



**Health Promotion Starts With Us ♥**

## Women and Cardiovascular Disease: Re-visiting Equal Opportunity

### Did you know?

- ◆ Cardiovascular disease causes 30% of deaths in Canadian women (Statistics Canada, 2011). Almost 37,000 Canadian Women die of heart disease or stroke each year making Cardiovascular Disease (CVD) the leading cause of death not only of Canadian women, but women worldwide. The average age of disease development is 70 for women and 60 for men. Compared with men, women have a greater prevalence of ischemic heart disease. With life expectancy continuing to increase the burden of CVD on women will continue to increase.
- ◆ Women have smaller hearts with less muscle fiber and narrower coronary arteries than men. Endothelial dysfunction or stenosis causes further narrowing, making women particularly vulnerable. Women commonly experience coronary artery disease with co-morbid conditions such as diabetes, abdominal obesity, lipid metabolism disturbances, psychosocial factors or hypertension.
- ◆ Women may experience the classic or “typical” symptom pattern (similar to men) of crushing chest pain/radiating down left arm; accompanied with nausea/vomiting/dyspnea or diaphoresis (less likely) and if ST segment elevation is seen on a 12 lead ECG, it is usually less pronounced compared to men (65% of MI’s in women are non-ST elevation). Normal (non obstructive) coronary artery disease on angiography occurs in 10% of women presenting with ST-elevation MI’s compared with 6% in men likely due to atherosclerosis-related endothelial dysfunction. Women are more likely to experience plaque erosion with subsequent thrombus formation rather than plaque rupture more likely seen in men.
- ◆ Not uncommonly, women may also experience an “Atypical” pattern of Chest Pain (fleeting/various locations in chest) or Pain in “other” locations such as the neck, back, shoulders, lower teeth/jaw/arms/epigastric or abdominal area and/or may experience other “atypical” symptoms such as extreme fatigue, dyspnea. While both women and men experience “typical” or “atypical” symptoms, the ways in which atypical pain symptoms are described also seem to differ for example “dull ache” or “pressing”.
- ◆ While men and women may experience and describe their symptoms differently, both can experience “typical” or “atypical” symptoms and education for both genders on the full constellation of Acute MI symptoms could assist with reducing delay.
- ◆ Many studies have shown that both women and men delay in seeking treatment for symptoms, however several investigators have demonstrated that women generally delay longer than men. It is speculated that because women tend to be older when experiencing an acute MI, they might be more likely to be widowed and living alone.
- ◆ When age and other health conditions are controlled, a Woman’s risk of dying 30 days post acute myocardial infarction is 16% higher and post stroke, 11% higher than for men. In addition, gender disparity has been reported, with less aggressive testing or in receiving emergency bypass grafting or emergency angioplasty compared with men. With revascularization poorer outcomes are reported post coronary artery bypass surgery or percutaneous coronary intervention, potentially due in part to smaller vessels in women.
- ◆ It has been reported that women are less likely to be referred and treated by a specialist than men. However, when treated by a cardiologist, the risk of dying is reported to be 47% lower.
- ◆ The Heart and Stroke foundation of Canada is funding gender specific research across the country to better understand the differences between women and men. One example is the GENISIS project co-funded by the Canadian Institutes of Health Research and led by Dr. Louise Pilote. This project involves more than 30 Canadian investigators.

- ◆ The Heart and Stroke Foundation is also funding the “Heart Truth Campaign” to assist in increasing public awareness about the truth of heart disease in women across Canada with the emphasis on prevention.
- ◆ In the American Heart Associations' 2011 guideline, CVD Risk in Women was classified as follows (abridged version: see reference below for AHA detailed criteria):

<b>Risk Status</b>	<b>Criteria</b>
<b>High</b> ( $\geq$ 1 high-risk state)	<ul style="list-style-type: none"> <li>• Clinically manifest Coronary heart disease</li> <li>• Clinically manifest Cerebrovascular disease</li> <li>• Clinically manifest Peripheral arterial disease</li> <li>• Abdominal aortic aneurism</li> <li>• End-stage or chronic renal disease</li> <li>• Diabetes mellitus</li> <li>• 10 year predicted CVD risk <math>\geq</math> 10%</li> </ul>
<b>At Risk</b> ( $\geq$ major risk factor [s])	<ul style="list-style-type: none"> <li>• Cigarette Smoking</li> <li>• Poor diet</li> <li>• Physical Inactivity</li> <li>• Obesity especially central adiposity</li> <li>• Family history of premature CVD (&lt; 55 yrs of age in male relative and &lt; 65 yrs in a female relative)</li> <li>• Hypertension</li> <li>• Dyslipidemia</li> <li>• Metabolic syndrome</li> <li>• Evidence of sub clinical vascular disease (e.g. Coronary calcification, carotid plaque)</li> <li>• Poor exercise capacity on treadmill test and/or abnormal heart rate recovery after stopping exercise</li> <li>• systemic autoimmune collagen-vascular disease (e.g. Lupus)</li> </ul>
Ideal Cardiovascular Health (untreated)	Healthy (DASH-like) diet, B/P <120/80, normal total cholesterol, normal fasting blood sugar, Body mass index < 25 kg/m <sup>2</sup> , abstinence from smoking, physical activity for adults $\geq$ 150 min/week moderate intensity, $\geq$ 75min/wk vigorous activity or combination

- ◆ As our CCCN “Health Promotion Starts With Us” logo indicates, as cardiovascular nurses, we can assist women in realizing that lifestyle changes such as quitting smoking, reducing blood pressure, (including  $\downarrow$  sodium intake to a max. of 2000mg/day and preferably <1500 mg/day), exercising regularly and eating more fruits and vegetables, can reduce the risk of stroke or ischemic heart disease by up to 80%.

**Information on women's' Heart Health Living can be found at:**

[www.heartandstroke.ca](http://www.heartandstroke.ca)  
[www.healthcheck.org](http://www.healthcheck.org)  
[www.thehearttruth.ca](http://www.thehearttruth.ca)  
<https://www.hypertension.ca/en/chep>

**Selected References:**

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