

Better diagnostics could reduce risky surgery for asymptomatic carotid stenosis

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New research from Neurologist Dr. David Spence of The University of Western Ontario has shown that using 3-D ultrasound to identify ulcers in the carotid arteries is an effective way to pinpoint the small number of high-risk patients with asymptomatic carotid stenosis (ACS) who would benefit from surgery to prevent stroke. ACS is a blocking or narrowing of the carotid artery in the neck from which there have been no symptoms such as transient ischemic attacks (TIAs). The research is published in the August 17th online issue of *Neurology*, the medical journal of the American Academy of Neurology.

In the three-year study of ACS patients, Dr. Spence found that if three or more ulcers were found in the carotid arteries using 3D ultrasound, the patient was at high risk of stroke and could benefit from intervention. He compared it to the proven transcranial Doppler which detects pieces of plaque called microemboli breaking off and entering the blood stream, and found both identified those ACS patients most at risk of having a stroke.

[Surgical interventions](#) such as stenting where a stent is threaded from an artery in the groin up to the narrowed [carotid artery](#) and then deployed, and carotid [endarterectomy](#), where the blocked artery is opened and the plaque cleaned out, both carry their own risks and costs. Dr. Spence showed in earlier studies (2005) that 90 per cent of patients with ACS were better off being treated with medical therapy. With more intensive [medical therapy](#), the proportion who could benefit from intervention had declined by 2010 to less than five per cent.

"Now we've developed two ways to identify the few who could benefit from surgery or stenting," says Dr. Spence, a Professor in the Department of Clinical Neurological Sciences at Western's Schulich School of Medicine & Dentistry and a scientist in its Robarts Research Institute. "The

reason it's important is that in the United States 90 to 95 per cent of carotid endarterectomy and [stenting](#) are being done for asymptomatic carotid stenosis even though it's not warranted for the vast majority of them. I hope this study would influence those decisions."

Provided by University of Western Ontario

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