

# Stroke Risk: Are Asians and Caucasians Different?

Do the causes of strokes vary between different races? DR SRIRAM NARAYANAN, Senior Consultant Vascular and Endovascular Surgeon at The Harley Street Heart and Vascular Centre, shares his insights.



Stroke can lead to paralysis, loss of independence, mobility challenges and even death. It's the fifth leading cause of death amongst Caucasians and the number one cause in China. Here, in the melting pot of races that is Singapore, it's the fourth leading cause of death, with about four percent of adults over the age of 50 likely to have a stroke.

50, did I say? Yes, indeed; there is a growing trend worldwide for young adults in their forties and fifties to have a stroke. And, perhaps surprisingly, women across the world face a higher risk of stroke compared to men.

## What causes a stroke?

A stroke is the loss of blood supply to a part of the brain from a clot or by a bleed into the brain from a weak blood vessel wall. This leads to that part of the brain tissue dying from being starved of oxygen and nutrients. In about 15 percent of cases, strokes result from clots in the heart due to abnormal heart rhythms (atrial fibrillation) flying off to the brain. And here is where the differences between ethnic groups begin to show.


## The Asian-Caucasian stroke paradox

Narrowing of the arteries that supply blood to the brain with cholesterol deposits tends to occur within the brain in Asians, whereas in Caucasians, it typically happens in the carotid arteries at the neck. These are the sites where the clots form and block the blood flow to the brain. Ultrasound and MRI scans studies also show that the structure of the cholesterol deposits, also called plaques, in the neck carotid arteries is very different between the races. About half of all Caucasians who have a stroke have a "high-risk" plaque structure compared to only 16 percent of the ethnic Chinese patients.

However, vessel wall weakening that leads to the wall ballooning out (brain aneurysms) and bleeding within the brain occurs much more frequently in Asians. An accurate generalisation would be to say that Caucasian strokes are caused more by cholesterol plaques in the neck arteries, whilst Asian strokes are caused more by blockages and bleeding within the brain itself.

## What does this mean for stroke risk and screening?

The best way to treat a stroke is to try preventing it from happening – by screening the circulation and controlling, or even reversing, any underlying conditions. Stroke risk in Caucasians is more easily identified with a neck carotid artery ultrasound scan and minimised by aggressive management of any cholesterol-related problems. Asians, meanwhile, require careful control of blood pressure and diabetes, as well as early identification of aneurysms and narrowing of blood vessels in the brain through a CT or MRI scan.

Ideally, stroke risk screening should assess the neck and brain arteries, cholesterol levels, diabetes and blood pressure as well as identify any abnormal heart rhythms. Early treatment of any identified conditions is crucial. After all, your circulation is your lifeline. 

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