

## Process Outcomes in Breast Reconstruction and the Impact of a Comprehensive Breast Center

Albert H. Chao, MD; Ibrahim Khansa, MD; William B. Farrar, MD; Michael J. Miller, MD

### Abstract

**Background:** While surgical outcomes for breast reconstruction have been well described, process outcomes (particularly those related to access, efficiency, and sustainability) have not. These processes are likely to be impacted by the increased centralization of breast cancer care into comprehensive breast centers. Our study objectives were to define measures for processes of care in breast reconstruction, and to determine the effect of a comprehensive breast center on these measures.

**Methods:** A review was performed of all patients who underwent evaluation for postmastectomy breast reconstruction between 2009-2013, a period spanning from two years before to two years after opening of our comprehensive breast center. Consultation, surgical, and financial data were compared between the two time periods.

**Results:** A total of 614 (45.0%) and 750 (55.0%) patients were treated before and after formation of our comprehensive breast center, respectively. Between the two time periods, the internal referral rate for postmastectomy breast reconstruction increased (27.1% to 46.0%,  $p<0.001$ ). The delay between surgical oncology and plastic surgery consultation decreased (10.5 to 3.6 days,  $p<0.001$ ), as did that between plastic surgery consultation and surgery (41.7 to 30.2 days,  $p=0.002$ ). The reduction in surgery waiting times was observed for both autologous (45.1 to 32.6 days,  $p=0.003$ ) and implant-based reconstructions (34.9 to 25.5 days,  $p=0.004$ ). The total interval between surgical oncology consultation and surgery decreased from 51.9 days to 32.5 days ( $p<0.001$ ). The rate of immediate breast reconstruction increased (40.1% to 52.7%,  $p<0.001$ ), including for autologous reconstructions (13.1% to 20.8%,  $p<0.001$ ). Between the two time periods, hospital revenues from breast reconstruction grew by 96.5% and hospital net income grew by 180.3%. Professional revenues from breast reconstruction grew by 85.1%, and professional net income grew by 73.6%.

**Conclusions:** In breast reconstruction, a comprehensive breast center improves processes of care, and underscores the importance of plastic surgery involvement within these centers. The measures by which we have analyzed our program may be of utility to other reconstructive surgery programs, breast centers, and accreditation bodies. We describe our strategy for integration of reconstructive surgery into a comprehensive breast center.

### Disclosure/Financial Support

No funding was received for this work. None of the authors has a financial interest in any of the products, devices, or drugs mentioned in this manuscript.