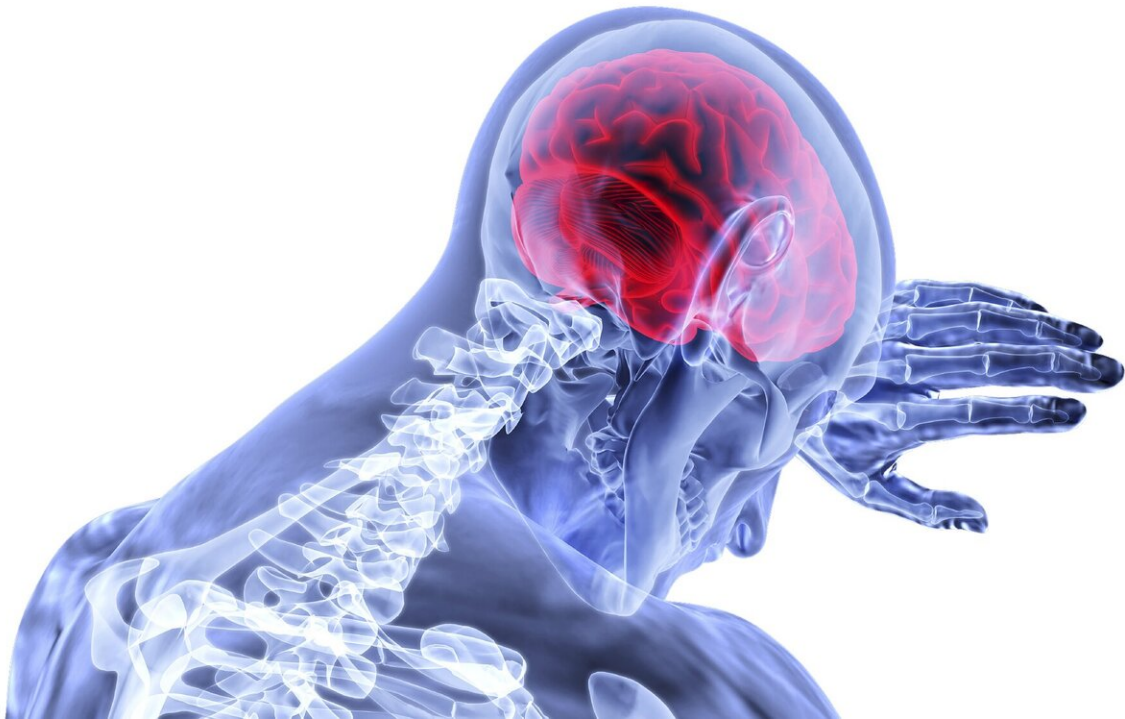


# Study shows blood test can predict functional outcome after ischemic stroke

February 20 2024

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Researchers from from the University of Gothenburg have developed an ultra-sensitive blood test that reflects brain damage after acute ischemic stroke—and also predicts functional outcome. This is a discovery that is expected to be of great significance in the future.

The findings are [described](#) in the journal *Neurology*. The research was conducted by a group of researchers at Sahlgrenska Academy at the University of Gothenburg led by Professors Kaj Blennow and Christina Jern.

Last year, Professor Blennow's research team developed a new blood test to measure a protein, BD-tau (brain-derived tau), which reflects the breakdown of neurons in the central nervous system in Alzheimer's disease. This is a key discovery for a future tool to track and monitor the course of the disease.

The aim of the current study was to investigate whether the same biomarker can also reflect [neuronal injury](#) after [acute ischemic stroke](#)—the most common form of stroke, caused by oxygen deprivation in the brain as a result of a blood clot.

## **Higher BD-tau—more unfavorable outcome**

The researchers found that higher blood levels of BD-tau during the acute phase of ischemic stroke increased the risk of more severe outcomes after three months in the studied group of more than 800 stroke patients.

The results were independent of the two clinical variables that are considered the best predictors of outcome after ischemic stroke—age and stroke severity—according to the established NIH Stroke Scale. The results were also adjusted for sex and day of blood sampling.

The two first authors of the study are Associate Professor Tara Stanne, stroke researcher at the Department of Laboratory Medicine, and Fernando Gonzalez-Ortiz, doctoral student at the Department of Psychiatry and Neurochemistry, and a medical doctor at the Sahlgrenska University Hospital.

## Great potential for clinical implementation in stroke

"There are currently no blood-based biomarkers that accurately reflect acute neuronal injury after stroke, or that can be used to predict clinical outcomes in [stroke patients](#)," says Fernando Gonzalez-Ortiz.

"Our paper is the first report of a blood-based biomarker that is truly specific to acute neuronal injury in the brain in ischemic stroke," adds Tara Stanne. "The results indicate that BD-tau functions as a biomarker for most subgroups of ischemic stroke, meaning that it has great potential for future clinical implementation."

The researchers say that more and larger studies are needed to validate the results, as well as studies with repeated blood sampling in order to identify the optimal day for sampling, following the onset of acute stroke, that can predict the clinical outcome.

**More information:** Tara M. Stanne et al, Association of Plasma Brain-Derived Tau With Functional Outcome After Ischemic Stroke, *Neurology* (2024). [DOI: 10.1212/WNL.0000000000209129](https://doi.org/10.1212/WNL.0000000000209129)

Provided by University of Gothenburg

Citation: Study shows blood test can predict functional outcome after ischemic stroke (2024, February 20) retrieved 28 April 2024 from <https://medicalxpress.com/news/2024-02-blood-functional-outcome-ischemic.html>

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