and endarterectomy for symptomatic carotid artery disease. *Stroke* 2000; 31: 1439-1443.
3. Endovascular versus surgical treatment in patients with carotid stenosis in the Carotid and Vertebral Artery Transluminal Angioplasty Study (CAVATAS): a randomised trial. *Lancet* 2001; 357: 1729-1937.
4. North American Symptomatic Carotid Endarterectomy Trial Collaborators. Beneficial effect of carotid endarterectomy in symptomatic patients with high-grade carotid stenosis. *N Engl J Med* 1991; 325: 445-453. ❑

Carotid stenting — current caution

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TO THE EDITOR: Carotid stenting is a new application of endovascular therapy. Its efficacy in preventing strokes is yet to be established, by contrast with the proven Level 1 evidence of benefit from carotid endarterectomy.

The risks of implanting carotid stents at present appear greater than the risks of carotid endarterectomy. An overview of carotid endarterectomies in Australia is maintained by vascular surgeons, through audits such as the ongoing Melbourne Vascular Surgeons Association Audit and the New South Wales Carotid Endarterectomy Audit. The technique of carotid stenting, the stents themselves and the brain-protective devices used during the implanting of stents are expensive and still evolving. The long-term durability of stents is unknown.

Australian vascular surgeons, neuroradiologists and neurologists are awaiting the outcome of two major international randomised trials of carotid stenting versus endarterectomy (the US Carotid Revascularization Endarterectomy versus Stent Trial and the European International Carotid Stenting Study). These seek Level 1 evidence of the comparative risks and success of the new stenting procedures in stroke prevention and aim to document the late outcome of stenting, particularly the incidence of restenosis, which is a significant problem in other arteries after stenting.

While these definitive trials are in progress, vascular surgeons of the Royal Australasian College of Surgeons wish to add their note of caution to the reservations expressed in the NHMRC guidelines on stroke prevention[1] and the recommendations of the Australian Association of Neurologists.[2] A recent commentary by Spence and Eliasziw[3] illustrates the disparate nature and the limitations of existing studies of carotid stenting.

We consider carotid stenting is not yet appropriate for widespread use in Australia. Experienced endovascular and neurology teams should continue to evaluate the new procedure. Stenting of symptomatic carotid atheroma should only be conducted with the consent of patients who are fully informed about stenting's known hazards and unproven status and who understand that the established treatment is carotid endarterectomy.[4] Clinicians should audit closely the immediate outcome and long-term complications of any carotid stenting they perform.

1. National Health and Medical Research Council. Clinical practice guidelines: prevention of stroke. Canberra: AGPS, 1997.
2. Bladin CF, Davis SM, Burton K, et al, on behalf of the Australian Association of Neurologists. The use of percutaneous transluminal angioplasty for the treatment of extracranial atherosclerotic vascular disease. *Aust N Z J Med* 1998; 28: 654-656.
3. Spence D, Eliasziw M. Commentary: endarterectomy or angioplasty for treatment of carotid stenosis? *Lancet* 2001; 357: 1722-1723.
4. Field PL. Stroke-prone patients: focus on carotid surgery and stenting. *Med Today* 2000; October: 34-44. ❑

Content of isoflavone-containing preparations

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TO THE EDITOR: Preparations containing isoflavone phytoestrogens are widely used as an alternative therapy for treating symptoms of the menopause. Although Australian government regulations strictly control the components of alternative therapies, adherence to the stated amounts of the components in alternative therapies is not routinely assessed. Isoflavones exist in two forms — aglycone (the free form) and glycosylated or glycone (the conjugated form) — the relative proportions of which vary between preparations. As glycosylation contributes considerably to the mass of isoflavone molecules, it is relevant to consider the total amount of potentially available isoflavone in alternative therapy preparations.

Isoflavone-containing preparations which had a recommended daily dose on their labels were purchased at random from pharmacies around Sydney during September 1999. Where possible, products from more than one manufacturing batch were purchased and all products were well within their stated shelf life. The tablets, capsules or powder were removed from their packaging to conceal their identity and randomly allocated to numbered plastic bags by the hospital pharmacy department. The samples were then sent to PhytoChem Technologies Inc (Chelmsford, Mass,

Actual and stated isoflavone content of commercially available preparations

Manufacturer	Product	No. of batches assayed	Stated isoflavone content (mg) in recommended daily maximum dose of product	Actual total isoflavone content per daily dose (mg)	Estimated aglycone isoflavone content per daily dose (mg)
Blackmores	Phytolife one a day	5	40	41.02 ± 6.12	25.75 ± 6.04
Bioglan	Soy powder plus	4	68	48.75 ± 1.42	30.44 ± 0.86
Earths Own	Soy + calcium	1	68	42.52	25.67
Health Direction	Femme phase	1	235 mg soy protein*	0.29	0.20
Herron	Phyto source	1	22.5	16.27	9.93
Natural Nutrition	Menopause	1	60	0.56	0.51
Natural Nutrition	Phytobalance	3	90	58.12 ± 6.26	34.96 ± 3.79
Novogen	Promensil	4	40	40.12 ± 1.98	38.38 ± 1.20
Pretorius	Maxi soy plus red clover wild yam and calcium	4	68	50.36 ± 1.64	31.24 ± 1.13
Wagner Probiotics	Femme soy plus with red clover	2	27	30.76 ± 0.12	19.65 ± 0.05

* Soy protein has a high isoflavone content.
Values are the mean ± standard deviation. Total isoflavones = glycone plus aglycone. Estimated available aglycone isoflavones = weight of aglycone isoflavones plus weight of glycone isoflavones corrected for glycone content.