

# Breast reconstruction using abdominal tissue—Differences in outcome with four different techniques

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Comparison of four types of abdominal flaps used for autologous breast reconstruction shows differences in some key outcomes—notably related to problems related to hernias or bulging at the abdominal "donor site," according to the new research by Dr. Sheina A. Macadam of University of British Columbia, Vancouver, and colleagues.

## Four Abdominal Flaps Show Differences in Satisfaction and Other Key Outcomes

The researchers identified nearly 1,800 women undergoing autologous breast reconstruction after mastectomy at five US and Canadian university hospitals. The reconstructions were done using different types of abdominal flaps:

- Traditional flaps incorporating the rectus muscle of the abdomen—called the free transverse abdominis myocutaneous flap (f TRAM) or pedicled transverse abdominis myocutaneous flap (p TRAM)
- Newer flaps that avoid or use only a part of the rectus muscle—called the deep inferior epigastric artery perforator flap (DIEP) or muscle-sparing free transverse abdominis myocutaneous flap (msf TRAM)

Hospital records were used to compare complication rates across the

four flap types. In addition, about half of the women completed the BREAST-Q<sup>®</sup> questionnaire, which assesses various aspects of quality of life after breast reconstruction. Average follow-up time was 5.5 years.

The most serious types of complications—including total flap loss and abnormal blood clots—were not significantly different between groups. Both the DIEP and msf-TRAM flaps were associated with lower rates of fat necrosis, compared to the p-TRAM flap.

The p-TRAM flap was also associated with the highest rate of abdominal hernia or bulging: nearly 17 percent. The risk of these donor-site complications was about eight percent with the msf-TRAM flap, six percent with the f-TRAM flap, and four percent with the DIEP flap.

That was consistent with the BREAST-Q responses, which showed better scores on a subscale reflecting physical issues related to the abdomen with the DIEP flap compared to the p-TRAM flap. Scores on the other BREAST-Q subscales—reflecting overall satisfaction with the breasts, and psychosocial and sexual well-being—were similar across groups.

About 20 percent of women undergoing breast reconstruction choose autologous reconstruction, which is most often done using abdominal flaps. Muscle-sparing flaps such as the DIEP and msf-TRAM have been developed to reduce complications at the abdominal donor site. While more women are interested in these muscle-sparing approaches, it hasn't been clear whether the longer operative times and increased costs of these procedures are justified by improved outcomes.

The new study shows some differences in complications and patient-reported outcomes with different abdominal flaps. "The DIEP was associated with the highest abdominal well-being and the lowest abdominal morbidity when compared to the p-TRAM, but did not differ from msf-TRAM and f-TRAM," Dr. Macadam and coauthors write.

While formal randomized trials would be needed to confirm these results, the researchers believe their findings provide important evidence on the outcomes of current options for autologous [breast reconstruction](#). They conclude, "The differences we have found in patient-reported symptoms and abdominal donor site outcomes may shift the practice of plastic surgeons towards utilizing methods with lower donor site [complications] and higher patient-reported satisfaction."

**More information:** Sheina A. Macadam et al. Quality of Life and Patient-Reported Outcomes in Breast Cancer Survivors, *Plastic and Reconstructive Surgery* (2016). [DOI: 10.1097/01.prs.0000479932.11170.8f](#)

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