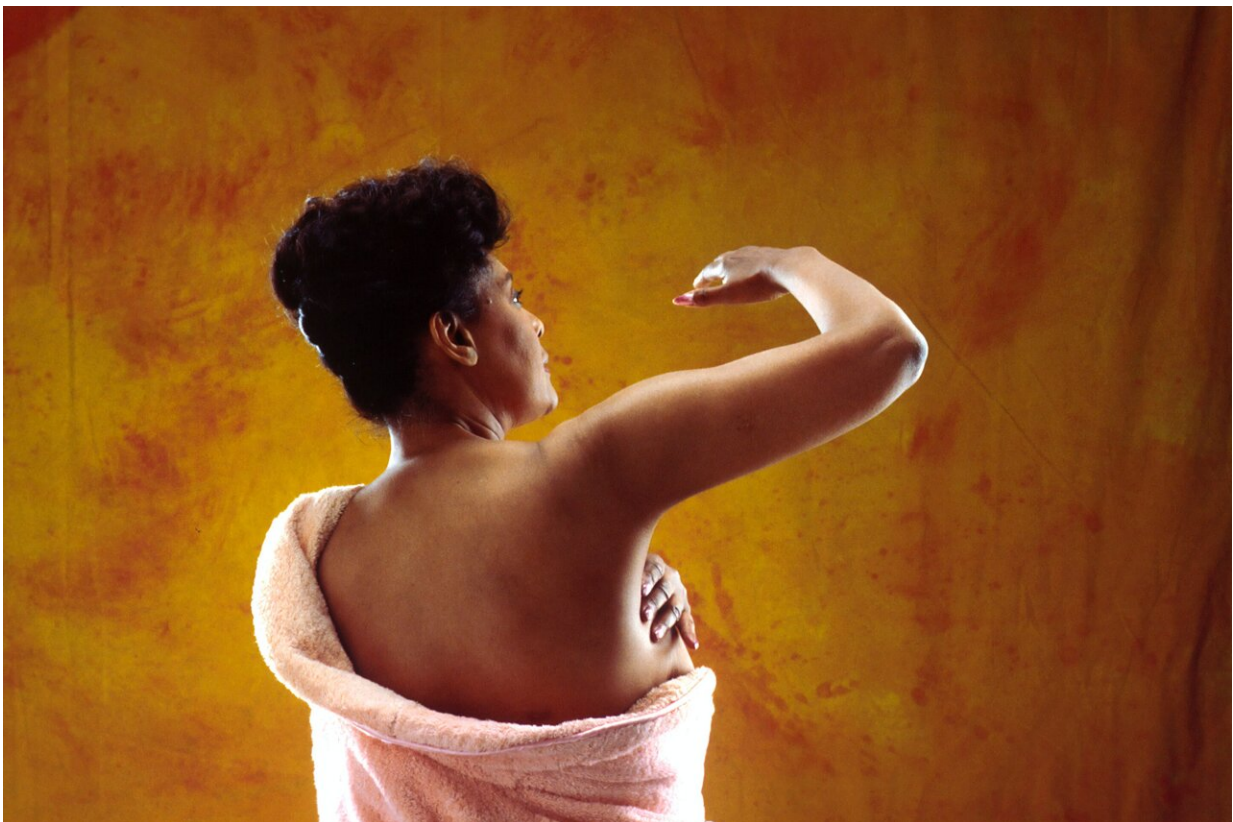


Breast cancer test may make bad chemotherapy recommendations for Black patients

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A common test used to decide whether breast cancer patients should receive chemotherapy may be making bad recommendations for some

Black women, leading them to forgo chemotherapy when it might have helped, according to new research from the University of Illinois Chicago.

The test, known as the 21-gene breast recurrence score, is the most commonly ordered biomarker test used to guide doctors' recommendations for patients with estrogen receptor-positive breast cancer—the most common form of the cancer. The test helps identify which tumors are likely to be most aggressive and thus better candidates for [chemotherapy](#).

The researchers conducted a [statistical analysis](#) on a database that included both test results and death records for more than 70,000 women with early-stage, estrogen receptor-positive breast cancer. They found that the test may underestimate the benefit of chemotherapy for Black women by ranking some, especially [young patients](#), as unlikely to benefit from chemotherapy when in fact they may have benefited.

"The test could be misleading treatment," explained Dr. Kent Hoskins, a professor of oncology at UIC and senior author of [the study](#) in *Journal of the National Comprehensive Cancer Network*.

The researchers did an exploratory analysis to gauge whether the test's cutoff point for recommending chemotherapy for Black women should be lowered and found that it should. But Hoskins said a fuller study needs to be done before making that recommendation.

Still, "the research shows that it may be inappropriate for doctors to use exact cutoffs and tests regardless of race or ethnicity because there are underlying differences in biology," said Hoskins, who is also a member of the University of Illinois Cancer Center.

Almost all patients with this sort of cancer receive pills that block

estrogen, whether or not they also receive chemotherapy. The researchers suspect the cause of this treatment gap is because Black women's tumors are less likely to respond to the estrogen-blocking pills than tumors in other women. So chemotherapy helps improve outcomes for them more than it would for women who benefit from the pills alone, Hoskins said. The researchers have another paper in the works looking at this question.

The paper is part of a body of work by UIC researchers looking at outcomes for Black women who have estrogen receptor-positive tumors. Much attention has been paid to the negative outcomes for Black women who have the harder-to-treat [triple-negative breast cancer](#), which makes up only about 20% of breast cancer cases for Black women, Hoskins explained. Previous research from this team found that while Black women are more likely than white women to develop triple-negative breast cancer, they aren't more likely to die from it. Yet they are more likely to die from the more common estrogen receptor-positive form.

Hoskins stresses that while this new paper points to biological differences in tumors for Black versus [white women](#), that does not rule out the contribution of a host of social factors caused by structural racism. But those factors, such as access to health care, do not account for the whole picture. Indeed, Hoskins believes that the same social determinants of health that lead to worse outcomes for Black women in the health care system are also causing the biological differences in tumors. The researchers have a paper in the works looking at this question, too.

"We believe that it's actually the same forces that lead to inequities in care that are driving this more aggressive biology," he said.

The other UIC authors on the paper are Hsiao-Ching Huang, Dr. V.K. Gadi, Dr. Oana Danciu, and Garth Rauscher, from the cancer center,

College of Pharmacy, College of Medicine and School of Public Health.

More information: Hsiao-Ching Huang et al, Reduction in Breast Cancer Death With Adjuvant Chemotherapy Among US Women According to Race, Ethnicity, and the 21-Gene Recurrence Score, *Journal of the National Comprehensive Cancer Network* (2024). DOI: [10.6004/jnccn.2023.7077](https://doi.org/10.6004/jnccn.2023.7077)

Provided by University of Illinois at Chicago

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