

# Women with high blood pressure during pregnancy more likely to develop CVD risk factors

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Preeclampsia and gestational hypertension are common pregnancy complications involving high blood pressure that develops for the first

time during pregnancy and returns to normal after delivery. Previous studies have shown that women with high blood pressure during pregnancy are more likely to have a heart attack or stroke later in life compared to women with normal blood pressure during pregnancy. What is less clear is to what extent women are more likely to develop cardiovascular disease risk factors and when these risk factors begin to emerge after a hypertensive pregnancy, knowledge critical to inform screening guidelines.

In a new study, researchers from Brigham and Women's Hospital and the Harvard T.H. Chan School of Public Health measured how often and when [women](#) with high [blood](#) pressure during [pregnancy](#) develop high blood pressure, diabetes, and high cholesterol after pregnancy. Results are published in *Annals of Internal Medicine* on July 3, 2018.

The research revealed that women who had high blood pressure during their first pregnancy were more likely than those with normal blood pressure to develop high blood pressure, diabetes, and high cholesterol after the pregnancy. In addition, the data showed that the risk factors for cardiovascular disease emerged shortly after pregnancy and persisted for decades.

"Preeclampsia and gestational hypertension are common pregnancy complications that can alert women and their health care providers about their future cardiovascular health," stated Jennifer Stuart, ScD, postdoctoral research fellow at Brigham and Women's Hospital and the Harvard T.H. Chan School of Public Health. "Women who experience preeclampsia or gestational hypertension should tell their doctor and adopt a heart healthy diet and lifestyle—just like they would if they had a family history of cardiovascular disease—to reduce cardiovascular risk and delay disease onset."

This study was conducted among almost 60,000 women enrolled in the

Nurses' Health Study II who had given birth at least once. Women were studied for an average of 25 to 32 years after the first pregnancy—depending on the risk factor—but overall, follow-up ranged from two to 50 years after pregnancy.

Women with preeclampsia or gestational hypertension had a two- to three-fold increased rate of developing high blood pressure, a 70 percent higher rate of type 2 diabetes, and a 30 percent higher rate of high cholesterol, than women who had normal blood pressure in pregnancy. These cardiovascular disease risk factors also developed at younger ages and sooner after pregnancy in women with preeclampsia or gestational hypertension in pregnancy. The relative risk of developing high blood pressure was strongest within five years after first birth, and the increased risk persisted for several decades. Women with high blood pressure during more than one pregnancy were even more likely to develop high blood [pressure](#), diabetes, and high cholesterol. The relationships observed between preeclampsia and gestational hypertension with cardiovascular disease risk factors were not explained by shared risk factors such as pre-pregnancy body mass index, smoking, or family history.

"As recommended by the American Heart Association, doctors should obtain a detailed history of pregnancy complications from their patients and screen women who had [high blood pressure](#) in pregnancy at regular intervals after pregnancy for cardiovascular disease risk factors," Stuart said.

**More information:** Abstract:

[annals.org/aim/article/doi/10.7326/M17-2740](https://annals.org/aim/article/doi/10.7326/M17-2740)

Editorial: [annals.org/aim/article/doi/10.7326/M18-1443](https://annals.org/aim/article/doi/10.7326/M18-1443)

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