

# Pregnancy-induced Cardiovascular Risk

## A Provider Resource

Awareness is increasing that cardiovascular disease (CVD) is the #1 killer of women. **However, until recently, very little attention has been paid to the risk that pregnancy plays in developing CVD.** Pregnancy is often thought of as a woman's first "stress test" that can unmask underlying heart and vascular problems and future risk.

It's critical that women are educated on these risks. As an OBGYN or other women's health provider, you have a unique opportunity to increase awareness of pregnancy-induced cardiovascular risk factors and how they can be addressed. Roughly 30 to 40 percent of pregnant women (and 90 percent of all women) have at least one risk factor that can lead to long-term health concerns. This makes early detection and intervention vital.



## Pregnancy-induced Cardiovascular Risk Factors

### Gestational hypertension and preeclampsia

Women who develop gestational hypertension are two to three times more likely to develop chronic hypertension with onset greatest within the first five years after their first birth. It also substantially increases the risk of type 2 diabetes and dyslipidemia even when adjusted for other factors.

Preeclampsia, which affects roughly 10 percent of pregnancies, nearly doubles the risk of ischemic heart disease, stroke and deep vein thrombosis.

### Gestational diabetes (GDM)

Women who develop gestational diabetes are at 43 percent higher risk of developing CVD and may be at risk for early atherosclerosis in midlife (even before the onset of type 2 diabetes).

### Placental abruption, preterm birth, small for gestational age

All of these pregnancy-related complications increase a woman's risk of CVD. A medically indicated preterm

birth puts a woman at significantly higher risk of CVD than a spontaneous preterm birth, but even a spontaneous preterm delivery is associated with increased risk.

**Preeclampsia and gestational hypertension share risk factors with CVD.** These include hypertension, obesity, insulin resistance and diabetes, dyslipidemia (increased LDL and triglycerides), inflammation, oxidative stress, increased coagulation and thrombotic factors, increased body weight and weight circumference and platelet aggregation. Many of these can be either prevented or treated and lower a patient's overall risk for developing CVD.

**Polycystic ovary syndrome, menopause, autoimmune disorders (such as rheumatoid arthritis and lupus), mental stress and depression, and medical treatments (such as chemo and radiation therapy for cancer)** also increase risk and should be considered when estimating cardiovascular risk.

# Follow-up Recommendations



The American College of Obstetricians and Gynecologists recently published a [committee opinion on optimizing postpartum care](#).

The recommendations advise that women who had pregnancies complicated by preterm birth, gestational diabetes, gestational hypertension, preeclampsia or eclampsia should be counseled on their increased cardiovascular disease risk, and their pregnancy complications should be documented in their electronic medical record.

## CVD risk factor screening in women with pregnancy-induced complications

	Time for initial screening	Time for follow-up screening
<b>Hypertension</b>	Within 6 to 12 months post-partum	Preferably check blood pressure at each visit or minimally as follows: <ul style="list-style-type: none"> <li>• If hypertension during pregnancy, screen annually</li> <li>• If BP &gt;120-139/80-90, screen annually</li> <li>• If BP &lt;120/80, screen every 2 years</li> </ul>
<b>Hyperlipidemia</b>	Within 12 weeks post-partum and post-lactation	If hypertension during pregnancy or elevated CVD risk, check lipids and screen annually
<b>Diabetes</b>	If GDM, check glucose and screen 4 to 12 weeks post-partum	Check glucose and screen annually if impaired fasting glucose at 6 weeks or hypertension during pregnancy; otherwise screen every 3 years
<b>Obesity/BMI</b>	Screen annually	Screen annually
<b>Tobacco use</b>	Screen at first post-partum visit	Screen at each visit
<b>Nutrition and physical activity</b>	Assess at first post-partum visit	Assess at each visit depending on risks

*Adapted from Mehta, P. K., Minissian, M., & Merz, C. N. B. (2015, June). Adverse pregnancy outcomes and cardiovascular risk factor management. In Seminars in perinatology (Vol. 39, No. 4, pp. 268-275). WB Saunders.*



Screening should include taking a complete pregnancy and medical history along with estimating cardiovascular risk for patients age 40 and older using a CVD risk estimator, such as the [ASCVD Risk Estimator Plus](#).

