

# Mastectomy and reconstruction has higher complication rates, costs than lumpectomy and radiation

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Among the various guideline-concordant local therapy options available for women with early-stage breast cancer in the United States, mastectomy plus reconstruction had the highest complication rates and complication-related costs for both younger women with private insurance and older women on Medicare, and it was the most expensive option for younger women, according to data presented at the 2015 San Antonio Breast Cancer Symposium, held Dec. 8-12.

"Women with early-stage breast cancer have several local therapy options. Although there's nuance as far as what treatment is best for which patient, there is a large group of patients for whom most, if not all, of these treatment options are considered guideline-appropriate," said Benjamin D. Smith, MD, associate professor and research director of the breast radiation oncology section in the Department of Radiation Oncology at The University of Texas MD Anderson Cancer Center in Houston.

Current guideline-concordant local therapy options for women with early-stage [breast cancer](#) include lumpectomy plus whole breast irradiation (lump+WBI), lumpectomy plus brachytherapy (lump+brachy), mastectomy without reconstruction or radiation (mast alone), mastectomy with reconstruction without radiation (mast+recon), and lumpectomy without radiation (lump alone).

"We really don't have a good framework to help patients understand what the experience with mastectomy and reconstruction will be, compared with lumpectomy and whole-breast irradiation, and what the trade-offs are between these different treatments with regard to side effects, cost to the patient, and the cost to their insurance company. To me, it seemed like a black box," Smith added.

"Mastectomy and reconstruction rates have been increasing in the United States in the past decade, and I think ours is the first study to quantify the harm associated with choosing this procedure as opposed to simpler options," Smith said.

Smith and colleagues used two data sources to gather information on treatment costs: the MarketScan database, a commercially available database on insurance claims from employers that they used to gather data on [younger women](#), and the SEER-Medicare database, which they used to collect data on [older women](#).

The investigators collected information on women who were diagnosed with [early-stage breast cancer](#) in 2000 through 2011 and had complete insurance coverage for a year before and two years after diagnosis. Complications from therapy within two years of diagnosis, including wound, local infection, seroma or hematoma, fat necrosis, breast pain, pneumonitis, rib fracture, graft failure, and implant removal, were identified using diagnosis and procedure codes, and complication-related costs and total costs were calculated.

Based on data gathered from 44,344 patients from the MarketScan cohort, the risk of complications for younger women were: 30 percent for lump+WBI, 45 percent for lump+brachy, 25 percent for mast alone, and 56 percent for mast+recon.

For older women from the SEER-Medicare cohort of 60,867 patients,

the risk of complications were: 38 percent for lump+WBI, 51 percent for lump+brachy, 37 percent for mast alone, 69 percent for mast+recon, and 31 percent for lump alone.

Risk of complications from mast+recon was two times higher than lump+WBI for both younger and older women, after adjusting for other differences in patients and how they were treated.

Complication-related costs were \$8,608 higher with mast+recon than lump+WBI for younger women with private insurance and \$2,568 higher for older women with Medicare.

The most expensive therapy (procedure cost plus complication costs) for younger women was mast+recon, with an average cost of \$89,140, which was \$23,421 more than lump+WBI. For Medicare patients, lump+brachy and mast+recon were the two most expensive therapies, costing \$37,741 and \$36,166, respectively, while the cost of lump+WBI was \$34,097.

"When oncologists offer all appropriate therapy options to patients, some women may choose to avoid radiation and opt for mastectomy and reconstruction instead. This study is helpful to such [patients](#) because it provides them with information regarding the trade-offs involved in this choice," Smith said. "Our study findings are also particularly relevant from a payer's perspective, given the growing emphasis placed on promoting treatments that are effective, safe, and cost-conscious."

**More information:** Abstract: S3-07: Title: Complication and economic burden of local therapy options for early breast cancer

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