

# Cardiovascular Disease in Women



## Primary and Secondary Cardiovascular Disease Prevention

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### KEYWORDS

• Women • Cardiovascular disease • Primary prevention • Secondary prevention

### KEY POINTS

- Primary and secondary prevention of cardiovascular disease will require involvement of an extended health care team. Obstetricians and gynecologists are uniquely positioned within the system because they are the primary or only contact women have with the system.
- A large portion of risk associated with cardiovascular disease is attributable to modifiable lifestyle changes and risk factor management.
- The broad application of studied and proven risk reduction strategies may help improve the burden of disease.

### INTRODUCTION

Cardiovascular disease (CVD) remains the leading cause of death in the United States.<sup>1</sup> Despite advances in medical therapy, CVD claims the life of a woman every minute.<sup>1</sup> Although urgent and emergent cardiovascular issues require specialty training, the primary and secondary prevention of CVD is a large undertaking that requires involvement of an extended health care team.

Obstetricians and gynecologists are uniquely positioned within the health care system to improve cardiovascular health because they are often the only point of contact for women across the age spectrum. It is critical that obstetricians and gynecologists seize the opportunity to enhance primary and secondary CVD prevention by using the team approach.

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CVD is an umbrella term, which encompasses coronary heart disease (CHD), peripheral vascular disease (PVD), and cerebrovascular (CV) disease. Although these disease processes have distinct clinical manifestations with unique treatments involving different specialties, including cardiologists/cardiovascular surgeons, vascular surgeons, and neurologists, respectively, all 3 are characterized by atherosclerosis caused by common risk factors.

Among CVDs, CHD makes up most events for both men and women less than the age of 75.<sup>1</sup> The incidence of CHD in women lags behind men by 10 years, suggesting a protective effect in women that is lost with age, specifically after the onset of menopause and cessation of endogenous estrogen production by the ovaries. However, it is important to recognize that young women are still affected, and quick, accurate diagnosis requires a high index of suspicion by all health care providers. In addition, it is never too early to initiate preventive measures.

This article focuses on CHD prevention (primary and secondary) with additional comments when needed regarding PVD and CV disease.

## PRIMARY PREVENTION

Primary prevention involves the management of currently present risk factors to prevent the onset of CVD. Currently identified traditional risk factors, as discussed later, may account for up to 90% of population-attributable risk of heart disease.<sup>2</sup> This is in contrast to primordial prevention, which is the prevention of the onset of risk factors. The absence of traditional cardiac risk factors in midlife is associated with a low lifetime risk of heart disease.<sup>3</sup> Therefore, primordial prevention is the most definitive form of prevention but requires education and adoption of lifestyle changes at a very young age. Unfortunately, by the age of 55, most women have at least one major cardiac risk factor putting them at increased lifetime risk of CVD and making primary prevention of significant clinical relevance.

Traditional risk factors can be divided into nonmodifiable (age, sex, race, family history) and modifiable risk factors (smoking, blood pressure, cholesterol levels, physical activity, weight, diabetes mellitus, and diet). New, sex-specific risk factors have been identified for women and are reviewed (Table 1). Every clinic visit is an opportunity to help women understand and modify their risk factors.

### Nonmodifiable Risk Factors

#### Age

Age is one of the most powerful predictors of CVD. The prevalence of CVD increases with age in both men and women.<sup>4</sup>

<b>Traditional Nonmodifiable</b>	<b>Traditional Modifiable</b>	<b>Sex-Specific</b>
Age	Smoking	Gestational hypertension
Sex	Physical inactivity	Gestational diabetes
Family history	Diet	Pre-eclampsia
Race	Weight	PCOS
	Diabetes mellitus	Breast cancer
	Hypertension	—
	High cholesterol	

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