

# High blood pressure potentially more dangerous for women than men

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Doctors may need to treat high blood pressure in women earlier and more aggressively than they do in men, according to scientists at Wake Forest Baptist Medical Center.

In a new study, published in the December edition of *Therapeutic Advances in Cardiovascular Disease*, the researchers for the first time found significant differences in the mechanisms that cause [high blood pressure](#) in [women](#) as compared to men.

"The medical community thought that high blood pressure was the same for both sexes and treatment was based on that premise," said Carlos Ferrario, M.D., professor of surgery at Wake Forest Baptist and lead author of the study.

"This is the first study to consider sex as an element in the selection of antihypertensive agents or base the choice of a specific drug on the various factors accounting for the elevation in blood pressure."

Although there has been a significant decline in [cardiovascular disease](#) mortality in men during the last 20 to 30 years, the same has not held true for women, Ferrario said. In fact, heart disease has become the leading cause of death in women in the United States, accounting for approximately a third of all deaths. So why the discrepancy if men and women have been treated in the same way for the same condition?

The apparent gender-related differences in the disease and the lack of

understanding of the basic biological mechanisms involved prompted the research by the Wake Forest Baptist team. In the comparative study, 100 men and women age 53 and older with untreated high blood pressure and no other major diseases were evaluated using an array of specialized tests that indicated whether the heart or the blood vessels were primarily involved in elevating the blood pressure. These tests, which can be done in a doctor's office, can provide important information about the state of an individual's circulation.

The tests measured hemodynamic – the forces involved in the circulation of blood – and hormonal characteristics of the mechanisms involved in the development of high blood pressure in men and women.

The researchers found 30 to 40 percent more vascular disease in the women compared to the men for the same level of elevated blood pressure. In addition, there were significant physiologic differences in the women's cardiovascular system, including types and levels of hormones involved in [blood pressure regulation](#), that contribute to the severity and frequency of heart disease.

"Our study findings suggest a need to better understand the female sex-specific underpinnings of the hypertensive processes to tailor optimal treatments for this vulnerable population," Ferrario said. "We need to evaluate new protocols – what drugs, in what combination and in what dosage – to treat women with high [blood pressure](#)."

Provided by Wake Forest University Baptist Medical Center

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