

Your eyes may hold clues to stroke risk

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Your eyes may be a window to your stroke risk. In a study reported in the American Heart Association journal *Hypertension*, researchers said retinal imaging may someday help assess if you're more likely to develop a stroke—the nation's No. 4 killer and a leading cause of disability.

"The retina provides information on the status of blood vessels in the brain," said Mohammad Kamran Ikram, M.D., Ph.D., lead author of the study and assistant professor in the Singapore Eye Research Institute, the Department of Ophthalmology and Memory Aging & Cognition Centre, at the National University of Singapore. "Retinal imaging is a non-invasive and cheap way of examining the blood vessels of the retina."

Worldwide, high blood pressure is the single most important risk factor for stroke. However, it's still not possible to predict which high blood pressure patients are most likely to develop a stroke.

Researchers tracked stroke occurrence for an average 13 years in 2,907 patients with high blood pressure who had not previously experienced a stroke. At baseline, each had photographs taken of the [retina](#), the light-sensitive layer of cells at the back of the eyeball. Damage to the retinal blood vessels attributed to [hypertension](#)—called hypertensive retinopathy—evident on the photographs was scored as none, mild or moderate/severe.

During the follow-up, 146 participants experienced a stroke caused by a blood clot and 15 by bleeding in the brain.

Researchers adjusted for several stroke risk factors such as age, sex, race, cholesterol levels, blood sugar, body mass index, smoking and blood pressure readings. They found the risk of stroke was 35 percent higher in those with mild hypertensive retinopathy and 137 percent higher in those with moderate or severe hypertensive retinopathy.

Even in patients on medication and achieving good blood pressure control, the risk of a blood clot was 96 percent higher in those with mild hypertensive retinopathy and 198 percent higher in those with moderate or severe hypertensive retinopathy.

"It is too early to recommend changes in clinical practice," Ikram said. "Other studies need to confirm our findings and examine whether [retinal imaging](#) can be useful in providing additional information about [stroke risk](#) in people with high blood pressure."

Provided by American Heart Association

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