

# Better survival rates seen with lumpectomy compared with mastectomy for early breast cancer

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A new analysis has found that lumpectomy plus radiation for early breast cancer may provide patients with a better chance of survival than mastectomy. Published early online in *Cancer*, a peer-reviewed journal of the American Cancer Society, the results provide confidence in the efficacy of breast-conserving treatments even among patients with aggressive, early disease.

Patients with early stage breast cancer who are treated with lumpectomy plus radiation have a better chance of survival compared with those who undergo mastectomy, according to Duke Medicine research.

The study, which appears online Jan. 28, 2013, in the journal *CANCER*, demonstrates the effectiveness of breast-conserving therapies such as lumpectomy, where only the tumor and surrounding tissue are surgically removed.

"Our findings support the notion that less invasive treatment can provide superior survival to mastectomy in stage I or stage II breast cancer," said E. Shelley Hwang, M.D., MPH, chief of breast surgery at Duke Cancer Institute and the study's lead author.

Using 14 years of data from the California Cancer Registry, a source of long-term outcome data for cancer, the research team found improved survival to be associated with the less invasive treatment in all age groups, as well as those with both hormone-sensitive and hormone-resistant cancers. Women age 50 and older at diagnosis with hormone-sensitive tumors saw the largest benefit of choosing lumpectomy plus radiation: they were 13 percent less likely to die from breast cancer, and 19 percent less likely to die from any cause compared with those undergoing mastectomy.

Prior research has shown that lumpectomy with radiation is as effective as mastectomy in treating early stage breast cancer. As a result, the rate of women electing lumpectomy with radiation has climbed in the past few decades.

However, a recent trend has emerged with some early stage breast cancer patients, often younger women, opting for mastectomy. These women may perceive mastectomy to be more effective at eliminating early stage cancer and therefore reducing the anxiety accompanying long-term surveillance.

"Given the recent interest in mastectomy to treat early stage breast cancers, despite the research supporting lumpectomy, our study sought to further explore outcomes of breast-conserving treatments in the general population comparing outcomes between younger and older women," Hwang said.

The team analyzed data from 112,154 women diagnosed with stage I or stage II breast cancer between 1990 and 2004, including 61,771 who received lumpectomy and radiation and 50,383 who had mastectomy without radiation. They looked at age and other demographic factors, along with tumor type and size to decipher whether each treatment had better outcomes for certain groups of women. Patients were followed on average for 9.2 years.

The researchers evaluated whether illnesses other than breast cancer, such as heart and respiratory disease, may have influenced whether women chose lumpectomy or mastectomy. Within three years of diagnosis, breast cancer patients who underwent lumpectomy and radiation had higher survival rates than those who chose mastectomy when all other illnesses were evaluated. This suggests that women choosing lumpectomy may

have been generally healthier.

Hwang and her colleagues were surprised to also find that early stage breast cancer patients treated with mastectomy had a significantly lower survival rate from breast cancer than women who underwent lumpectomy with radiation.

"We found that lumpectomy plus radiation was an effective alternative to mastectomy for early stage disease, regardless of age or tumor type," said Hwang. "Even patients we thought might benefit less from localized treatment, like younger patients with hormone-resistant disease, can remain confident in lumpectomy as an equivalent and possibly better treatment option."

**More information:** "Survival after lumpectomy and mastectomy for early stage invasive breast cancer: the effect of age and hormone receptor status." E. Shelley Hwang, Daphne Y. Lichtensztajn, Scarlett Lin Gomez, Barbara Fowble, and Christina A. Clarke. *Cancer*, Published Online: January 28, 2013 ([DOI: 10.1002/cncr.27795](https://doi.org/10.1002/cncr.27795)).

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