

## More neurology residents comfortable using stroke clot-busting drug

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The percentage of graduating neurology residents comfortable treating stroke with a clot-busting drug has increased dramatically over the past 10 years, according to research published in *Stroke: Journal of the American Heart Association*.

In a survey, the number of residents reporting feeling comfortable using tissue plasminogen activator (tPA) increased from 73 percent in 2000 to 94 percent in 2010. Furthermore, 95 percent in 2010 had used tPA compared to 80 percent in the earlier survey. Of the 95 percent who had used tPA, 59 percent reported delivering it at least once without direct faculty supervision.

"This is good news," said Brett Cucchiara, M.D., senior author of the study and an assistant professor of neurology at the Hospital of the University of Pennsylvania, Philadelphia. "It is imperative that neurology residents attain a level of comfort using tPA that will allow them to use the medication effectively in their clinical practice and guide other physicians in its use."

Approved by the U.S. [Food and Drug Administration](#) in 1996, there is evidence that it can reduce stroke disability if administered within 3 to 4.5 hours after symptom onset.

However, less than 10 percent of ischemic stroke patients currently receive tPA treatment, according to previous studies. Some of those reasons include patients arriving too late to the hospital and a lack of physician confidence.

Among other findings in responses from 286 neurology residents in 2010:

- The number of residents observing tPA being administered rose from 88 percent to 99 percent.
- Formal training in the National Institutes of Health stroke scale increased from 65 percent to 93 percent.
- The number reporting their hospital has dedicated stroke teams rose from 84 percent to 93 percent.

Among respondents in 2000, 12 percent had never used or observed treatment with tPA, and 27 percent said they would not have felt comfortable independently using the drug.

Prior experience with tPA was strongly associated with comfort using it, with 96 percent of experienced residents reporting feeling comfortable using the drug versus 60 percent of those who lacked experience. Moreover, nearly all respondents were confident in their ability to identify complications such as bleeding in the brain or subtle changes indicative of early [ischemic stroke](#) on head CT scans.

"Not surprisingly, a strong association exists between residents' personal experience with using tPA and their level of comfort in using tPA independently," said Cucchiara, noting that the degree of autonomy treating stroke patients appears to play a role in residents' confidence.

Among its limitations, the study was a self-assessment and had only a 58 percent response rate. Furthermore, residents with greater interest in stroke care in general, and tPA specifically, might have been more likely to be trusted to use the thrombolytic agent — confounding the observed link between experience and comfort.

"The increase in residents' familiarity, experience and comfort reflects a larger trend in stroke treatment as tPA is increasingly recognized as a critical part of [stroke](#) care," Cucchiara said. "But there are still some hospitals not yet geared up for treatment."

Provided by American Heart Association

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