

## Measuring Fibrinogen to Shorten Post-Alteplase Administration Window

**Keywords:** Fibrinogen, Stroke, Alteplase, TPA

**Background/Objective:** Alteplase, an FDA-approved thrombolytic treatment for acute ischemic strokes, improves long-term outcomes but poses a risk of symptomatic intracranial hemorrhage (sICH). Common practice based on AHA/ASA guidelines suggests waiting 24 hours after alteplase therapy before initiating antiplatelet/anticoagulation therapy or further rehabilitation, but this does not consider alteplase's pharmacological properties. Alteplase reduces fibrinogen levels, increasing the risk of bleeding, particularly sICH. Current data indicates an elevated bleeding risk when fibrinogen levels fall below 150 mg/dL. This study aims to assess the safety and efficacy of reducing the post-alteplase wait time from 24 to 8 hours in stroke patients with fibrinogen levels above 150 mg/dL, where the bleeding risk is lower.

**Methods:** This study is a nonrandomized cohort study. A retrospective chart review was conducted to identify control cases for a standard-of-care group to compare to two experimental groups. In the standard of care group, age, gender, and pre-admission NIHSS scores were controlled for. Fibrinogen levels are typically defined as 200 to 400 mg/dL. Endpoints of the study were symptomatic intracranial hemorrhage (sICH) and systemic bleeding complications.

**Results:** Pending further statistical analysis, it is hypothesized that decreasing the post-alteplase rehabilitation window to 8-hours does not pose an increased risk of sICH and bleeding complications.

**Conclusion/Implications:** Fibrinogen may be used as a biomarker to safely reduce the post-alteplase therapeutic window, which has been based on historical clinical practices, to allow for biologically informed treatment strategies.