

# Cholesterol drugs may improve blood flow after stroke

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(Medical Xpress) -- Cholesterol-lowering drugs known as statins may help clot-busting drugs treat strokes, according to researchers at Washington University School of Medicine in St. Louis.

The research involved 31 patients with ischemic [stroke](#), a disorder when a clot blocks [blood flow](#) to part of the brain. In 12 patients who were already taking statins to control their [cholesterol](#), blood flow returned to the blocked areas of the brain more completely and quickly.

"We've known that patients on statins have better stroke outcomes, but the data in this study suggest a new reason why: Statins may help improve blood flow to brain regions at risk of dying during ischemic stroke," says senior author Jin-Moo Lee, MD, PhD, director of the cerebrovascular disease section in the Department of Neurology. "If that turns out to be the case, we may want to consider adding statins to the clot-busting drugs we normally give to acute stroke patients."

The results appear online in the journal *Stroke*.

The stroke team first established that patients were having an [ischemic stroke](#) and treated them with a clot-busting drug. An MRI scan was performed during treatment with the clot-busting drug and again three hours later to assess the restoration of blood flow to blocked areas.

"To our knowledge, this is the first time someone has looked at the effects of statins on restoration of blood flow using brain tissue-based

measurements instead of looking at the opening of blood vessels," says lead author Andria Ford, MD, assistant professor of neurology. "It's harder to do, but we feel it gives us more accurate measurements."

Within three hours after treatment, blood flow restoration in the 12 patients already on statins averaged 50 percent. In the 19 patients not taking statins, though, the average was 13 percent.

Doctors tested the patients on arrival to the hospital and at one month after their strokes using the National Institutes of Health Stroke Scale, an assessment that evaluates a variety of functions including speech, movement, attention and sensation. Patients taking statins had greater improvements in their scores at the one-month test, an indicator that their strokes were less damaging or that they were recovering more quickly.

Statins already are recognized for having beneficial effects beyond lowering cholesterol, Lee says. These include beneficial effects on the health of cells that line blood vessels and increased production of nitric oxide, a compound that dilates [blood vessels](#). He says a larger study is needed to confirm that statins improve restoration of blood flow after stroke, leading to less disability.

"We don't know yet if this potential effect depends on taking statins every day, or if giving [statins](#) to patients when they have a stroke can have similar benefits," Lee says. "Based on our data, though, these questions are worth looking into."

**More information:** Ford AL, An H, D'Angelo G, Ponisio R, Bushard P, Vo KD, Powers WJ, Lin W, Lee J-M. Preexisting statin use is associated with greater perfusion in hyperacute ischemic stroke. *Stroke*, published online.

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