

Flu, flu-like illnesses linked to increased risk of stroke, neck artery tears

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Flu-like illnesses are linked to an increased risk of stroke and neck artery dissections, according to two preliminary research studies to be presented in Honolulu at the American Stroke Association's International Stroke Conference 2019.

In the first study (abstract 189), researchers found that having a flu-like illness increased the odds of having a [stroke](#) by nearly 40 percent over the next 15 days. This increased risk remained up to one year.

Researchers estimated the odds of hospitalization for ischemic stroke after hospitalization for a flu-like illness. They identified 30,912 patients who suffered an ischemic stroke in 2014 in a review of patient records from the 2012-2014 inpatient and outpatient New York Statewide Planning and Research Cooperative System (SPARCS). Study participants were 49 percent male, 20 percent black, 84 percent urban and average age 71.9 years old.

Researchers compared each patient's "case window—the time preceding stroke—to the time window for a set of control periods using the same dates from the previous two years. The analyses were stratified by urban and rural status based on residential zip code, sex and race.

"We were expecting to see differences in the flu-stroke association between rural and [urban areas](#). Instead we found the association between flu-like illness and stroke was similar between people living in rural and urban areas, as well as for men and women, and among [racial groups](#)," said Amelia K. Boehme, Ph.D., the study's lead author and assistant professor of epidemiology in neurology for Vagelos College of Physicians and Surgeons at Columbia University in New York City.

There are many proposed mechanisms behind the flu-stroke link, but no definitive reason has been described to explain the association. Researchers suspect it could be due to inflammation caused by the

infection.

In a second study (poster WMP49) from the same institution, researchers found an increased risk of tearing neck [arteries](#) within one month of battling a flu-like illness. Non-traumatic cervical artery dissection is a leading cause of [ischemic stroke](#) in patients 15- to 45-years old.

Researchers reviewed 3,861 cases (average age 52 years, 55 percent men) of first non-traumatic cervical artery dissection within the New York State Department of Health Statewide Planning and Research Cooperative System (2006-2014). They found 1,736 instances of flu-like illness and 113 of influenza during the three years preceding cervical artery dissection.

Patients were more likely to suffer a flu-like [illness](#) within 30 days prior to cervical artery dissection compared to the same time one and two years before.

"Our results suggest that the risk of dissection fades over time after the flu. This trend indicates that flu-like illnesses may indeed trigger dissection," said Madeleine Hunter, B.A., the study's lead author and a second-year medical student at Vagelos College of Physicians and Surgeons at Columbia University in New York City.

Hunter said the strength of the research comes from using a dataset collected by the New York State Department of Health, which records diagnoses in non-federal, state-licensed facilities, enabling the researchers to amass a large sample size.

"An important limitation of using an administrative dataset is that we had to rely on billing codes to determine who had cervical artery dissections, influenza and flu-like illnesses. If a diagnosis was not coded

or miscoded, we could not capture it," Hunter said.

Provided by American Heart Association

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