

## Women's Cardiovascular Health

An official position statement of the Association of Women's Health, Obstetric & Neonatal Nursing

Approved by the AWHONN Board of Directors, June 2002. Revised and reaffirmed June, 2011.

AWHONN 2000 L St. N.W., Suite 740 Washington, DC 20036 (800) 673-8499

### Position

The Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) maintains that nurses and other clinical professionals should include routine cardiovascular health screening, provide education, and promote awareness at health care visits for women across the lifespan. Advocacy for preventive measures should begin early, and adolescent girls and young women should be encouraged to adopt heart-healthy habits. For adult and senior women, nurses should work to increase patient awareness about risk factors, symptoms and treatment options associated with cardiovascular disease (CVD) and CVD risk. Efforts should extend to women of every age and health status.

### Background

Cardiovascular disease is the leading cause of death for American women (Lloyd-Jones et al., 2009). Approximately one woman in four will die of CVD (U.S. Department of Health and Human Services [DHHS], 2009), and of those who die suddenly, the majority will have never experienced classic warning symptoms (American College of Cardiology, 2011).

Trends in women's CVD risk factors are worrisome. A higher percentage of women than men older than 65 have hypertension, a leading CVD risk factor. The increase in overweight and obesity in women (currently two out of three American women more than 20 years of age fall in these categories) has contributed to an epidemic of type 2 diabetes. Women with type 2 diabetes have a significantly increased risk of heart attacks and stroke (Mosca et al., 2011).

Cardiovascular disease is largely preventable, and women can modify, treat or control most risk factors associated with heart disease and stroke. Modifiable risk factors include sedentary lifestyle, smoking, excessive alcohol intake, high blood pressure, high cholesterol, stress, obesity, and diabetes (Texas Heart Institute at St. Luke's Episcopal Hospital, 2011a). Non-modifiable risk factors

include gender, age, race, ethnicity, and family health history (American Heart Association [AHA], 2011c). Additionally, women who take oral contraceptives or who are considering oral contraceptives should talk with their health care providers about their personal risk of developing CVD (AHA, 2011a).

### Gender Differences

Although men and women share many risk factors and common symptoms of CVD, gender plays an important role in the prevention, diagnosis and treatment of CVD (AHA, 2011d). It is a myth that heart disease is a "man's disease" (Mosca et al., 2011). During a heart attack, both men and women commonly describe pain or pressure in the middle of the chest that lasts more than a few minutes or goes away and comes back or pain that spreads to the neck, arms or jaw. However, women are more likely than men to suffer less common warning signs of heart disease, including abdominal pain, nausea, shortness of breath, cold sweat, indigestion, unexplained anxiety and fatigue (American College of Cardiology, 2011; AHA, 2011b). Furthermore, women are less likely to report chest pain and other symptoms and take longer to arrive at a hospital, potentially contributing to misdiagnosis and delays in treatment (Agency for Healthcare Research and Quality, 2010; AHA, 2011d).

As of 2009, approximately 54% of American women recognized that CVD is the primary cause of death in women. This is an increase from the 30% who were aware in 1997 (Mosca et al., 2011). Yet when women were asked about their personal risk, only 13% believed they would experience CVD (University of Iowa Hospitals and Clinics, 2009). Therefore, it is critical for health care providers to raise the issue of cardiovascular health with female patients and to determine their CVD risk. This is the first step in helping women take action to modify their personal risk and understand the importance of promptly responding should they experience symptoms of a heart attack (Texas Heart Institute at St. Luke's Episcopal Hospital, 2011b).

In the past decade, more women have participated in CVD research studies. This has led to publications with gender-specific analyses and more definitive, evidence-based recommendations (Mosca et al., 2011). This research has demonstrated that after a cardiac event, women are more likely than men to delay hospital presentation and diagnosis and experience more hospital mortality. Women are also less likely than men to receive early medical therapies, and there is evidence that they may not be treated as aggressively as men with evidence-based treatments (Jneid et al., 2008).

## Disparities

Despite declines in CVD mortality in past decades, women in certain minority ethnic and racial groups are at a higher risk, are more severely affected by CVD, and experience disparities in cardiovascular health care (Mosca et al., 2011). African American women are more likely to suffer from CVD and 35% more likely to die of heart disease than White women (Women Heart, The National Coalition for Women with Heart Disease, 2011). Mexican American women are at risk for cardiovascular disease due to high rates of diabetes, obesity, and metabolic syndrome. Additionally, women whose primary language is Spanish are the least physically active group of women in the United States and most likely to be unaware that this inactivity increases their risk of heart disease (AHA, 2011c).

