA policies and review criteria, (2) completed several questionnaires addressing the appropriateness of hospitalization for individuals with various types of cerebrovascular disease, and (3) attempted to resolve differences of opinion. Areas of agreement were noted and used to identify situations where hospitalization is appropriate or where review is necessary.

In areas of disagreement, no attempt was made to reach consensus, because choosing a collective "answer" would be artificial and potentially misleading. Nevertheless, since a working policy needs to be implemented before all the relevant issues can be settled with well-designed clinical studies, a heuristic approach was adopted. Areas of disagreement about review necessity were considered situations where peer review might be helpful for clarifying admission appropriateness.

Situations where peer review of admission appropriateness is suggested should not be taken to mean that such admissions are necessarily inappropriate. The criteria are intended to identify types of pa-

tients for whom admission to hospital might be judged inappropriate by knowledgeable peer review. Because of this, screening criteria must sacrifice specificity for sensitivity. Many cases referred for review would *not* ultimately be judged inappropriate, but, as with any review, the results will depend on the clinical situation, the documentation provided in the medical record, and the individual reviewers. Furthermore, the proposed criteria are only an initial attempt at developing a sound basis for hospital utilization for stroke; it is expected that these conclusions will be modified by further experience, peer review, and observational and experimental studies. Regardless of whether hospitalization is considered appropriate or possibly inappropriate, patients should be promptly investigated to the extent indicated clinically.

Stroke. In general, patients with a stroke onset of less than 48 hours previously should be admitted to an acute care hospital regardless of age, severity of neurologic deficits, type of stroke (infarction, intracerebral hemorrhage, or subarachnoid hemorrhage), or size and location of lesions on imaging studies. The presence of stroke in such patients should be documented by the neurologic history, findings on neurologic examination, imaging studies, or lumbar puncture, as appropriate.

Circumstances where a physician might reasonably choose *not* to admit selected patients with stroke include the following:

1. Institutionalized individuals with severe pre-existing irreversible disability (eg, untreatable dementia), terminal illnesses (eg, cancer), or profound neurologic deficits (eg, coma);
2. Non-institutionalized individuals with pre-existing irreversible disability or terminal illnesses

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who have adequate supportive services in place;

3. Individuals with profound neurologic deficits and living wills or other legal documents precluding heroic medical care;

4. Patients with mild neurologic deficits (not secondary to ruptured saccular aneurysm) who are identified more than 48 hours after onset of symptoms, who can be evaluated expeditiously as outpatients, and who are unlikely to require surgery, invasive radiologic procedures, or anticoagulation;

5. Patients with mild neurologic deficits, a history and examination consistent with a lacunar stroke syndrome, and a CT that either is normal or shows old lacunar infarcts.

Admission appropriateness should be reviewed if the admission is delayed after onset of symptoms (or if onset is not stated) and none of the following services is provided: a surgical procedure (eg, endarterectomy, percutaneous enteral gastrostomy, etc), care in a special care unit, intravenous fluids or medications (eg, anticoagulants, antihypertensives, anticonvulsants), respiratory therapy, or invasive diagnostic studies (eg, arteriogram).

Transient ischemic attacks. Although some patients with transient ischemic attacks (TIAs) or suspected TIAs can be evaluated and treated as outpatients, patients with the following circumstances should generally be admitted to the hospital:

1. Onset of TIA within the previous 48 hours;
2. Prolonged TIA (symptoms persisting for more than 30 minutes) in the previous 48 hours;
3. Frequent recurrence of TIAs (more than one per day or more than three per week), particularly if the frequency is increasing;

4. Clinical features suggesting high-grade carotid stenosis (70% or greater) in the absence of comorbidities precluding carotid endarterectomy;

5. Clinical features suggesting posterior circulation ischemia with severe occlusive disease in the posterior circulation requiring either anticoagulation, interventional radiologic procedures, or surgery.

Neurologic signs need not be present at the initial evaluation for any of these indications, but a history of transient focal neurologic deficits should be documented.

Admission appropriateness for TIA should be reviewed in the following circumstances:

1. Delayed admission (more than 48 hours) after onset of symptoms without a surgical procedure, intravenous medications, or invasive diagnostic studies;
2. Preexisting comorbidities precluding both surgery and anticoagulation;
3. Recent studies (eg, angiography, carotid ultrasound, and ocular plethysmography) indicating less than severe stenosis of major extracranial and intracranial arteries, including the carotid arteries, middle cerebral arteries, vertebral arteries, and basilar artery.

Asymptomatic cerebrovascular stenosis or occlusion. Virtually all patients with asymptomatic cerebrovascular stenosis or occlusion (ICD-9-CM rubric 433 and normal neurologic examination) should be evaluated and treated as outpatients. Hospitalization may be *considered* if elective carotid endarterectomy is planned for severe or rapidly progressive stenosis or if angiography is performed to evaluate severe carotid stenosis. Admission appropriateness should be reviewed in all cases.

Asymptomatic aneurysm, arteriovenous malformation, or angioma. Patients with asymptomatic cerebral aneurysm, arteriovenous malformation (AVM), or angioma should be admitted to hospital if either surgery or an endovascular radiologic interventional procedure (eg, intra-arterial embolization of an AVM or catheter-directed passage of balloons or other devices into the dome of an aneurysm) is undertaken. Arteriography/angiography can be done on an outpatient basis, but when performed with the intention of following with surgery or other interventional therapy, it should be performed in the hospital.

Admission appropriateness for asymptomatic cerebral aneurysm or AVM should be reviewed in the following circumstances:

1. No surgical procedure, endovascular radiologic interventional procedure, or invasive diagnostic studies are provided;
2. Preexisting comorbidities preclude surgery.

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Reference

1. Lanska DJ. Medicare hospital utilization review for ischemic cerebrovascular disease. *Neurology* 1993;43:650-654.

This statement is provided as an educational service of the American Academy of Neurology. It is based on an assessment of current scientific and clinical information. It is not intended to include all possible proper methods of care for a particular neurologic problem or all legitimate criteria for choosing to use a specific procedure. Neither is it intended to exclude any reasonable alternative methodologies. The AAN recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, based on all the circumstances involved.