

Vascular Health; FACT SHEET**What is Vascular Health?**

Vascular health refers to the condition of the circulatory system (large and small blood vessels) which carries essential nutrients and oxygenated blood throughout the body. A healthy vascular system is characterized by an unimpeded flow of blood within a network of vessels which are lined by healthy cells, are flexible/elastic and devoid of build ups and blockages.

Why is good Vascular Health important?

The vascular system sustains all of the body's organs. If the vessels supplying essential nutrients and oxygenated blood to various parts of the body are diseased, the negative impact on body organs can be wide-spread. Restricted blood flow in the carotid arteries can lead to stroke and in peripheral arteries to problems walking or foot ulcers, gangrene and amputation in advanced cases. An aneurysm in the abdominal aorta can be fatal if missed and not treated early. Two-thirds of those with diabetes die from cardiovascular disease.¹ People with Vascular Cognitive Impairment (VCI) may show dementia symptoms.

With age, blood vessels become stiff and narrow, and maintaining good vascular health even more important to overall well being.

What are the consequences of poor Vascular Health?

Vascular diseases are a leading cause of death in Ontario². Stroke, heart disease, dementia, peripheral vascular disease, certain kidney, lung and eye conditions are all vascular diseases. Poor vascular health may manifest itself as an acute event e.g. stroke, Transient Ischemic Attack (TIA) or a heart attack. Such an event may be superimposed on or followed by a chronic disease process e.g. dementia, diabetes, kidney failure or heart failure.

The economic consequences of poor Vascular Health for Ontarian's include direct and indirect healthcare costs. For example; \$5.5 billion/yr for cardiovascular disease³, \$6.0 billion/yr for dementia^{4,5}, \$4.9 billion/yr for diabetes⁶.

Who is at risk for poor Vascular Health?

40% of adult Canadians can be considered at high risk due to presence of three or more modifiable risk factors or unhealthy behaviours. Half of the adult Canadian population is at medium risk due to presence of one or two modifiable risk factors or unhealthy behaviours⁷. Almost all adults (20+) in Ontario report at least one of five modifiable unhealthy behaviours.

How can we reduce the risk of poor Vascular Health?

There is tremendous potential to reduce the burden of poor vascular health through healthy public policy, supporting Ontarians to make healthy lifestyle changes, and coordinating efforts across the continuum of care in a patient-centred manner.

Adopting five healthy behaviours (non-smoking, regular physical activity, healthy diet, reducing stress, limiting alcohol intake) and reaching optimal levels for four risk factors (healthy cholesterol levels, healthy weight, being non-hypertensive and non-diabetic) can significantly reduce the risk for developing poor vascular health. Reaching optimal levels for just 6-7 of these behaviours and risk factors is associated with an 89% lower incidence of cardiovascular disease, 76% reduction in stroke incidence and 70% reduction in ischemic heart disease mortality⁸.

Vascular diseases and risk factors frequently co-exist and complex care patients may spend significant time "bouncing around from different healthcare providers, into acute care and back into the community with little follow-up or organization to guide their care".⁹ In many cases, efforts to improve population health in Ontario are fragmented, separated into silos by disease, community or risk factor, and poorly linked with primary and specialist care.

93% of Ontarians have a primary care provider¹⁰. Equipping primary care providers to provide optimal, efficient vascular disease prevention and management and enabling patients for self management are key opportunities for improving the vascular health of Ontarians. Working with Local Health Integration Networks there is an opportunity to coordinate efforts of various disease specific initiatives to maximize synergies and create a more efficient and effective system of care. An improved, patient-centred and integrated system would save costs as well as improve services, continuity through transitions, health outcomes and the quality of life for patients and their families.

¹ AHA/ADA Scientific statement. Circulation. 2007; 115: 114-126 and PHAC 2008. National Diabetes Factsheet.

² Statistics Canada, Summary list of mortality causes, 2011. Considering mutually exclusive deaths under cardiovascular diseases, diabetes, renal failure and Alzheimer's.

³ Cardiovascular Health and Services in Ontario: An ICES Atlas Chapter 1: Burden of Cardiac Disease. (Naylor CD, Slaughter P. (eds), 1999, Toronto: ICES

⁴ Rising tide-the impact of dementia on Canadian society; A new way of looking at the impact of dementia in Canada. Alzheimer Society, 2012

⁵ Alzheimer Society Ontario. 10 by 20: Ontario action plan for dementia. 2010. http://www.marep.uwaterloo.ca/PDF/ASO_10by20_printable_03_10.pdf

⁶ Canadian Diabetes Association. The Burden of Diabetes in Ontario. 2009. <http://www.diabetes.ca/documents/about-diabetes/ODCM.pdf>

⁷ Public Health Agency of Canada. Tracking Heart Disease and Stroke in Canada, 2009

⁸ The CANHEART health index: a tool for monitoring the cardiovascular health of the Canadian population. CMAJ 2013. DOI:10.1503/cmaj.131358

⁹ Morra D, Bhatia S, Leblanc K, Meshkat N, Plaza C, Beard L, Wodchis W. *Reconnecting the pieces to optimize care in atrial fibrillation: A White Paper on the management of AF patients in Ontario.* 2011; Toronto: Centre for Innovation in Complex Care, University Health Network.

¹⁰ Quality Monitor. 2010 Report on Ontario's Health System. 2010; Toronto: Ontario Health Quality Council.