

Models can predict breast cancer-related lymphedema

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Preoperative and postoperative models are highly accurate for predicting

breast cancer-related lymphedema (BCRL), according to a study published online July 12 in *JAMA Surgery*.

Danielle H. Rochlin, M.D., from Memorial Sloan Kettering Cancer Center in New York City, and colleagues conducted a prognostic study involving women with [breast cancer](#) who underwent axillary lymph node dissection (ALND) or [sentinel lymph node biopsy](#) (SLNB) from 1999 to 2020 to create a simple and accurate prediction model for BCRL. Data were included for 1,882 [female patients](#) (mean age, 55.6 years).

The researchers found that at a mean follow-up of 3.9 years, 11.6 percent of patients were diagnosed with BCRL. The BCRL rate was significantly higher among Black women compared with Asian, White, and other race women (22.1 percent versus 12.5, 10.1, and 14.8 percent, respectively). Accuracy for model 1 (preoperative), which included age, weight, height, race, ALND/SLNB status, any radiation therapy, and any chemotherapy, was 73.0 percent, sensitivity was 76.6 percent, specificity was 72.5 percent, and the area under the receiver operating characteristic curve (AUC) was 0.78 at a cutoff of 0.18.

For model 2 (postoperative), which included age, weight, race, ALND/SLNB status, any chemotherapy, and patient-reported arm swelling, accuracy was 81.1 percent, sensitivity was 78.0 percent, specificity was 81.5 percent, and the AUC was 0.86 at a cutoff of 0.10. Higher AUCs were seen for both models on external or internal validation.

"By implementing these predictive models in a patient-facing format within [clinical care](#), our goal is to direct patients to appropriate preoperative and postoperative interventions in a manner that balances precision and practicality," the authors write.

Two authors disclosed ties to the biopharmaceutical, medical device, and

publishing industries.

More information: Danielle H. Rochlin et al, Feasibility and Clinical Utility of Prediction Models for Breast Cancer–Related Lymphedema Incorporating Racial Differences in Disease Incidence, *JAMA Surgery* (2023). [DOI: 10.1001/jamasurg.2023.2414](https://doi.org/10.1001/jamasurg.2023.2414)

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