

Arm Function May Affect Quality of Life of Long Term Breast Cancer Survivors

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Background: Breast cancer affects 1 in 8 women in their lifetime. This year, more than 240,000 women will be diagnosed with breast cancer. The advances in screening and detection combined with aggressive treatment have resulted in 5 year survival rates approaching 90%. This means that more than 2.6 million women are living after a diagnosis of breast cancer today. With this survival, ensuring a return to the pre-cancer level of quality of life becomes essential to define successful recovery.

Quality of life can be affected by the ability to use the arm to complete daily activities ranging from basic self-care to work-related tasks. Normal arm function requires adequate motion and strength to complete these functional activities. Aggressive treatment for breast cancer including surgeries to the breast and armpit, and radiation to the armpit region, can result in a decrease in motion and strength. These declines can impact the overall ability to use the arm to complete daily activities.

Short term impaired arm function associated with breast cancer surgery and treatment is not unusual and frequently resolves within the first year after treatment. A portion of breast cancer survivors, however, report continued limited abilities to use their arm as before surgery beyond the first year after treatment. Research has not examined whether these reports of decline are specific to breast cancer survivors or are associated with changes that occur with normal aging. Determining if the level of arm function of long term breast cancer survivors differs from women without breast cancer would be useful information for health care providers, who may be able to refer women to appropriate treatment sources to prevent or address these long term problems.

Methods: In order to answer the question of differences in arm function between women with and without breast cancer, we measured quality of life and arm function in 42 breast cancer survivors and 59 women who had not had breast cancer. Participants completed questionnaires about their quality of life and arm function, and measures of arm motion and strength. Whether the involved arm was the dominant or non-dominant arm was taken into consideration in the analysis.

Results: Breast cancer survivors reported lower quality of life and arm function than women without breast cancer. Five of 6 motion measures were statistically less than the control group, with breast cancer survivors showing an average deficit of 5-10%. Strength was statistically lower among breast cancer survivors who experienced cancer on their non-dominant side, by 23-25%.

Conclusion and Relevance: Long term breast cancer survivors have lower self-reported quality of life and arm function, and lower measures of motion and strength than women who did not have breast cancer, particularly when cancer occurred on the non-dominant side. The findings suggest that overall arm function is lower. From a functional task perspective, the values demonstrated by breast cancer survivors are at adequate levels to complete most daily tasks. What may be compromised are higher level functional demands. Shoulder motion is not great enough to reach high shelves, and strength declines may be large enough to limit more demanding tasks such as work or sports activities. This may account for the lower perception of quality of life and arm function reported by breast cancer survivors. These perceptions are important because an awareness of potential limitations women who have breast cancer may face may assist in referral to appropriate rehabilitation specialists to address problems preventing a full return to function after breast cancer treatment.