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Women and Cardiovascular Disease

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Answers for life.

Women and Cardiovascular Disease

Cardiovascular disease historically was associated with overweight men who smoked, had high blood pressure, and led a sedentary lifestyle. But this is no longer the case. Cardiovascular disease can impact women and men of any age and any nationality. Unfortunately, many women do not consider themselves at risk for cardiovascular disease. This misconception, along with the fact that risk factors and symptoms of acute events often differ between women and men, leads to an imbalance in the assessment, diagnosis, treatment, and outcomes of cardiovascular disease in women.



What Is Cardiovascular Disease?

Cardiovascular disease (CVD) is a term that encompasses a constellation of disorders affecting the heart and circulatory system. These conditions include coronary heart disease, cerebrovascular disease, peripheral arterial disease, rheumatic heart disease, congenital heart disease, and deep vein thrombosis and pulmonary embolism.

The Global Burden of Cardiovascular Disease in Women

Cardiovascular disease is the leading cause of death for women worldwide.¹

- One-third of deaths in women are due to cardiovascular disease.¹
- Each year, 8.6 million women around the globe die from heart disease and stroke.²
- Heart disease and stroke kill more women than all cancers, tuberculosis, HIV/AIDS, and malaria combined.²

Gender Differences in Cardiovascular Disease³

Women generally develop cardiovascular disease later in life than men. However, for women who have a heart attack at a younger age, the mortality rate is much higher than for men of the same age. Coronary artery disease in women tends to affect the smaller blood vessels, producing less-severe symptoms. The plaque burden in women also tends to be lower than in men but differs in that it often builds up along the entire artery rather than within a concentrated area. This means that it is not uncommon for women to have chest pain without evident obstructive coronary artery disease. Women also suffer more physical limitations after an acute event, and young or middle-aged women show higher rates of adverse outcomes, complications, and disability after heart attack compared to men.



Risk Factors

There are numerous modifiable and nonmodifiable risk factors for the development of cardiovascular disease. Some of these risk factors have a higher prevalence or pose a greater risk in women.

- Age
- Gender
- Ethnicity
- Family history
- Hypertension
- Dyslipidemia[†]
- Tobacco use[†]
- Physical inactivity
- Obesity[†]
- Unhealthy diet
- Diabetes[†]
- Low socioeconomic status
- Depression[†]
- Stress/anxiety
- Alcohol consumption
- Left ventricular hypertrophy

Women also have additional risk factors, including:

- Use of oral contraceptives
- Hormone replacement therapy
- Polycystic ovary syndrome
- Pregnancy complications such as pre-eclampsia
- Systemic autoimmune collagen-vascular disease

[†] Risk factors with a higher prevalence or pose a greater risk in women.

Symptoms

Knowing and acting on the symptoms of a heart attack can mean the difference between life and death. Many women do not recognize the atypical symptoms of a heart attack that often are present in women, or they disregard them as symptoms of other non-life-threatening conditions.

The most common symptoms of a heart attack are:⁴

- Discomfort or pain in the chest
- Discomfort or pain in the left shoulder, arms, elbows, back, or jaw

Other symptoms that are often more common in women than men include:^{5,6}

- Shortness of breath or difficulty breathing
- Loss of appetite/heartburn
- Nausea or vomiting
- Weakness or unusual/unexplained fatigue
- Lightheadedness
- Heart flutters
- Cold sweats
- Cough

Related Diseases and Conditions

Many diseases and conditions can increase the risk of developing cardiovascular disease:

- Anemia
- Pregnancy complications (pre-eclampsia; gestational diabetes)
- Autoimmune disease
- Renal dysfunction
- Cardiotoxicity induced by cancer treatments⁷
- Thyroid disease
- Diabetes
- Vitamin D deficiency

Siemens solutions for Cardiovascular Disease testing

	ADVIA Centaur® Systems	ADVIA® Chemistry Systems	Dimension® Systems	Dimension® EXL™ Systems	Dimension Vista® Systems	IMMULITE® Systems	Other Siemens Systems
Risk Assessment							
Total cholesterol		•	•	•	•		
HDL cholesterol		•	•	•	•		
LDL cholesterol		•	•	•	•		
Triglycerides		•	•	•	•		
Apolipoprotein A-1		•			•		•
Apolipoprotein B		•			•		•
Lipoprotein(a)		•			•		•
hsCRP		•	•	•	•	•	•
Fibrinogen							•
Interleukin-6						•†	
BNP	•			•*	•†		
NT-proBNP	•*		•	•	•	•†	•
Co-Morbidities							
Mircoalbumin		•		•	•		•
Cystatin C		•			•		•
Glucose		•	•	•	•		•
HbA1c		•	•	•	•		•
Acute Care							
BNP	•			•*	•†		
NT-proBNP	•*		•	•	•	•†	•
CKMB (mass)	•	•	•	•	•	•	•
Galectin-3	•*						
Myoglobin	•	•	•	•	•	•	•
Troponin I	•		•	•	•	•	•
D-dimer	•*					•†	•
Therapy Monitoring							
aPTT							•
PT							•
Thrombin time							•
Anti-Xa							•
Platelet function							•

* Under development. Not available for sale. Future product availability will vary by country.

† Not available for sale in the U.S. Product availability varies by country.

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Your results. Her lifetime.

Empowering you to advance the health and vitality of women throughout the continuum of life.

Caring for Women with Cardiovascular Disease

Reducing the burden of cardiovascular disease in women includes understanding risk factors, making rapid, accurate diagnoses when symptoms occur, implementing appropriate therapies, and monitoring treatment. Laboratory diagnostic testing plays an integral role in helping care for women throughout the continuum of cardiovascular disease and of life.

As an integrated diagnostics company, Siemens' comprehensive solutions follow the complete continuum of cardiovascular care, including risk assessment and early prevention, diagnosis, therapy, and aftercare. In addition, our solutions in healthcare IT support the exchange of data for making informed decisions.

Women's Lifetime Health Continuum

