

First-time pregnancy complications linked to increased risk of hypertension later in life

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Women who experience complications such as preterm births and preeclampsia during their first pregnancy are nearly twice more likely than women without complications to develop high blood pressure later

in life—some as quickly as three years later, according to a new study of more than 4,000 women. The study was published today in the *Journal of the American Heart Association*. It was funded largely by the National Heart, Lung, and Blood Institute (NHLBI), part of the National Institutes of Health.

Researchers say their findings underscore the need for doctors to focus more aggressively on knowing the health histories of women—both during their pregnancies to help prevent adverse outcomes, and afterwards to flag their risks for future cardiovascular events.

"We used to think it took years and years to develop high blood pressure," said study author David Haas, M.D., a professor of obstetrics and gynecology at Indiana University School of Medicine, Indianapolis, and a practicing OB/GYN doctor. "We found that it can occur much sooner than expected...in as little as three years."

"The take-home message for [pregnant women](#) is to get [prenatal care](#) early, talk to your obstetric provider about your current health conditions, and make sure your health is as good as it can be," Haas said. "For women who had complications during their first [pregnancy](#), routine health care—watching blood pressure, weight, and cholesterol—is just as critical."

Past studies have shown that adverse pregnancy outcomes—a smaller-than-average baby, a stillbirth, a preterm delivery, for example—are associated with a high risk for hypertension, [cardiovascular disease](#), and diabetes in women at younger ages than those without adverse outcomes. But those studies have relied on retrospectively-collected data and self-reported reproductive histories.

For the current study, researchers recruited 4,484 women, of whom 62% are white, 14% black, 16% Hispanic, 3% Asian, and 5% reported as

'other.' The women had an average age of 27 at their first pregnancy. The researchers obtained detailed medical histories of the women two to seven years after their first pregnancy to see if outcomes in their first pregnancies were associated with their cardiovascular health.

The researchers found that 31% of the women with at least one adverse outcome during their first pregnancy experienced chronic hypertension, while only 17% of those who did not experience complications developed this condition. The risk of developing chronic hypertension grew even higher with additional [adverse outcomes](#), they said.

Haas said that the findings underscore the need for doctors to focus on the health histories of women. "That may mean asking more details about the health history of women during pregnancy. It may mean closer health monitoring and more counseling about possible lifestyle modifications to prevent high blood pressure. A lot of the women tested during this study didn't have any idea that they had [high blood pressure](#)," he said.

Haas said researchers plan to study the group further to see how their hypertension risk changes over an even longer period. Future studies using this group will also examine whether pregnancy complications increase the risk of obesity and diabetes. Researchers will also explore whether post-partum cardiovascular risk can be reduced by diet, exercise, medications, and other interventions.

Victoria Pemberton, R.N., a study co-author and program officer with NHLBI, called the study an important step toward improving women's health. "This is a well-designed study that prospectively followed a diverse population of [women](#) from early pregnancy," she said. "It further highlights the importance of gathering detailed information about pregnancy outcomes."

Provided by NIH/National Heart, Lung and Blood Institute

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