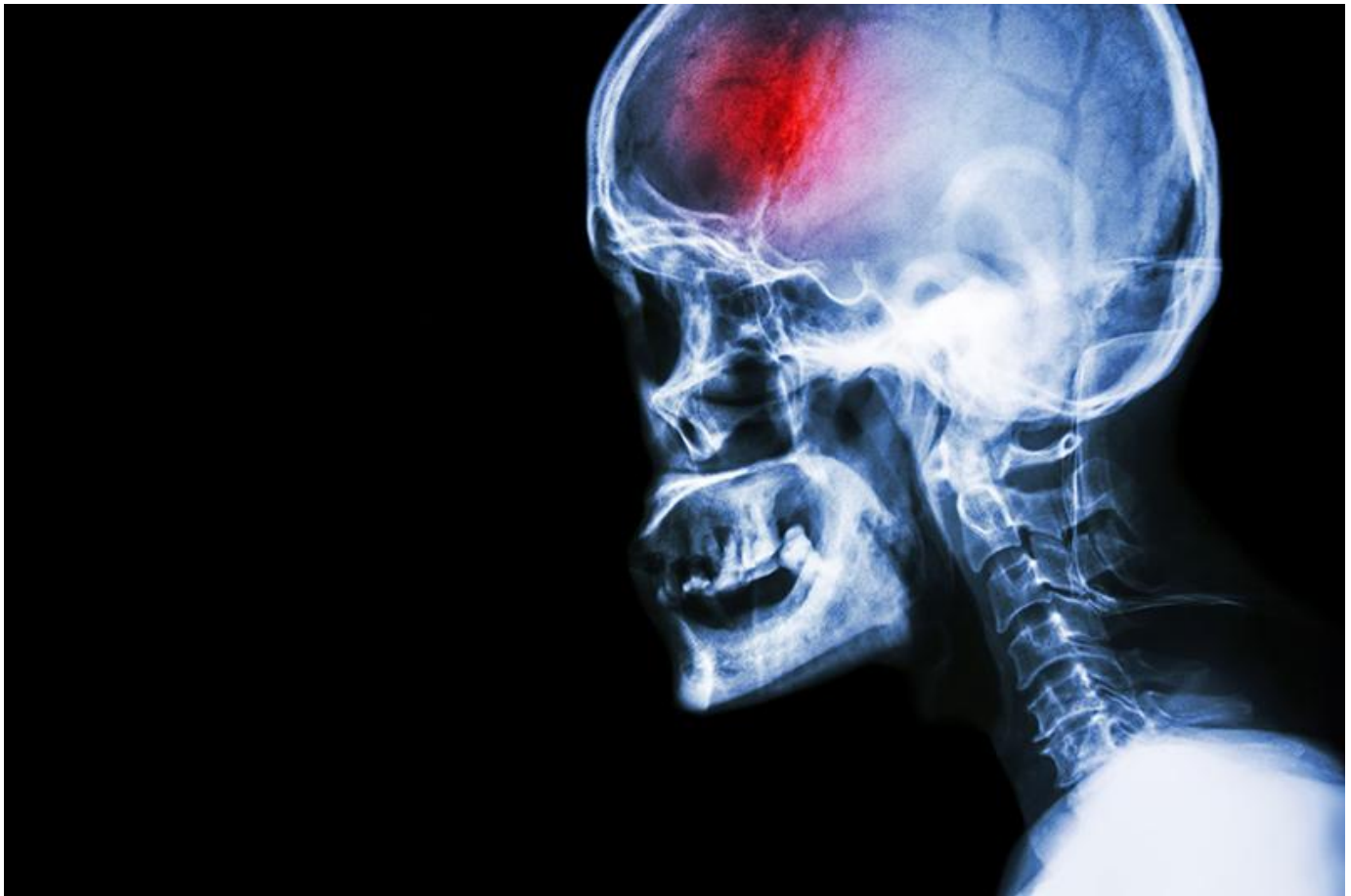# Study could lead to blood test for stroke diagnosis

August 08, 2017 12:00 PM Keith Brannon
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Researchers at Tulane University and Ochsner Medical Center have identified biomarkers in the blood that are a promising target for a potential new test to diagnose a recent ischemic stroke. Photo by Think Stock.

Researchers at Tulane University and Ochsner Medical Center have identified biomarkers in the blood that could one day help doctors diagnose a recent ischemic stroke, according to a study published in the August issue of the journal *Circulation: Cardiovascular Genetics*.

Ischemic strokes, the most common — and deadly — form of stroke, are caused when the contents of plaque in a major artery break away, forming a clot and

blocking blood flow to the brain. Quickly identifying whether a patient has had a stroke is critical as clot-busting treatments must be administered within hours to reverse damage and increase odds of a full recovery. No blood test exists for diagnosing stroke or identifying those who are at greatest risk for imminent stroke due to cardiovascular disease.

Ochsner vascular surgeon [Dr. Hernan Bazan](#) and [Cooper Woods](#), assistant professor of physiology at Tulane University School of Medicine, compared blood levels of non-coding RNAs, molecules that regulate gene expression, in patients who had a stroke within five days to those who either had not had a stroke or had a stroke more than five days prior. They measured microRNA-221, which helps keep plaque from rupturing by promoting the growth of vascular smooth muscle cells, and circular RNA-284, a suspected inhibitor of microRNA-221. The results showed that an elevation in the ratio of circular RNA-284 to microRNA-221 accurately identified those patients with a recent ischemic stroke.

"Our [study](#) offers a promising blueprint for a potential new stroke diagnostic," said Woods, study co-author.

Tools for rapidly measuring RNA in the clinic are being developed, and researchers plan to pair their findings with this emerging technology to develop a point-of-care test, Woods said.

Further studies are planned to determine whether the same non-coding RNA ratio can also predict whether patients are at imminent risk for stroke.

"This work represents an important step towards understanding and predicting carotid-related strokes," said Bazan, associate professor of surgery at Ochsner Health System. "Through ongoing translational research such as this, we are aiming to develop better treatments and work towards preventing these episodes."