

Statin drugs reduce infection risk in stroke patients

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A Washington State University researcher has found that statin drugs can dramatically lower the risk of infections in stroke patients.

Doug Weeks, an adjunct professor in the Elson S. Floyd College of Medicine and director of research at St. Luke's Rehabilitation Institute, analyzed the records of more than 1,600 hospitalized patients who suffered an ischemic stroke and found statins reduced the risk of infection by 58 percent. Ischemic strokes are due to blockage of a vessel that supplies blood to the brain. His findings appear online this month in the *Journal of Stroke and Cerebrovascular Diseases*.

"If patients had statins before there was evidence of an infection, there was a [reduced risk](#) that they would actually develop an infection," said Weeks.

Statin drugs are typically used to lower cholesterol levels to reduce the risk of cardiovascular disease. But in the past decade, said Weeks, researchers have noticed that they also have anti-inflammatory properties in humans that can benefit the body's response to infection.

Weeks analyzed data of hospitalized [stroke patients](#) and saw that those on statins upon admission or early in their stay had significantly lower risk for developing infections than those put on statins later in their hospitalization or not at all. Weeks controlled for other possible influences like the severity of strokes, age and the presence of other conditions like diabetes.

He and his colleagues also noticed that the timing of the drug was a major factor.

"The administration of statins relative to infection is critically important," he said. "We've been able to establish that if statins are given early, before infection can occur, the risk of infection is substantially reduced. However, this relationship needs to be tested in more rigorous placebo-controlled studies to see if this benefit with [statins](#) is maintained."

Estimates vary, but one-third to almost one-half of stroke patients develop infections, he said. The infections could be introduced through tubes or catheters. There are also indications that stroke subdues the body's immune system, making a patient more prone to [infection](#).

Weeks' coauthors are Christopher Greer, pharmacy manager at St. Luke's and adjunct faculty in WSU's Department of Pharmacotherapy, and Megan Willson, a pharmacist at Providence Sacred Heart Medical Center and a WSU clinical associate professor of pharmacotherapy.

Their work is in keeping with WSU's Grand Challenges, a suite of research initiatives aimed at large societal issues. It is particularly relevant to the challenge of Sustaining Health and its theme of changing the course of disease.

More information: Douglas L. Weeks et al, Statin Medication Use and Nosocomial Infection Risk in the Acute Phase of Stroke, *Journal of Stroke and Cerebrovascular Diseases* (2016). [DOI: 10.1016/j.jstrokecerebrovasdis.2016.05.033](https://doi.org/10.1016/j.jstrokecerebrovasdis.2016.05.033)

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