

Eligibility criteria for tPA (alteplase)

Inclusion criteria
Clinical diagnosis of ischemic stroke causing measurable neurologic deficit
Onset of symptoms <4.5 hours before beginning treatment; if the exact time of stroke onset is not known, it is defined as the last time the patient was known to be normal
Age ≥18 years
Exclusion criteria
Historical
Significant stroke or head trauma in the previous three months
Previous intracranial hemorrhage
Intracranial neoplasm, arteriovenous malformation, or aneurysm
Recent intracranial or intraspinal surgery
Arterial puncture at a noncompressible site in the previous seven days
Clinical
Symptoms suggestive of subarachnoid hemorrhage
Persistent blood pressure elevation (systolic ≥185 mmHg or diastolic ≥110 mmHg)
Serum glucose <50 mg/dL (<2.8 mmol/L)
Active internal bleeding
Acute bleeding diathesis, including but not limited to conditions defined in 'Hematologic'
Hematologic
Platelet count <100,000/mm ³ *
Current anticoagulant use with an INR >1.7 or PT >15 seconds*
Heparin use within 48 hours and an abnormally elevated aPTT*
Current use of a direct thrombin inhibitor or direct factor Xa inhibitor with evidence of anticoagulant effect by laboratory tests such as aPTT, INR, ECT, TT, or appropriate factor Xa activity assays
Head CT scan
Evidence of hemorrhage
Extensive regions of obvious hypodensity consistent with irreversible injury
Relative exclusion criteria [¶]
Only minor and isolated neurologic signs
Rapidly improving stroke symptoms
Major surgery or serious trauma in the previous 14 days
Gastrointestinal or urinary tract bleeding in the previous 21 days
Myocardial infarction in the previous three months
Seizure at the onset of stroke with postictal neurologic impairments
Pregnancy
Additional relative exclusion criteria for treatment from 3 to 4.5 hours from symptom onset
Age >80 years
Oral anticoagulant use regardless of INR
Severe stroke (NIHSS score >25)
Combination of both previous ischemic stroke and diabetes mellitus

aPTT: activated partial thromboplastin time; ECT: ecarin clotting time; INR: international normalized ratio; PT: prothrombin time; NIHSS: National Institutes of Health Stroke Scale; TT: thrombin time.

* Although it is desirable to know the results of these tests, thrombolytic therapy should not be delayed while results are pending unless (1) there is clinical suspicion of a bleeding abnormality or thrombocytopenia, (2) the patient is currently on or has recently received anticoagulants (eg, heparin, warfarin, a direct thrombin inhibitor, or a direct factor Xa inhibitor), (3) use of anticoagulants is not known. For patients without recent use of oral anticoagulants or heparin, treatment with intravenous tPA can be started before availability of coagulation test results but should be discontinued if the INR, PT, or aPTT exceed the limits stated in the table.

¶¶ The available data suggest that under some circumstances – with careful consideration and weighting of risk-to-benefit – patients may receive fibrinolytic therapy despite one or more relative contraindications. In particular, there is now consensus that patients who have a persistent neurologic deficit that is potentially disabling, despite improvement of any degree, should be treated with tPA in the absence of other contraindications. Any of the following should be considered disabling deficits:

Complete hemianopsia: ≥ 2 on NIHSS question 3, or

Severe aphasia: ≥ 2 on NIHSS question 9, or

Visual or sensory extinction: ≥ 1 on NIHSS question 11, or

Any weakness limiting sustained effort against gravity: ≥ 2 on NIHSS question 5 or 6, or

Any deficits that lead to a total NIHSS > 5 , or

Any remaining deficit considered potentially disabling in the view of the patient and the treating practitioner using clinical judgement.

Adapted from:

Hacke W, Kaste M, Bluhmki E, et al. Thrombolysis with alteplase 3 to 4.5 hours after acute ischemic stroke. *N Engl J Med* 2008; 359:1317.

Del Zoppo GJ, Saver JL, Jauch EC, et al. Expansion of the time window for treatment of acute ischemic stroke with intravenous tissue plasminogen activator. A science advisory from the American Heart Association/American Stroke Association. *Stroke* 2009; 40:2945.

Jauch EC, Saver JL, Adams HP Jr, et al. Guidelines for the early management of patients with acute ischemic stroke: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke* 2013; 44:870.

Re-examining Acute Eligibility for Thrombolysis (TREAT) Task Force., Levine SR, Khatri P, et al. Review, historical context, and clarifications of the NINDS rt-PA stroke trials exclusion criteria: Part 1: rapidly improving stroke symptoms. *Stroke* 2013; 44:2500.

Demaerschalk BM, Kleindorfer DO, Adeoye OM, et al. Scientific rationale for the inclusion and exclusion criteria for intravenous alteplase in acute ischemic stroke: A statement for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke* 2016; 47:581.

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