

**Clinical Practice Statement:  
Tissue Plasminogen Activator (tPA) and Stroke: A Clinical  
Practice Advisory (4/12/10)**

Reviewed and approved by the AAEM Clinical Practice Committee.

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Advisory**

Executive Summary

Alteplase (tPA) is an FDA approved treatment for acute ischemic stroke within three hours of a known time of onset or time last normal; recently the ECASS III trial demonstrated efficacy in selected patients out to 4.5 hours. In addition, this trial provided additional randomized, controlled data which appear to confirm the utility of systemic thrombolysis demonstrated in the earlier NINDS trial. In properly selected patients cared for in ideal circumstances, it is the only current pharmacologic treatment which reduces the disability caused by stroke. (Further details regarding the trial data and science are available below in the Clinical Practice Advisory). The efficacy of this treatment, however, outside of settings such as academic medical centers and primary stroke centers is not well established.

In addition, emergency physicians assessing potential stroke patients without the benefit of the added resources of an acute stroke team is suboptimal and very difficult. Acute stroke care requires an institutional response from neurology, radiology, nursing, intensivists, and admitting physicians. With the proper support, emergency physicians are capable of making decisions to offer or

withhold thrombolytic treatment in the vast majority of stroke presentations. Prompt availability of stroke expertise from a neurologist or other stroke specialist is necessary in some cases and should be available to emergency physicians practicing at hospitals which offer acute treatment.

Each hospital should formulate a plan for timely and safe acute decision making for patients with the potential of having a stroke. Several resources are available to assist the emergency physician in weighing the benefits and risks to facilitate the consent process, although none have been prospectively validated and would not be recommended for routine use. (See links for additional information.)

In summary, we conclude the following:

1. tPA is one treatment option for stroke when given in academic medical centers and prepared stroke centers.
2. Emergency physicians should have necessary resources (i.e., stroke team) to optimally care for suspected stroke patients.
3. Hospitals should formulate a plan for timely care of patient with suspected acute stroke.