



**Medical
Blueprints**

HIGH BLOOD PRESSURE AND PREGNANCY REPORT #2797

BACKGROUND: High blood pressure is when the force of your blood pushing against the walls of your blood vessels is consistently too high. The beating of the heart creates pressure that pushes blood through a network of tube-shaped blood vessels, which include arteries, veins and capillaries. This pressure is the result of two forces. The first force, called systolic pressure, occurs as blood pumps out of the heart and into the arteries that are part of the circulatory system. The second force, called diastolic pressure, is created as the heart rests between heart beats. Over time, this damages the delicate tissues inside the arteries. The LDL cholesterol, or bad cholesterol, forms plaque along tiny tears in the artery walls indicating the start of atherosclerosis. The more the plaque and damage increases, the narrower the insides of the arteries become. This raising blood pressure is a vicious cycle that harms your arteries, heart and the rest of your body. It can lead to other conditions ranging from arrhythmia to heart attack and even stroke.

(Source: <https://www.heart.org/en/health-topics/high-blood-pressure/the-facts-about-high-blood-pressure/what-is-high-blood-pressure>)

HEART HEALTH AND PEGNANCY: Research published in the *Journal of the American Heart Association* highlight the importance of entering pregnancy in optimal health. "Improving cardiovascular health in early pregnancy will likely result in a longer lifetime spent in better health, thereby reducing the risk of cardiovascular disease," said Dr. Laura Benschop, a researcher in the Department of Obstetrics and Gynecology at Erasmus Medical Center in the Netherlands. Researchers measured the cardiovascular health of 2,000 women at 13.2 weeks of pregnancy and then again ten years later based on three health factors (blood pressure, total cholesterol and blood sugar), and four health behaviors (body mass index, smoking status, diet and physical activity). Better heart health in early pregnancy was associated with less thickening of the inner layers of arteries in the neck, an early sign of atherosclerosis, ten years after pregnancy. It also was associated with better postpartum cardiovascular health. The long-lasting benefits held true for all women in the study, but they were evident in those who experienced hypertensive disorders of pregnancy, such as gestational hypertension or preeclampsia.

(Source: <https://www.heart.org/en/news/2019/07/23/early-in-pregnancy-may-be-a-prime-time-to-promote-heart-health>)

HBP MAY CHANGE SHAPE OF BABY'S HEART: According to a new study, mothers who have high blood pressure are more likely to have babies with slightly different shaped hearts. This research adds a new layer of understanding how pregnancy complications affect prenatal and postnatal heart health. Researchers from the United Kingdom studied data from 134 mothers and their "term" babies, born after 37 weeks of pregnancy. Overall, 54 mothers had normal blood pressure and 80 had a diagnosis of preeclampsia, or pregnancy-induced hypertension. At birth, the babies born to moms with high blood pressure had differences in right ventricle size. At 3 months, the walls of their heart showed thickening. "So far, we only have studied these children during the first six months of life, so we don't know whether these changes will persist into later life and potentially relate to risk of later disease," said Paul Leeson, professor of cardiovascular medicine at the University of Oxford in England.

(Source: <https://www.heart.org/en/news/2020/04/30/pregnant-womans-high-blood-pressure-can-change-shape-of-babys-heart>)

✉ **For More Information, Contact:**

Amy Colgan, OSU PR
amy.colgan@osumc.edu
(614) 425-0424

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