The CVD risk estimator does not include pregnancy-induced risk factors, so these will provide supplemental information. By factoring in both, you will have a better picture of a patient's overall risk and will be able to talk together about appropriate next steps for lowering risk.

# Key Messages about Lifestyle for Patients



## Research findings:

- Young women who follow a healthy lifestyle have an almost 75 percent reduction in heart disease and medical conditions that increase their risk for it (high blood pressure, diabetes and high cholesterol).

## Messages you can share with your patients



### **Breastfeed, if possible**

Breastfeeding may help you lose pregnancy weight and it lowers your risk for heart disease and diabetes. The longer you breastfeed, preferably one year, the more cardio-protective it is.



### **Be tobacco-free**

Quitting smoking drops your risk dramatically and it continues to drop over days, weeks and years. Within five years, most smokers cut their risk of stroke to nearly that of a nonsmoker.



### **Move more ... sit less**

Being moderately physically active for 30 minutes, five days a week or more decreases your risk of heart disease and it can be fun for you and your family. Engaging in less screen time and other sedentary activities improves your heart health.



### **Make healthier eating choices**

Eating a variety of foods and mostly plants can protect your heart. Eat more whole foods – such as vegetables, fruits, whole grains – and more healthy fats. Eat fewer highly processed food, foods high in sugar (sugar-sweetened beverages), saturated fats and salt. The DASH (Dietary Approaches to Stop Hypertension) and Mediterranean eating plans are evidence-based eating patterns that can guide heart-healthy food choices.



### **Maintain or move toward a healthier weight**

Losing 5-10 percent of your body weight will reduce your risk. More importantly, you'll feel better and have more energy to do the things you enjoy!

**At their next visit, ask your patients how they are doing with making healthy lifestyle choices.** Studies have shown that when providers follow up on lifestyle advice, outcomes improve (e.g., weight loss). It also enhances patient satisfaction, the patient-provider relationship and treatment adherence. This encouragement may be just what a patient needs to make the necessary changes to lower risk.

# Don't Let Your Patients Fall Through the Cracks

Refer patients with complex cases to an internist/family practice provider to initiate aggressive risk factor modification or a cardiologist as appropriate.

## Referral Guidelines




Risk factor	Exam/screening results	Refer patient to:
<b>CVD symptoms</b>	Cardiovascular symptoms (shortness of breath, dyspnea, chest pain, feeling faint, exertional intolerance, palpitation, swelling or syncope) are present.	Cardiologist
<b>Cholesterol</b>	LDL is >190 mg/dl on initial screen.	Cardiologist
	LDL >130 with either family history of premature CAD (first degree relative with CV event age 60 or younger) or diagnosis of diabetes	Cardiologist
	LDL>130mg/dL with no additional risk factors	Internist or family practice provider
<b>Blood pressure</b>	Blood pressure is >130/80 mmHg, especially if their CVD risk score is >10%. In this case, chronic antihypertensive therapy should be initiated.	Internist or family practice provider
	Blood pressure is >140/90 regardless of their CVD risk score. Antihypertensive therapy should be initiated, keeping in mind that they may need to be on more than one medication to achieve blood pressure goal.	Internist or family practice provider
	Blood pressure remains >140/90 despite being on 3 antihypertensive medications.	Cardiologist
<b>Blood glucose</b>	Blood glucose remains elevated and/or screening A1c is >6.5%.	Internist or family practice provider
<b>CVD risk score</b>	In patients 40 or older, calculate CVD risk score. If score is >7.5% or their cholesterol is high, aggressive risk factor modification is likely needed.	Internist or family practice provider
<b>Healthy eating and weight management</b>		Dietitian
<b>Increasing physical activity</b>		Exercise specialist



For links to all of the resources in this provider guide, visit [www.mplsheart.org/women](http://www.mplsheart.org/women)

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