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**BACKGROUND:** Recent literature in various surgical specialties has shown the use of enteral immunonutrition prior to major surgery to reduce infectious complications, length of stay, and overall morbidity.1,2 To date, no studies have examined the use of immunonutrition within plastic and reconstructive surgery. The purpose of this study is to evaluate the impact of preoperative immunonutrition supplementation on the outcomes of immediate breast reconstruction.

**METHODS:** All patients undergoing immediate autologous or alloplastic breast reconstruction at the University of Wisconsin, Madison beginning February 2018 were contacted and offered enrollment in this study. All patients who consumed Impact Advanced Recovery for 5 days before the surgery were reviewed (n = 59: 36 autologous, 23 alloplastic). This group was compared with a retrospective control group (n = 106: 40 autologous, 66 alloplastic) of patients who underwent surgery before February 2018. No other major changes in perioperative care or operative technique were made within the timeframe of the retrospective or prospective collection period. Chart review was performed on all patients in a 30-day (autologous, direct-to-implant) or 90-day (expander) postoperative window. The rates of surgical site infection, wound dehiscence, seroma, and mastectomy skin flap necrosis were analyzed individually and combined to form an aggregate “wound complication rate.”

**RESULTS:** Aggregate wound complication rate was reduced from 49.06% to 32.20% after intervention ($P = 0.0361$). Specifically, the rate of mastectomy skin flap necrosis was reduced from 24.53% to 8.47% ($P = 0.0114$), and the rate of wound dehiscence was reduced from 15.09% to 1.69% ($P = 0.0067$) in the cohort who received preoperative immunonutrition supplementation. The rates of infection, unplanned return to the operating room, and aborted reconstruction were not significantly different between the control and interventional cohorts.

**CONCLUSIONS:** Based on the initial results of this ongoing trial, preoperative immunonutrition supplementation with Impact Advanced Recovery may significantly improve wound complication rate in patients undergoing immediate autologous and alloplastic breast reconstruction.

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**The Impact of Pre- Versus Postmastectomy Radiation Therapy on Outcomes in Prepectoral Implant-Based Breast Reconstruction**

**Presenter: Catherine J. Sinnott, MD**

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**PURPOSE:** Prepectoral implant-based breast reconstruction is being increasingly performed over subpectoral postmastectomy reconstruction because of the reduced invasiveness of the procedure, postoperative pain and risk of animation deformity. Radiation therapy is a well-known risk factor for complications in implant-based breast reconstruction. However, the effect of premastectomy versus postmastectomy radiation therapy on outcomes after prepectoral breast reconstruction has not been well-defined. The purpose of this study was to compare the impact of pre-versus postmastectomy radiation therapy on outcomes after prepectoral implant-based breast reconstruction.

**METHODS:** A retrospective chart review was performed of all patients who underwent prepectoral implant-based breast reconstruction with inferior dermal flap and acellular dermal matrix performed by a single surgeon from 2010 to 2019. Demographic, clinical, and operative data were reviewed and recorded. Outcomes were assessed by comparing rates of capsular contracture, infection, seroma, hematoma, dehiscence, mastectomy skin flap necrosis, rippling, implant loss, local recurrence, and metastatic disease between patients receiving pre- and postmastectomy radiation therapy and patients not receiving radiation therapy.

**RESULTS:** During the study period, 369 patients (592 breasts) underwent prepectoral implant-based breast reconstruction. Twenty-six patients (28 breasts) received premastectomy radiation, 45 patients (71 breasts) received postmastectomy radiation, and 305 patients (493 breasts)
did not receive either pre- or postmastectomy radiation therapy. Patients with premastectomy radiation had higher rates of seroma (14.3% versus 0.2%; \( P < 0.001 \)), minor infection (10.7% versus 1.2%; \( P = 0.009 \)), implant loss (21.4% versus 3.4%; \( P = 0.001 \)), and local recurrence (7.1% versus 1.0%; \( P = 0.049 \)), when compared with those without radiation. Patients receiving premastectomy radiation also had a capsular contracture rate 3 times that of nonradiated patients (10.7% versus 3.2%; \( P = 0.075 \)), although the difference was not significant. Patients with postmastectomy radiation had higher rates of major infection (8.4% versus 2.4%; \( P = 0.017 \)), capsular contracture (19.7% versus 3.2%; \( P < 0.001 \)), implant loss (9.9% versus 3.4%; \( P = 0.022 \)), and local recurrence (5.6% versus 1.0%; \( P = 0.018 \)), when compared with patients without radiation. Outcomes after prepectoral implant-based breast reconstruction were comparable between pre- and postmastectomy radiation therapy groups, respectively, with regard to major infection (7.1% versus 8.4%; \( P = 1.000 \)), dehiscence (3.6% versus 1.4%; \( P = 0.488 \)), major mastectomy skin flap necrosis (7.1% versus 2.8%; \( P = 0.317 \)), capsular contracture (10.7% versus 19.7%; \( P = 0.382 \)), implant loss (21.4% versus 9.9%; \( P = 0.184 \)), and local recurrence (7.1% versus 5.6%; \( P = 1.000 \)). However, patients with premastectomy radiation had a higher rate of seroma compared with those receiving postmastectomy radiation therapy (14.3% versus 0%; \( P = 0.005 \)).

CONCLUSIONS: In prepectoral implant-based breast reconstruction, both pre- and postmastectomy radiation therapy were associated with higher rates of infection and implant loss compared with nonradiated patients. However, premastectomy radiation was associated with a higher rate of seroma compared with nonradiated and postmastectomy radiation therapy groups. Postmastectomy radiation was associated with a higher rate of capsular contracture when compared with nonradiated patients and a comparable rate of capsular contracture when compared with premastectomy radiation therapy patients.

Outpatient Microsurgical Breast Reconstruction

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BACKGROUND: The extensive nature of perforator-based breast reconstructions, combined with the need for postoperative flap monitoring, often leads to long hospitalizations. We presented an early report demonstrated the feasibility and advantages of a modified operative technique and recovery protocol, allowing us to perform outpatient breast reconstructions with the deep inferior epigastric artery perforator (DIEP) flap. This follow-up comprises the experience gained, expanded to other perforator-based flaps, and not limited to DIEP breast reconstructions.

PATIENTS AND METHODS: We have implemented a general protocol in patients undergoing breast reconstruction with autologous flaps, promoting early mobilization and discharge by improving postoperative pain and decreasing opioid requirements. This protocol includes intraoperative local anesthesia, a microfascial incision for DIEP harvest with rib preservation, along with prophylactic anticoagulation.

RESULTS: Ninety-two consecutive patients underwent autologous tissue-based breast reconstruction with DIEP, IGAP, SGAP, and PAP flaps. No intraoperative complications were reported. All patients were discharged within 23 hours, without evidence of flap compromise. One patient required operative takeback for evacuation of a hematoma on postoperative day 4. No partial or total flap losses were documented.

DISCUSSION: The aim of any procedure should be to get to the patient back to the preoperative status as quickly as possible, as prolonged hospitalizations are associated with higher incidences of infection, deep venous thrombosis, overall dissatisfaction, and higher overall costs of care. By using a modified operative technique, multimodal pain control and postoperative anticoagulant therapy, outpatient perforator flap-based breast reconstructions can be performed with high success and low complication rates.

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Breast Reconstruction in Inflammatory Breast Cancer: An Analysis of Predictors, Trends, and Survival from the National Cancer Database

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