There is no evidence to suggest that racial and ethnic groups vary inherently in susceptibility to CVD. Instead, experts suggest that the disparities may be attributable to a more complex interplay of socioeconomic status, lack of access to health information and care, mistrust of health care providers, cultural norms, language barriers, behavioral and psychological risk factors, and the impact of racial discrimination (Mosca et al., 2011; Women Heart, The National Coalition for Women with Heart Disease, 2011).

## Reproductive Health and Cardiovascular Disease

The American Heart Association Cardiovascular Prevention Guidelines classify women in three groups: high risk for heart disease, at risk, or ideal cardiovascular health. The "at-risk" group includes women who have a history of preeclampsia, gestational diabetes, or pregnancy-induced hypertension. These updated guidelines point out that the cardiovascular and metabolic

stress of pregnancy provides a unique opportunity to estimate a woman's lifetime CVD risk (Mosca et al., 2011).

Pre-eclampsia and pregnancy induced hypertension can be considered early indicators for future CVD (Bellamy, Casas, Hingorani, & Williams, 2007). In approximately one-third of women who experience gestational diabetes, 15-50% will develop diabetes in the decade following pregnancy. It is recommended that postpartum screening occurs at six to 12 weeks for women who had gestational diabetes (American College of Obstetricians and Gynecologists [ACOG], 2009). For those women with normal glucose levels postpartum, reassessment should occur at minimum every three years (American Diabetes Association, 2003). Healthcare professionals have an opportunity to refer these women to a primary care provider or cardiologist that can monitor ongoing CVD risk (Mosca et al., 2011). Additionally, clinicians who meet women later in life should take a comprehensive history of any pregnancy complications, including a history of gestational diabetes, pregnancy-associated hypertension, preeclampsia, preterm birth, or birth of an infant small for gestational age (Mosca et al.).

Other reproductive disorders also increase the risk for CVD. Women with polycystic ovary syndrome (PCOS) in their 20s and early 30s have been shown to have a significantly increased risk to develop diabetes and dyslipidemia (Wang et al., 2011). Hormone replacement therapy is also related to an increased risk for CVD in postmenopausal women. After observational studies in the 1980s, it was believed that taking estrogen decreased the risk of heart disease. However, after the 1998 Heart and Estrogen/Progestin Replacement Study (HERS) and the 2002 Women's Health Initiative (WHI), the U.S. Food and Drug Administration recommended that estrogen not be used to prevent CVD. Both studies had results that reflected that estrogen with progestin has adverse health effects, including venous thromboembolism and an increased risk of coronary events and stroke (Hulley & Grady, 2004).

## Role of the Nurse

Nurses have a significant impact on the cardiovascular health of women. As the largest group of health care providers, nurses are often the first and most consistent point of contact in the health care system. Nurses, including advanced practice registered nurses, who work in primary care settings

play an important role in identifying women at risk for CVD. They have many opportunities to counsel women about their levels of risk and encourage primary and secondary prevention of CVD. Guidelines published by The Joint Commission and other national organizations emphasize the importance of patient education in the primary prevention of CVD. Prevention should support lifestyle change, medication adherence, and focus on improving patient outcomes, including quality of life (Mosca et al., 2011).

Prevention may include lifestyle changes, such as increased physical activity and improved nutrition as well as pharmacologic therapies to lower blood pressure and lipids. Assisting women at risk for CVD to stop smoking through either non-pharmacologic or pharmacologic methods is critical. Recommendations for effectively supporting behavior change include using motivational interviewing, stages of readiness for change, computer-assisted reminders, frequent follow-up, and involving the patient's family to help set short-term achievable goals (Mosca et al, 2011).

Nurses are experts in providing health education, lifestyle counseling, and prevention education. As such, they have an opportunity to help women reduce their risk of CVD, the leading killer of American women.

