

Five Things Physicians and Patients Should Question

1 Don't perform percutaneous interventions or bypass surgery as first line therapy in patients with asymptomatic peripheral arterial disease (PAD) and in most patients with claudication.

PAD is a marker of a systemic disease and patients with PAD may have atherosclerotic disease in other vascular beds, including the carotid and coronary circulation. Patients with mild to moderate PAD have a higher 5 year risk of stroke, myocardial infarction or cardiovascular death than amputation. Initial therapy should include smoking cessation and risk factor modification, medical therapy and a walking program. Lower extremity bypass surgery and endovascular therapy should be reserved for patients with limb threatening ischemia or truly disabling claudication.

2 Don't perform carotid endarterectomies or stenting in most asymptomatic high risk patients with limited life expectancy.

The purpose of carotid artery surgery and stenting is to prevent stroke and, when combined with appropriate medical therapy, is a successful strategy in selected, mainly symptomatic, patients. Medical therapy alone is an effective alternative in many asymptomatic patients and safer in those who are elderly or at high risk for surgery and stenting and don't have the life expectancy to benefit from such a prophylactic procedure.

3 Don't perform open or endovascular repair in most asymptomatic patients with small abdominal aortic aneurysms (<5cm in women, <5.5cm in men).

Repair of asymptomatic abdominal aortic aneurysms is recommended when the risk of rupture exceeds the risk of repair. Randomized controlled trials have failed to show a survival benefit for open or endovascular repair of most small aneurysms. Repair may be considered with specific growth patterns and aneurysm morphology.

4 Don't perform endovascular repair of abdominal aortic aneurysms in most asymptomatic high-risk patients with limited life expectancy.

Repair of asymptomatic abdominal aortic aneurysms is recommended when the risk of rupture exceeds the risk of repair and is performed in patients with sufficient life expectancy to allow them to benefit from such a prophylactic procedure. Most elderly, or medically high risk patients, have insufficient life expectancy and are at higher risk of complications following endovascular repair to warrant intervention.

5 Don't perform unnecessarily frequent ultrasound examinations in asymptomatic patients with small abdominal aortic aneurysms. Aneurysms smaller than 4.5cm in diameter should undergo ultrasound surveillance every 12 months.

Regular ultrasound examination of asymptomatic patients with small abdominal aortic aneurysms is essential to document aneurysm growth and decide when intervention is warranted. The interval between examinations is dictated by the size of the aneurysm and its expected growth rate. Too frequent examinations can cause undue patient anxiety and are not cost effective.

How the list was created

The Canadian Society for Vascular Surgery (CSVS) established its *Choosing Wisely Canada* Top 5 recommendations by canvassing its members for suggestions for investigations or procedures that should not be performed, should be performed rarely or should only be performed under certain circumstances. A subgroup of the CSVS Executive Committee reviewed the membership's suggestions and made a list of five draft recommendations. The CSVS Executive Committee provided feedback and the evidence and literature were reviewed to make sure these recommendations were evidence based. The final list was approved by the CSVS Executive Committee.

Sources

- 1** Society for Vascular Surgery Lower Extremity Guidelines Writing Group: Conte MS, Pomposelli FB, Clair DG, Geraghty PJ, McKinsey JF, et al. Society for Vascular Surgery practice guidelines for atherosclerotic occlusive disease of the lower extremities: management of asymptomatic disease and claudication. *J Vasc Surg* 2015;61(3 Suppl):2S-41S.
- 2** Hobson RW, Mackey WC, Ascher E, Murad MH, Calligaro KD, Comerota AJ, et al. Management of atherosclerotic carotid artery disease: clinical practice guidelines of the Society for Vascular Surgery. *J Vasc Surg* 2008;48:480-6.
Voeks JH, Howard G, Roubin GS, Malas MB, Cohen DJ, Sternbergh WC, et al. Age and outcomes after carotid stenting and endarterectomy: the carotid revascularization endarterectomy versus stenting trial. *Stroke* 2011;42(12):3484-90.
Wach MM, Dumont TM, Shakir HJ, Snyder KV, Hopkins LN, Levy EI, et al. Carotid artery stenting in nonagenarians: are there benefits in surgically treating this high risk population? *J Neurointerv Surg* 2015;7(3):182-7.
- 3** Cao P, De Rango P, Verzini F, Parlani G, Romano L, Cieri E, et al. Comparison of surveillance versus aortic endografting for small aneurysm repair (CAESAR): results from a randomised trial. *Eur J Vasc Endovasc Surg* 2011;41(1):13-25.
Lederle FA, Wilson SE, Johnson Gr, Reinke DB, Littooy FN, Acher CW, et al. Immediate repair compared with surveillance of small abdominal aortic aneurysms. *N Engl J Med* 2002;346:1437-44.
Ouriel K, Clair DG, Kent KC, Zarins CK, Positive Impact of Endovascular Options for treating Aneurysms Early (PIVOTAL) Investigators. Endovascular repair compared with surveillance for patients with small abdominal aortic aneurysms. *J Vasc Surg* 2010;51(5):1081-7.
The UK Small Aneurysm Trial Participants. Mortality results for randomized controlled trial of early elective surgery or ultrasonographic surveillance for small abdominal aortic aneurysms. *Lancet* 1998;352:1649-55.
- 4** EVAR Trial Participants. Endovascular aneurysm repair and outcome in patients unfit for open repair of abdominal aortic aneurysm (EVAR trial 2): randomised controlled trial. *Lancet* 2005; 365(9478):2187-92.
- 5** RESCAN Collaborators, Bown MJ, Sweeting MJ, Brown LC, Powell JT, Thompson SG. Surveillance intervals for small abdominal aortic aneurysms: a meta-analysis. *JAMA* 2013;309(8):806-13.
Thompson SG, Brown LC, Sweeting MJ, Bown MJ, Kim LG, Glover MJ, et al. Systematic review and meta-analysis of the growth and rupture rates of small abdominal aortic aneurysms: implications for surveillance intervals and their cost-effectiveness. *Health Technol Assess* 2013;17(41):1-118.

About Choosing Wisely Canada

Choosing Wisely Canada is a campaign to help physicians and patients engage in conversations about unnecessary tests, treatments and procedures, and to help physicians and patients make smart and effective choices to ensure high-quality care.

For more information on *Choosing Wisely Canada* or to see other lists of Five Things Physicians and Patients Should Question, visit www.choosingwiselycanada.org. Join the conversation on Twitter @ChooseWiselyCA.

About The Canadian Society for Vascular Surgery

The Canadian Society for Vascular Surgery (CSVS) is a proud partner of the *Choosing Wisely Canada* campaign. The Canadian Society for Vascular Surgery is dedicated to excellence in the promotion of vascular health for Canadians through education, research, collaboration and advocacy.