

# Many mastectomy patients with locally advanced breast cancer do not get postop radiation

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Breast cancer patients who undergo a mastectomy should receive subsequent radiation treatment if their cancer has spread to four or more nearby lymph nodes, however, according to a new study, only 65 percent of these women are getting the recommended postmastectomy radiation therapy (PMRT). The researchers looked at nearly 57,000 cases of breast cancer, and their study has been published as an "article in press" on the *Journal of the American College of Surgeons* website in advance of print publication this spring.

Several studies<sup>1</sup> have found that PMRT reduces the risk of [breast cancer recurrence](#) and improves survival in patients whose cancer is "locally advanced" with a pathologic stage of N2 or N3 using the American Joint Committee on Cancer (AJCC) staging system.<sup>2</sup> The AJCC defines N2 cancer primarily as having spread to between four and nine axillary, or underarm, [lymph nodes](#) but no other organs, and N3 disease involves 10 or more [axillary lymph nodes](#).<sup>2</sup>

"My colleagues and I were quite startled by the finding that a third of patients with N2/N3 disease did not receive PMRT, which is the standard of care," said lead author Quyen D. Chu, MD, MBA, FACS, professor of surgery at Louisiana State University (LSU) Health Sciences Center, Shreveport.

Since 2000, the National Cancer Institute and the American Society of

Clinical Oncology<sup>3</sup> have recommended PMRT, in addition to chemotherapy, for most [breast cancer patients](#) who opt for breast removal and have a high risk of tumor recurrence in the chest area. This risk group includes women with four or more positive (cancerous) lymph nodes.

For this study, the investigators evaluated compliance with the treatment guidelines using the National Cancer Data Base (NCDB), a joint project of the American College of Surgeons Commission on Cancer (CoC) and the American Cancer Society. NCDB captures an estimated 70 percent of newly diagnosed cancer cases in the United States from approximately 1,500 cancer programs accredited by the CoC.

From 2.72 million breast cancer cases diagnosed between 1998 and 2011 and listed in the database, 56,990 files of women with N2 or N3 cancer were found. The researchers evaluated these de-identified files to determine factors linked to receipt of PMRT.

Dr. Chu and colleagues found those patients' socioeconomic characteristics such as race or ethnicity, income or education level, health insurance status, residential location, or comorbidity (coexisting illness) did not influence whether women with N2 or N3 breast cancer received PMRT. Likewise, neither did the geographic region of the treatment facility nor its type of cancer program (community cancer program, larger comprehensive community cancer program, academic cancer research program, or other type). However, most study patients were white, had private insurance, had a high income and educational level, and lived in a large metropolitan area.

According to statistical analyses, only three factors independently predicted a higher likelihood that patients would receive PMRT: receipt of chemotherapy, readmission to the hospital within the first month after breast removal, and being alive 30 days after the operation.

Women with N2 or N3 breast cancer were 5.4 times more likely to get [radiation therapy](#) after mastectomy if they also received chemotherapy. In all, 82.1 percent of patients received chemotherapy. Dr. Chu theorized that women who chose not to receive chemotherapy might also have been unwilling to accept radiation therapy.

Breast cancer patients had 1.14 times the odds of receiving PMRT if they were readmitted to the hospital within 30 days postoperatively because of complications or other reasons. Dr. Chu suggested that hospital care providers may realize that the patient was not referred for radiation therapy, making an early readmission "a point to remedy the error" of noncompliance with treatment guidelines.

"From this study, we could not tease out whether patients refuse treatment or there is a lack of awareness among women and physicians about the need for radiation therapy after mastectomy for locally [advanced breast cancer](#)," Dr. Chu said. "If women with N2/N3 breast cancer who plan a mastectomy are not offered PMRT, they should ask their physician why."

To ensure that these patients with breast cancer are considered for PMRT, the CoC last November introduced a quality measure<sup>3</sup> that evaluates the percentage of eligible patients in each CoC-accredited program receiving this recommended therapy, said CoC Chair Daniel P. McKellar, MD, FACS, a general surgeon in Greenville, Ohio.

All cancer programs accredited by the CoC must ensure that at least 90 percent of eligible patients receive this adjunctive treatment within one year of their breast cancer diagnosis according to the quality measure.<sup>4</sup>

"This study by Dr. Chu's group illustrates an important issue regarding dissemination of new research findings and implementation into clinical practice," Dr. McKellar said. "On average, it takes nine years from the

time a new intervention is recommended as an evidence-based practice to when it is fully adopted.<sup>5</sup> The Commission on Cancer is working to shorten this gap for all types of cancer."

Dr. McKellar said some recently diagnosed [breast cancer patients](#) are surprised to learn that if they have a mastectomy, they sometimes will need radiation therapy afterward.

Exceptions to the PMRT recommendation for high-risk breast cancers include women who had prior radiation therapy or have connective tissue disorders.

**More information:** Postmastectomy Radiation for N2/N3 Breast Cancer: Factors Associated with Low Compliance Rate, *Journal of the American College of Surgeons*. DOI:

[dx.doi.org/10.1016/j.jamcollsurg.2014.12.045](https://doi.org/10.1016/j.jamcollsurg.2014.12.045)

Notes:

1 Overgaard M, Hansen PS, Overgaard J, et al. Postoperative Radiotherapy in High-Risk Premenopausal Women with Breast Cancer Who Receive Adjuvant Chemotherapy. *N Engl J Med*. 1997;337(14):949-955; Ragaz J, Jackson S, Le N, et al. Adjuvant Radiotherapy and Chemotherapy in Node-Positive Premenopausal Women with Breast Cancer. *N Engl J Med*. 1997;337(14):956-962; Overgaard M, Jensen MB, Overgaard J, et al. Postoperative Radiotherapy in High-Risk Postmenopausal Breast-Cancer Patients Given Adjuvant Tamoxifen: Danish Breast Cancer Cooperative Group DBCG 82c Randomised Trial. *Lancet*. 1999;353(9165):1641-1648; Ragaz J, Olivotto IA, Spinelli J, et al. Locoregional Radiation Therapy in Patients With High-Risk Breast Cancer Receiving Adjuvant Chemotherapy: 20-Year Results of the British Columbia Randomized Trial. *J Natl Cancer Inst*. 2005;97(2):116-126.

2 American Joint Committee on Cancer. Breast Cancer Staging 7th Edition. Available at: [cancerstaging.org/references-t...stSmall.pdf](http://cancerstaging.org/references-t...stSmall.pdf). Accessed January 20, 2015.

3 Eifel P, Axelson J, Costa J, et al. National Institutes of Health Consensus Development Conference Statement: Adjuvant Therapy for Breast Cancer, November 1-3, 2000. J Natl Cancer Inst. 2001;93(13):979-989; Recht A, Edge S, Solin L, et al. Postmastectomy Radiotherapy Guidelines of the American Society of Clinical Oncology. J Clin Oncol. 2001;19(5):1539-1569.

4 American College of Surgeons. CoC Standards 4.4 and 4.5 Implementation for Surveys in 2015. Available at: [www.facs.org/publications/news...-source/standard4445](http://www.facs.org/publications/news...-source/standard4445). Accessed January 21, 2015.

5 Tinkle M, Kimball R, Haozous E, et al. Implementation Research Funded by the US National Institutes of Health, 2005-2012. Nurs Res Pract. 2013:1-15. Available at: [www.hindawi.com/journals/nrp/2013/909606](http://www.hindawi.com/journals/nrp/2013/909606). Accessed January 21, 2015.

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