

**LYMPHEDEMA FOLLOWING BREAST CANCER TREATMENT,  
INCLUDING SENTINEL LYMPH NODE BIOPSY****J. Armer, M.R. Fu, J.M. Wainstock, E. Zagar, L.K. Jacobs**

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**ABSTRACT**

*To compare the occurrence, signs, and symptoms of lymphedema (LE) the arms of women after axillary lymph node dissection (ALND), sentinel lymph node biopsy (SLNB), combined SLNB and ALND (Both), or neither as part of breast cancer diagnosis and treatment, a concurrent descriptive-comparative cross-sectional four-group design with retrospective chart review was carried out. In a convenience sample of 102 women treated for breast cancer and receiving follow-up care at a midwestern United States cancer center, sequential circumferential measurements at five selected anatomical sites along both arms and hands were used to determine the presence of LE ( $\geq 2$  cm differences between sites). Participants self-reported LE-related signs and symptoms by interview and completion of the Lymphedema and Breast Cancer Questionnaire (LBCQ). Retrospective chart review was carried out to verify lymph node-related diagnostic and treatment procedures. Based on node group, LE occurred as follows: 43.3% (29 of 67) of women who underwent ALND alone; 22.2% (2 of 9) of those who underwent SLNB alone; 25.0% (3 of 12) of those with combined SLNB and ALND; and 22.2% (2 of 9) with neither SLNB nor ALND. LE-related symptoms were reported by women who underwent ALND alone, SLNB alone, combined SLNB and ALND, and neither. Among the node groups, three symptoms were more common: larger arm size, firmness/tightness in past year, and numbness in past year. We conclude that circumferential measurements of the upper arm and forearm may be critical for distinguishing LE from no LE. Overall, the proportion of women who experienced LE-related signs and symptoms was higher among women who underwent ALND versus SLNB. However, numbness and tenderness frequently were reported by those undergoing ALND, SLNB or both; and by women without LE. It is possible that some frequently occurring symptoms, such as numbness and tenderness, may be related to breast cancer surgery and not LE. Findings from this study can assist health professionals in educating women with breast cancer about LE risk factors, as well as early detection and management of LE by using the LBCQ and sequential circumferential arm measurements to evaluate limb changes subjectively and objectively concurrent with each breast cancer survivor's follow-up care.*