## REFERENCES

- American College of Obstetricians and Gynecologists. (2009). Committee opinion No. 435, Postpartum screening for abnormal glucose tolerance in women who had gestational diabetes mellitus. *Obstetrics & Gynecology*, 113, 1419-1421.
- Agency for Healthcare Research and Quality. (2010). Program brief, cardiovascular disease and other chronic conditions in women: Recent findings. Rockville, MD: Author. Retrieved from <http://www.ahrq.gov/research/womheart.pdf>
- American College of Cardiology, CardioSmart. (2011). Women and heart disease. Washington, DC: American College of Cardiology Foundation. Retrieved from <http://www.cardiosmart.org/HeartDisease/CTT.aspx?id=2638>
- American Diabetes Association. (2003). Position statement, gestational diabetes mellitus. *Diabetes Care*, 26, S103-S105. doi: 10.2337/diacare.26.2007.S103
- American Heart Association. (2011a). Oral contraceptives AHA recommendation. Dallas, TX: Author. Retrieved from <http://www.americanheart.org/presenter.jhtml?identifier=4689>
- American Heart Association. (2011b). Warnings signs of a heart attack. Dallas, TX: Author. Retrieved from [http://www.heart.org/HEARTORG/Conditions/HeartAttack/WarningSignsofaHeartAttack/Warning-Signs-of-a-Heart-Attack\\_UCM\\_002039\\_Article.jsp](http://www.heart.org/HEARTORG/Conditions/HeartAttack/WarningSignsofaHeartAttack/Warning-Signs-of-a-Heart-Attack_UCM_002039_Article.jsp)
- American Heart Association. (2011c). Understand your risks. Dallas, TX: Author. Retrieved from [http://www.goredforwomen.org/understand\\_your\\_risks.aspx](http://www.goredforwomen.org/understand_your_risks.aspx)
- American Heart Association. (2011d). Women and cardiovascular disease facts. Dallas, TX: Author. Retrieved from <http://www.americanheart.org/presenter.jhtml?identifier=3039318>
- Bellamy, L., Casas, J. P., Hingorani, A. D. & Williams, D. J. (2007). Pre-eclampsia and risk of cardiovascular disease and cancer in later life: Systematic review and meta-analysis. *British Medical Journal*, 335, 974-986.
- Hulley, S. B. & Grady, D. (2004). The WHI estrogen alone trial – do things look any better? *Journal of the American Medical Association*, 291, 1769-1771.
- Jneid, H., Fonarow, G., Cannon, C., Hernandez, A., Palacios, I., Marea, A., ... Wexler, L. (2008). Sex differences in medical care and early death after acute myocardial infarction. *Circulation*, 118, 2803-2810. doi: 10.1161/CIRCULATIONAHA.108.789800
- Lloyd-Jones, D., Adams, R., Carnethon, M., De Simone, G., Ferguson, T. B., Flegal, K., ... Hong, Y. (2009). Heart disease and stroke statistics 2009 update. A report from the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. *Circulation*, 119, e1-e161. doi: 10.1161/CIRCULATIONAHA.108.191261
- Mosca, L., Benjamin, E. J., Berra, K., Bezanson, J. L., Dolor, R. J., Lloyd-Jones, D. M., ... Wenger, N. (2011). Effectiveness-based guidelines for the prevention of cardiovascular disease in women 2011 update: A guideline from the American Heart Association *Circulation*, 123, 1-21. doi: 10.1161/CIR.0b013e31820faaf8
- Texas Heart Institute at St. Luke's Episcopal Hospital. (2011a). Women and heart disease. Houston, TX: Author. Retrieved from <http://www.texasheart.org/HIC/Topics/HSmart/women.cfm>
- Texas Heart Institute at St. Luke's Episcopal Hospital. (2011b). Straight talk about heart attacks. Houston, TX: Author. Retrieved from [http://www.texasheartinstitute.org/HIC/WomenHeart/heartattack\\_women.cfm](http://www.texasheartinstitute.org/HIC/WomenHeart/heartattack_women.cfm)
- University of Iowa Hospitals and Clinics. (2009). Women don't understand the dangers of heart disease. Iowa City, IA: Author. Retrieved from <http://www.uihealthcare.com/kxic/2008/02/heartdiseaseinwomen.html>
- U.S. Department of Health and Human Services, Office on Women's Health, The National Women's Health Information Center. (2009). Heart disease frequently asked questions. Washington, DC: Author. Retrieved from <http://www.womenshealth.gov/faq/heart-disease.cfm#a>
- Wang, E., Calderon-Margalit, R., Cedars, M., Daviglus, M., Merkin, S., Schreiner, P., ... Bibbins-Domingo, K. (2011). Polycystic ovary syndrome and risk for long-term diabetes and dyslipidemia. *Obstetrics & Gynecology*, 117, 6-13.
- Women Heart, The National Coalition for Women with Heart Disease. (2011). Why women of color may face higher risks for heart disease. Washington, DC: Author. Retrieved from <http://www.womenheart.org/supportForWomen/heartsmart101/mieresarticle.cfm>