

Stroke patients receiving better, more timely care

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One in four acute ischemic stroke patients treated with a time-dependent clot-busting drug were quickly transferred from an emergency department or smaller community hospital to a certified stroke center, according to research presented at the American Stroke Association's International Stroke Conference 2015.

This study will also publish simultaneously in the American Heart Association's journal *Stroke*.

Intravenous (IV) tissue-plasminogen activator, or tPA, is a clot-busting drug that restores blood flow to the brain. If administered within three hours of the start of a [stroke](#), tPA may significantly improve a patient's chances of recovery. Even though it is the only FDA-approved treatment for [acute ischemic stroke](#), rates of its administration are low.

"One in four is a very good number, and while we don't know the best target, there may be room for improvement," said Kevin N. Sheth, M.D., lead study author and Chief of Neurocritical Care and Emergency Neurology Division at Yale School of Medicine in New Haven, CT. "We have to understand geographic and community variation in usage of inter-hospital transfer of tPA patients, and why some communities may use it more than other communities. Ultimately, the goal is to have any patient that presents to their initial hospital anywhere in the country be able to receive tPA."

To look at these variations in [stroke care](#), researchers analyzed data on

44,667 ischemic [stroke patients](#) (median age 72; 49 percent women) who received tPA in less than three hours at 1,440 hospitals between 2003 and 2010.

Researchers compared patients who arrived at the hospital, received tPA and were later admitted there to those patients who received tPA at the arriving hospital and then were transferred to a certified stroke center.

Among the one-fourth who were transferred to certified [stroke centers](#) they found:

- Most were younger, more often male, and more often white.
- Transferred patients were more likely to arrive during off-hours (7 a.m.-5 p.m. Monday-Friday).
- Hospitals that accepted transferred patients were bigger with more beds, were more likely to be academic medical centers, have achieved certification as a designated stroke center, and have maintained a higher volume of stroke cases per year.
- Hospitals that accepted transferred stroke patients were more common in the Midwest.

Researchers said their study suggests that more patients are getting the critical medication they need before being transferred to a certified stroke center. When it comes to stroke, 'time is brain,' which means every hour counts in moving a stroke patient to a facility equipped with stroke experts, the proper diagnostic equipment and treatment. Not all facilities have this, particularly smaller community hospitals. Different hospitals vary on how fast stroke patients receive tPA. There's also wide variation in the type of patients who are transferred from smaller community hospitals to designated stroke centers.

Stroke occurs in 795,000 Americans every year and is the fifth-leading cause of death. Since 2003, the American Heart Association's Get With

the Guidelines in-hospital stroke treatment program has promoted consistent compliance with the latest scientific treatment protocols, including the rapid administration of tPA. Inter-hospital transfer may help boost the timely use of tPA and save lives because it means patients received tPA no matter where they went for care before being transferred to a stroke center.

Dr. Sheth said he was surprised intracranial hemorrhage (a bleeding within the skull) was higher among transferred stroke patients, a finding that warrants further study. "We don't know the initial stroke severity for these patients and it's unclear why some patients were chosen to be transferred to a stroke center and others were not, though it's possible the sicker patients were the ones who were transferred to another facility," he said. Why some geographic regions transfer stroke [patients](#) more than others and how can this transfer approach help facilitate increased use of tPA also needs further study, Sheth said.

Provided by American Heart Association

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