

## **Autologous Breast Reconstruction and Post-Mastectomy Radiation: Is Delayed Reconstruction a Thing of the Past?**

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**Background:** In women who require post-mastectomy radiation therapy (PMRT), immediate autologous breast reconstruction is often discouraged with concerns for flap compromise. We aim to prospectively evaluate the postoperative morbidity and satisfaction reported by women undergoing delayed or immediate autologous breast reconstruction in the setting of PMRT.

**Methods:** Patients enrolled in the Mastectomy Reconstruction Outcomes Consortium Study, who received PMRT and had free abdominally-based autologous breast reconstruction were identified. Immediate reconstructions were performed prior to PMRT, and delayed reconstructions were performed after PMRT. Postoperative complications at one and two years after reconstruction were assessed. Patient reported outcomes were evaluated using the BREAST-Q questionnaire preoperatively, at one and two-years postoperatively. Univariate and mixed effects logistic regression analyses were performed to assess relationships among demographic, clinical variables, and outcomes of interest.

**Results:** A total of 175 patients met our inclusion criteria. Immediate reconstructions were performed in 108 patients and delayed reconstructions in 67 patients. Overall complication rates were similar based on reconstructive timing (25.9% immediate and 26.9% delayed;  $p=0.54$ ). Patients with delayed reconstruction report significantly lower preoperative (pre-reconstruction) scores ( $p<0.0001$ ) for satisfaction with breast, psychosocial and sexual well-being than did patients with immediate reconstruction. At one and two years postoperatively, both groups of patients reported comparable levels of satisfaction with breast and in all other evaluated BREAST-Q domains.

**Conclusions:** Breast aesthetics and quality of life do not appear to be compromised by flap exposure to PMRT. Furthermore, immediate autologous breast reconstruction in the setting of PMRT appears to be as safe as delayed autologous breast reconstruction.

### **References:**

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