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Discussion: The Quality of Life Outcomes between Mastectomy Alone and Breast Reconstruction. Comparison of Patient-Reported Breast-Q and other Health-Related QoL Measures

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Dr. Eltahir and co-authors performed a thoughtful analysis of quality of life and patient-reported outcomes among a cross-sectional cohort of mastectomy-treated female patients who received care at their medical center. Outcomes among those with mastectomy alone were compared to those receiving mastectomy with breast reconstruction. The authors concluded that receipt of post-mastectomy breast reconstruction was associated with greater satisfaction with breast appearance, better psychosocial health and sexuality, less physical pain and improved physical functioning.

Health-related quality of life research is of utmost importance in plastic surgery. In many areas of medicine, mortality and morbidity are the primary outcomes used to measure quality of care. However, in plastic surgery, most surgical procedures are aimed at improving patients' psychosocial health and are associated little mortality or morbidity risk. Quality of life research helps providers understand what works best for patients and is often used for health policy initiatives. Breast reconstruction is an excellent example of how quality of life research impacts health delivery. The documented changes in women's psychosocial health with breast reconstruction was the primary driver for the 1998 Women's Health and Cancer Rights Act, which mandated insurance coverage of these procedures. ([A]The Women's Health and Cancer Rights Act. (Available at: <http://www.cms.hhs.gov/apps/statchipalaws/content/whcra.asp>. Accessed June 8, 2005. B) Congressional activities for the 107th Congress, December 3-5, 2001. National Cancer Advisory Board. Available at: <http://www3.cancer.gov/legis/dec01/womenshealth.html>. Accessed June 8, 2005.])

As we refine our surgical technique, we also need to become more sophisticated in the ways to which our quality of life outcomes are measured. Patient-reported outcome measures (PROMs) provide a unique facet to surgical research in that they give insight to a very different perspective on outcomes than what traditional measures can delivery based on providers' outcomes assessment. The patient can have a very different assessment of the surgical outcome than the surgeon. Ultimately, if our patients who are the consumers of healthcare, it is important to measure outcomes from their perspective. The authors should

be commended on using a previously validated PROM for breast surgery—the BREAST-Q. Currently, the BREAST-Q is the most sophisticated, reliable and well-validated PROM available for breast surgery and is applicable to the reconstruction and cosmetic patient.¹

The decision to have breast reconstruction is a preference-sensitive decision that will vary greatly across patients with different clinical and socio-demographic backgrounds. The decision is very personal and is grounded in women's personal experience with body image, sexuality and self-esteem. In our previous research, we have found that a substantial proportion of women do not undergo breast reconstruction because it is not important to them.² A reconstructed breast has little value or meaning to a substantial portion of patients. On the other hand, many strongly desire reconstruction. The reasons can range from pragmatic reasons related to clothing fit and flexibility to very personal reasons related to body image, self-esteem and sexuality. These two groups of women—those desiring breast reconstruction and those with no desire—are inherently very different. The basic principle that these two groups of patients are intrinsically different is the foundation for the primary concern we have regarding the conclusions of this research.

The authors have no baseline preoperative information on these two groups of patients. There is no information, for example, on the physical activity level of either group that most likely has a bigger impact on their physical functioning, physical pain and physical limitations years after their mastectomy than does receipt of reconstruction. There are no preoperative data on sexuality between the two surgical groups, and one could hypothesize a correlation between sexuality and desire for reconstruction. Any baseline preoperative differences in sexuality are most likely the primary driver of long-term sexuality outcomes rather than receipt of reconstruction. Similar comparisons can be made for the psychosocial health outcomes. The study combined patients with and without breast cancer, and the psychosocial health of these two groups will most likely be dramatically different regardless of surgical treatment.

The most rigorous study design—a randomized control trial—is often not feasible, especially for a preference-sensitive decision such as breast reconstruction. Statistical tools are available to try to account for potential differences in study populations that may have an impact on the outcome of interest when randomization is not possible. One such technique is the use of statistical regression models that control for possible confounding factors. The authors did perform a linear regression model in an attempt to control for baseline differences between the two treatment groups. However, their approach to regression modeling is somewhat unique. Only variables found to be statistically significant were included in the model. More traditional regression modeling techniques include all baseline characteristics that are hypothesized to have a potential impact on the outcome of interest, such as patient age, comorbidities, stage of disease, and type/timing/laterality of the reconstruction. It is unclear if the approach they used is constrained by the limited sample size and, thus, inadequate statistical power.

In summary, the authors have spent a considerable amount of time and effort to perform a quality of life assessment of mastectomy-treated patients with and without breast reconstruction. The authors should be commended on using well-established, previously

validated measures to assess outcomes. The outcomes of this study are what every plastic surgeon wants to hear—that we are improving the psychosocial health, sexuality and physical functioning of our patients. However, one should be cautious in drawing too strong of a conclusion from these results owing to the inherent differences in the two treatment groups. This study, however, lays a solid foundation for a prospective cohort study that can measure and control for baseline patient characteristics that may be associated with postoperative quality of life outcomes.

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