

**LYMPHEDEMA SECONDARY TO BREAST CANCER: HOW CHOICE  
OF MEASURE INFLUENCES DIAGNOSIS, PREVALENCE, AND  
IDENTIFIABLE RISK FACTORS**

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*ABSTRACT*

*Research on secondary lymphedema primarily uses indirect methods for diagnosis. This paper compares prevalence and cumulative burden following breast cancer surgery, as well as personal, treatment, and behavioral characteristics associated with lymphedema, using different assessment techniques. Lymphedema status was assessed at three-monthly intervals between six- and 18-months post-surgery in a population-based sample of Australian women with recently diagnosed, unilateral, invasive breast cancer, using three methods: bioimpedance spectroscopy (BIS), difference between sum of arm circumferences (SOAC) and self-report. Depending on the method, point prevalence ranged between 8 to 28%, with 1 in 5 to 2 in 5 women experiencing lymphedema at some point in time. Of those with lymphedema defined by BIS, almost 40%-60% went undetected, and 40%-12% were misclassified as having lymphedema, based on self-report and SOAC, respectively. The choice of measure also had significant implications for identified risk factors. Over 10 characteristics were associated with lymphedema, however only one, experiencing other upper-body symptoms at baseline, influenced odds of lymphedema across all three methods. These findings highlight that secondary lymphedema poses a significant public health problem. Utilizing the most accurate and reliable method for assessment is crucial to advance our understanding of preventive and treatment strategies.*