

Cardiovascular disease in women



Early identification of cardiovascular disease risk in women **can help save lives**

Scope of the problem

Cardiovascular disease (CVD) is the leading cause of death in women, taking the lives of **over 300,000 women** in the US in 2020.¹ However, women are much less likely than men to be assessed for CVD risk based on guidelines.²



1 in 5 females deaths caused by CVD¹



of women never discuss heart health with their physician³



of women are unaware that CVD is the leading cause of death in women³

Preventive care visits provide an excellent opportunity for CVD risk assessment

Evaluating risk factors at well-woman visits and testing for early metabolic deviations are essential to a prevention-focused approach.⁴

Many risk factors that are unique to women **may be overlooked**⁵

While women and men share the 3 most common risk factors for CVD—hypertension, high low-density lipoprotein-cholesterol (LDL-C), and smoking^{1,6,7}—**there are unique risk-enhancing factors for women at every stage of life.**

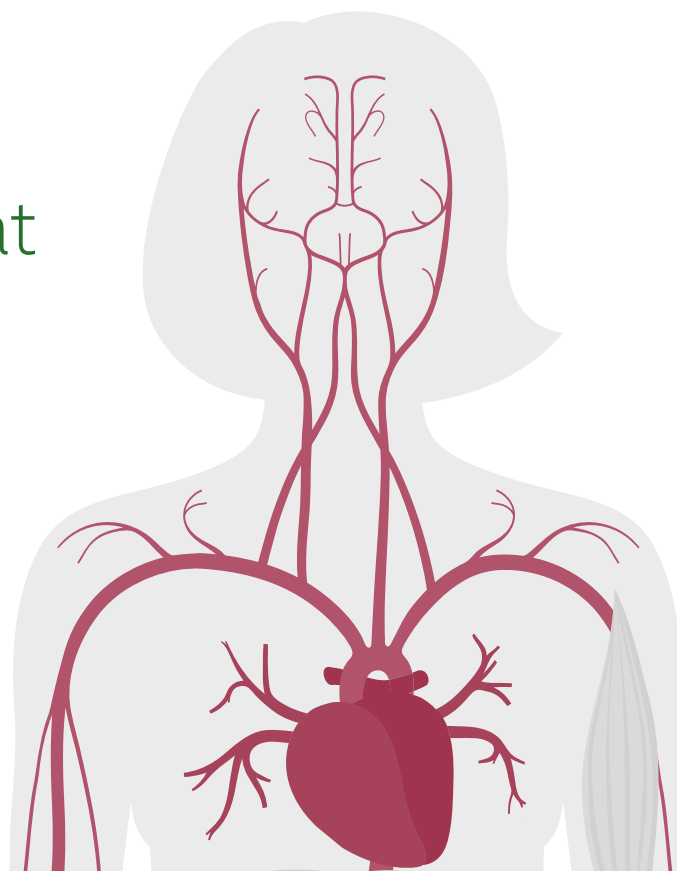







Table 1: Unique risk-enhancing factors for women across life stages

| Adolescent | Prime reproductive | Perimenopause | Early menopause ²³ | Late menopause |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |
| Early/late menarche ⁸ | Infertility ¹¹ | Left breast cancer radiation ¹⁸ | Bone and muscle loss ^{24,25} | Cognitive decline ²⁷ |
| Weight gain ⁹ | Polycystic ovary syndrome ¹² | Heart palpitations ¹⁹ | Worsening hypertension ²⁶ | Osteoporosis ²⁸ |
| Menstrual cycle irregularity ¹⁰ | Endometriosis ¹³ | Immune disorders ²⁰ | | |
| | Gestational diabetes ¹⁴ | Thyroid disorders ²¹⁻²² | | |
| | Preterm labor ¹⁵ | | | |
| | Preeclampsia ¹⁶ | | | |
| | Hormonal contraceptives use ¹⁷ | | | |

Assessing unique CVD risk-enhancing factors at every preventive care visit is critical

Initial stages of cardiovascular disease risk may remain clinically silent for years. A comprehensive test menu spanning the continuum from risk identification to disease management provides the opportunity to apply timely evidence-based preventive strategies.

Individuals suitable for testing:

- Patients with 1 or more **traditional risk factors**
- Patients with 1 or more **risk-enhancing factors** unique to women (see table 1)



Lipid screening assesses lipoprotein and apolipoprotein to improve risk stratification, allowing you to personalize patient treatment plans more precisely



Inflammation within the artery wall is a key contributor to CVD risk; **monitoring inflammatory markers** may help uncover hidden CVD risk



Identification of **metabolic risk** at an early stage allows implementation of evidence-based strategies that can prevent or delay disease progression

