

# Chemotherapy is as effective before breast cancer surgery as after

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Whether chemotherapy is given before or after breast-conserving therapy (BCT) does not have an impact on long-term local-regional outcomes, suggesting treatment success is due more to biologic factors than chemotherapy timing, according to a study by researchers at The University of Texas MD Anderson Cancer Center.

Presented today at the 2011 [Breast Cancer Symposium](#), the study also found that neoadjuvant chemotherapy (given before surgery), often shrinks breast cancer tumors, making them more likely to be treatable with BCT, or a [lumpectomy](#) to remove a portion of the breast followed by radiation.

"Even women who present with clinical Stage 2 or 3 breast cancer may have good results with BCT after chemotherapy and not need a mastectomy," said Elizabeth Ann Mittendorf, M.D., assistant professor in the Department of [Surgical Oncology](#) and lead author of the study. "The [molecular characteristics](#) of the tumor and other factors have an impact on [treatment success](#), but not the order in which chemotherapy and surgery are given."

The retrospective study of almost 3,000 women treated for breast cancer at MD Anderson from 1987 to 2005 also confirmed several prior studies showing BCT offers high rates of [cancer control](#) for certain patients.

## Approaches have similar outcomes

Of the patients surveyed, 78 percent had surgery before chemotherapy and 22 percent received chemotherapy first. Overall, women with more cancers that had more adverse [prognostic factors](#) tended to be treated with chemotherapy first.

Five and 10-year local-regional recurrence-free [survival rates](#) were excellent for both groups: 97 percent and 94 percent respectively for those who had surgery before chemotherapy, 93 percent and 90 percent for patients who received

chemotherapy first.

Mittendorf said that if adverse features, such as stage and grade of the cancer, age of the patient and tumor hormone expression, were factored in, survival rates were essentially the same for both groups of women.

Neoadjuvant chemotherapy resulted in complete pathologic response in 20 percent of patients and lowered cancer stage in almost half of patients who had Stage 2 or 3 cancer before chemotherapy, increasing the likelihood that BCT may be effective for many women after chemotherapy.

## Carrying results forward

"This study shows that women appropriately selected for BCT, even some women with Stage 3 breast cancer, can have excellent rates of local-regional control," Mittendorf said. "The most important thing is putting all the factors together to determine who can most benefit from this approach."

The group plans to extend the study into MD Anderson patients treated after 2005.

"Since 2005, treatment techniques have improved, including the ability to add targeted therapies to chemotherapy," she said. "In the future we will look at the effects of newer agents, and we anticipate the results will be even more favorable for women who received these treatments before surgery."

Provided by University of Texas M. D. Anderson Cancer Center

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