The Transition from Pedicle TRAM to Perforator Flap – What is the Cost of Opportunity?

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Abstract

Background: This study describes our experience of transitioning from pedicled transverse rectus abdominus myocutaneous (pTRAM) to deep inferior epigastric perforator (DIEP) at an academic center and shows how this transition affected outcome and reimbursement.

Methods: Our center transitioned to almost exclusively DIEP flaps for breast reconstruction in 2006. We retrospectively analyzed pTRAM flaps performed from 2002-2006 (Group 1) to DIEP flaps from 2006-2010 (Group 2) by comparing the operative time, complications and reimbursement between the two groups.

Results: We performed 93 pTRAM flaps in 69 patients in Group 1 and 102 DIEP flaps in 69 patients in Group 2. Operative time was shorter in Group 1 for unilateral breast reconstruction (399 minutes vs 543 minutes, p = 0.0001), but no significant difference was noted for bilateral cases (547 minutes vs 658 minutes, p=0.1) (Fig.1). Fat necrosis requiring reoperation was higher in Group 1 (23.7% vs 5.9%, p=0.0004). Although there were more partial flap necrosis (20% vs 12%, p= 0.2) and abdominal hernia (8.8% vs 1.6%, p=0.2) in Group 1 versus Group 2, these were not statistically significant. Fewer hematomas (1.5% vs 10%, p=0.06) were observed in Group 1 but this was not statistically significant. Mean adjusted revenue per case was $3659 for Group 1 versus $5257 for Group 2 (p=0.004) while mean revenue per minute was $9 in Group 1 versus $8.7 in Group 2 (p=0.9) (Fig. 2).

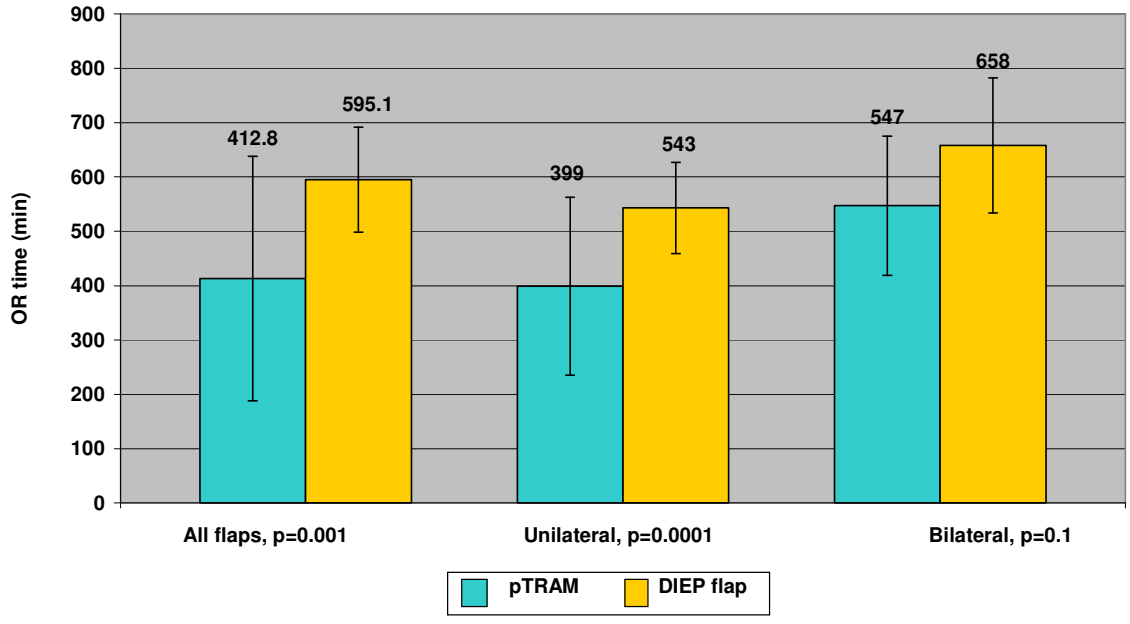

Fig 1. Comparison of operative time between pTRAM versus DIEP flaps

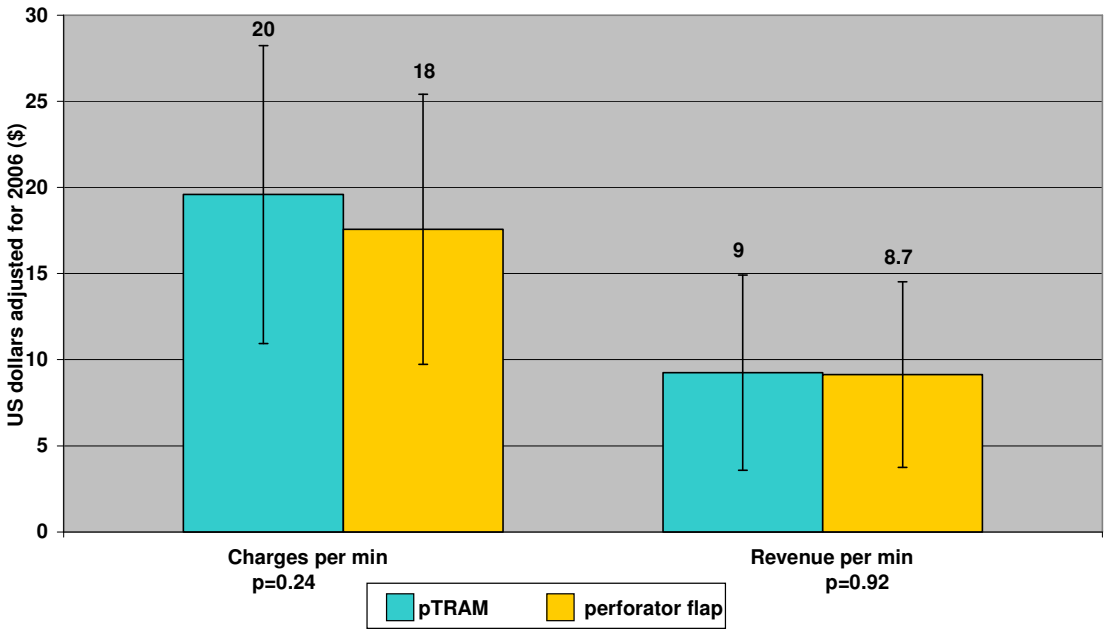

Fig 2. Comparison of charges & revenue between pTRAM versus DIEP

Conclusions: DIEP flaps appear to be as profitable as pTRAM flaps with lower morbidity. The transition from pTRAM to perforator flaps can be done successfully with well-trained microsurgeons, an already established breast reconstruction practice, and support from leadership and hospital staff. We believe that the development of a perforator flap practice represents an opportunity cost in optimizing patient care, and should be an option available to patients seeking autologous breast reconstruction.