Table 2: Test solutions for early identification of CVD risk in women

| | Quest Diagnostics accounts | Cleveland HeartLab™ accounts | CPT codes | Biomarker |
|---------------------------------|----------------------------|------------------------------|-------------------------------------------------------|----------------------------------------------|
| Lipids^a | 92061 | 3748 | 80061 (and 83721 if Direct LDL Cholesterol performed) | Lipid Panel with Reflex to Direct LDL |
| | 91604 | 1346 | 83704 | Lipoprotein Fractionation, Ion Mobility |
| | 37847 | 37847 | 83704 | Lipoprotein Fractionation, NMR |
| | 91726 | C123 | 82172 | Apolipoprotein B |
| | 91729 | 91729 | 83695 | Lipoprotein (a) |
| Inflammation^a | 92771 | C261 | 82542, 82570 | F ₂ -Isoprostane/Creatinine Ratio |
| | 92769 | C335 | 83520 | Oxidized LDL (OxLDL) |
| | 10124 | C121 | 86141 | hs-CRP |
| | 94153 | C301 | 82542 | ADMA/SDMA |
| | 94218 | 94218 | 83698 | Lp-PLA2 Activity |
| | 92814 | C133 | 83876 | Myeloperoxidase (MPO) |
| Metabolic^a | 91732 | C145 | 83036 | Hemoglobin A1c (HbA1c) |
| | 36509 | 36509 | 83525, 84681 | Insulin Resistance Panel with Score |

^a Panel and profile components may be ordered separately:

Lipid Panel: Cholesterol Total (91717); Triglycerides (91718); HDL Cholesterol (91719)

Lipid Panel with Reflex to Direct LDL: Cholesterol Total (91717); Triglycerides (91718); HDL Cholesterol (91719).

If triglyceride result is >400 mg/dL, Direct LDL Cholesterol will be performed at an additional charge

We're here to help

To schedule a clinical consult, call **1.866.358.9828, option 1 to learn more.**

Note: When calling to arrange a consult, the Cleveland HeartLab™ customer support team will collect all necessary information to schedule the consultation with our clinical education team.

Preventive care visits are an essential part of early identification of CVD risk in women



Assess risk factors at all preventive and well-woman visits, including those risk factors that are unique to women across all stages of their lives



Include a multimarker risk assessment with lipid, inflammation, and metabolic markers to help in the early assessment of CVD risk



Consider assessment of chronic conditions that increase risk for developing cardiovascular disease like²⁹:

- Type 2 diabetes
- Chronic kidney disease
- Nonalcoholic fatty liver disease



Assess both traditional and risk-enhancing factors for CVD risk in women.

Visit [QuestDiagnostics.com/WomenCVDRisk](https://www.questdiagnostics.com/WomenCVDRisk) or talk to your Quest Account Executive to learn more.

References

1. CDC. Reviewed October 14, 2022. Accessed November 9, 2022. <https://www.cdc.gov/heartdisease/women.htm>
2. Brown HL, et al. doi:10.1161/CIR.0000000000000582
3. Bairey Merz CN, et al. doi:10.1016/j.jacc.2017.05.024
4. Women's Preventive Services Initiative. Updated January 2022. Accessed December 6, 2022. <https://www.womenspreventivehealth.org/wellwomanchart/>
5. Maffei S, et al. doi:10.1016/j.ijcard.2019.02.005
6. Arnett DK, et al. doi:10.1161/CIR.0000000000000678
7. Yusuf S, et al. doi:10.1016/S0140-6736(04)17018-9
8. Lee JJ, et al. doi:10.1161/JAHA.119.012406
9. Ayer J, et al. doi:10.1093/eurheartj/ehv089
10. Solomon CG, et al. doi:10.1210/jcem.87.5.8471
11. Lau ES, et al. doi:10.1016/j.jacc.2022.02.020
12. Osibogun O, et al. doi:10.1016/j.tcm.2019.08.010
13. Okoth K, et al. doi:10.1111/1471-0528.16692
14. McIntyre HD, et al. doi:10.1038/s41572-019-0098-8
15. Wu P, et al. doi:10.1161/JAHA.117.007809
16. Wu P, et al. doi:10.1161/CIRCOUTCOMES.116.003497
17. Okoth K, et al. doi:10.1136/bmj.m3502
18. Carlson LE, et al. doi:10.1016/j.jacc.2021.07.008
19. Jurgens CY, et al. doi:10.1161/CIR.0000000000001089
20. Moran, et al. doi:10.1161/CIRCRESAHA.121.319877
21. Moon, et al. doi:10.1089/thy.2017.0414
22. Razvi, et al. doi:10.1016/j.jacc.2018.02.045
23. Okoth K, et al. doi:10.1136/bmj.m3502
24. Jiesuck Park, et al. doi:10.1136/heartjnl-2020-318764
25. Brown JC, et al. doi:10.1002/jcsm.12073
26. Barton M, et al. doi:10.1161/HYPERTENSIONA-HA.108.120022
27. Haring B, et al. doi:10.1161/JAHA.113.000369
28. Tankó LB, et al. doi:10.1359/JBMR.050711
29. Raghupathi W, et al. doi:10.3390/ijerph15030431

Test codes may vary by location. Please contact your local laboratory for more information.

The CPT® codes provided are based on American Medical Association guidelines and are for informational purposes only. CPT coding is the sole responsibility of the billing party. Please direct any questions regarding coding to the payer being billed.

Image content features models and is intended for illustrative purposes only.

QuestDiagnostics.com

Quest, Quest Diagnostics, any associated logos, and all associated Quest Diagnostics registered or unregistered trademarks are the property of Quest Diagnostics. All third-party marks—® and ™—are the property of their respective owners.
© 2023 Quest Diagnostics Incorporated. All rights reserved. SB11893 1/2023

