

Investigational neurostimulation device aims to reduce stroke damage

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(PhysOrg.com) -- Stroke researchers at the Methodist Neurological Institute in Houston are the only ones in Texas to offer a novel device that might extend the acute stroke treatment window from three hours to 24.

The miniature neurostimulator, about the size of a staple, is implanted near the sphenopalatine ganglion, a nerve located in the roof of the patient's mouth, within 24 hours of the onset of [acute ischemic stroke](#). The minimally [invasive procedure](#) takes less than 30 minutes and is performed under [local anesthesia](#).

Pioneered by an Israeli-based company called Brainsgate, a donut-shaped transmitter is placed on the patient's cheek near the implanted device. A steady stream of [electrical stimulation](#) is delivered for several hours a day over a five-day period. The neurostimulator is then removed from the patient's mouth.

“Neurostimulation has been successfully used for years in patients with epilepsy,” said Dr. David Chiu, medical director of the Eddy Scurlock Stroke Center and the study's primary investigator at Methodist. “We know that stimulating the sphenopalatine ganglion can dilate arteries so that more blood flow is delivered to the stroke-affected hemisphere of the brain.”

The trial, called impact-24 (Implant for Augmentation of CBF Trial in a 24 hour window), is a multi-center, randomized, double blind study

taking place over the next two years. Methodist is one of six locations in the United States to offer this feasibility study. If study results are favorable, the [Food and Drug Administration](#) may broaden the trial to include more U.S. patients.

Stroke is the third leading cause of death and the leading cause of long-term adult disability in the United States. Ischemic stroke, or a blood clot to the brain, affects 750,000 Americans each year. The only current FDA-approved treatment is tPA, but the drug must be administered within three hours of symptom onset.

Provided by Methodist Hospital System

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