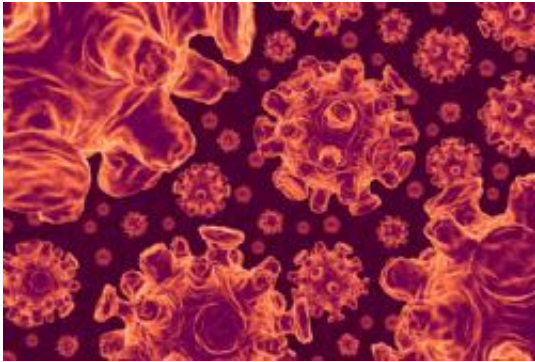


# Seasonal flu vaccine may cut stroke risk

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Influenza virus

(Medical Xpress)—Having the seasonal flu jab could reduce the risk of suffering a stroke by almost a quarter, researchers have found.

Academics from the University of Lincoln and The University of Nottingham in the UK discovered that patients who had been vaccinated against [influenza](#) were 24% less likely to suffer a stroke in the same flu season.

Their findings are reported in the scientific journal *Vaccine*.

In 2010, the same research team showed a similar link between flu vaccination and reduced risk of heart attack.

Lead investigator Professor Niro Siriwardena, who is Professor of

Primary and Pre-hospital Healthcare in the School of Health and Social Care at the University of Lincoln and also a GP and Research Lead with Lincolnshire Community Health Services NHS Trust, said: "The causes of stroke are not fully understood. Classical risk factors like age, smoking and high blood pressure can account for just over half of all cases.

"We know that cardiovascular diseases tend to hit during winter and that the risks may be heightened by respiratory infections such as flu.

"Our study showed a highly significant association between flu vaccination and reduced risk of stroke within the same flu season. The results were consistent with our previous research into heart attack risk."

Dr Zahid Asghar, statistician on the project, supported by Dr Carol Coupland (University of Nottingham) analysed records of more than 47,000 patients who had suffered a stroke or TIA (transient ischaemic attack, or "mini stroke") between 2001 and 2009. Data were drawn from the UK's national General Practice Research Database (now the Clinical Practice Research Datalink). Alongside [flu vaccine](#) take-up, they also looked at take-up of pneumococcal vaccination, which protects against infections like pneumonia.

They found flu vaccination was associated with a 24% reduction in risk of stroke. The reduction was strongest if the vaccination was given early in the flu season. There was no statistically significant change in risk of TIA with flu vaccination. Pneumococcal vaccination did not appear to reduce risks of either stroke or TIA.

The study, called IPVASTIA, used a matched case-control design. Actual cases of stroke were compared against 'control' patients, adjusted for other factors that might explain the differences in risk associated with flu vaccination such as age, existing diseases and treatment history.

This type of analysis is widely used in health research to identify risk factors in large samples, although it cannot prove direct cause-and-effect relationships.

Professor Siriwardena added: "Further experimental studies would be needed to better understand the relationship between flu vaccination and stroke risk. However, these findings reinforce the value of the UK's national flu vaccination programme with [reduced risk](#) of [stroke](#) appearing to be an added health benefit."

In the UK the seasonal flu vaccination is recommended for everyone over 65 years of age and other at-risk groups, such as those with disabilities or chronic illnesses. Take-up of the vaccine across England is lower than national targets at 74% for over-65s in 2011/12 and around 52% for under-65s in at-risk groups.

**More information:** A. Niroshan Siriwardena, Zahid Asghar, Carol C.A. Coupland, "Influenza and pneumococcal vaccination and risk of stroke or transient ischaemic attack—Matched case control study," *Vaccine*, Available online 28 January 2014, ISSN 0264-410X, [dx.doi.org/10.1016/j.vaccine.2014.01.029](https://doi.org/10.1016/j.vaccine.2014.01.029).

Provided by University of Lincoln

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