

LEFT BREAST RECONSTRUCTION USING DEEP INFERIOR EPIGASTRIC ARTERY PERFORATOR FLAP

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INTRODUCTION

Breast reconstruction following mastectomy aims to restore breast volume and contour while achieving an acceptable aesthetic outcome. The deep inferior epigastric artery perforator (DIEP) flap provides autologous breast reconstruction using abdominal tissue while preserving the rectus abdominis muscle.

CASE PRESENTATION

PATIENT	23-year-old female
DIAGNOSIS	Left breast cancer
RECONSTRUCTION	Immediate autologous breast reconstruction using a DIEP flap
ADDITIONAL ONCOLOGIC SURGERY	Thyroidectomy and lymph node dissection — Levels I and II
HOSPITAL STAY	9 days

SURGICAL METHODOLOGY

- 01 MASTECTOMY**
Skin-, nipple-, and areola-sparing mastectomy through a preoperatively planned incision. Breast parenchyma removed while preserving the skin envelope and nipple-areola complex. Level I–II axillary dissection performed; long thoracic nerve, thoracodorsal nerve, and axillary vein identified and preserved.
- 03 RECIPIENT VESSELS**
Internal mammary vessels exposed following removal of a small segment of the third costal cartilage and prepared for microvascular anastomosis.
- 05 FLAP INSET & CLOSURE**
DIEP flap inset into mastectomy defect. Skin envelope and nipple-areola complex preserved. Abdominal donor site closed in layers with two Jackson-Pratt drains. Patient transferred to recovery in stable condition.

- 02 DIEP FLAP HARVEST**
Transverse lower abdominal incision to anterior rectus sheath. Left deep inferior epigastric perforators identified and preserved. Flap elevated while preserving rectus abdominis muscle. Left superficial inferior epigastric vein preserved for potential venous augmentation.
- 04 MICROVASCULAR ANASTOMOSIS**
Deep inferior epigastric artery anastomosed to internal mammary artery. Venous insufficiency required three revisions; an arterial graft was used to complete the primary venous anastomosis, followed by a second venous anastomosis using the preserved SIEV. Mild congestion persisted intraoperatively.

OPERATIVE DATA

394 g DIEP flap weight	244 g Mastectomy specimen weight	1.61 : 1 Flap-to-specimen weight ratio	9 DAYS Hospital stay	23 YEARS Patient age
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INTRAOPERATIVE VENOUS CONGESTION

- Venous insufficiency
- Venous anastomosis revision ×3
- Arterial graft-assisted venous anastomosis
- Second venous anastomosis using preserved SIEV
- Mild residual flap congestion

Despite repeated attempts to optimize venous drainage, mild flap congestion persisted at the completion of the procedure.

POSTOPERATIVE OUTCOME

FLAP SURVIVAL	Flap survived
COMPLICATION	Skin island necrosis
MANAGEMENT	Necrotic skin was excised during a second-stage procedure
HOSPITAL STAY	9 days

KEY SURGICAL POINTS

- MUSCLE-SPARING**
Rectus abdominis muscle preserved during DIEP flap harvest.
- IMMEDIATE RECONSTRUCTION**
Autologous breast reconstruction performed during the primary oncologic procedure.
- NIPPLE-AREOLA PRESERVATION**
Skin envelope and nipple-areola complex preserved.
- VENOUS AUGMENTATION**
Preserved superficial inferior epigastric vein utilized for additional venous drainage.

DISCUSSION & CONCLUSION

The DIEP flap provides autologous breast reconstruction while preserving the rectus abdominis muscle. Immediate reconstruction followed skin-, nipple-, and areola-sparing mastectomy with level I–II axillary lymph node dissection. The major intraoperative challenge was venous insufficiency, requiring repeated revision and additional venous drainage through the preserved SIEV. The flap ultimately survived, although skin island necrosis required excision during a second-stage procedure.

TAKE-HOME MESSAGE

DIEP flap reconstruction offers muscle-sparing autologous breast reconstruction, while meticulous management of venous outflow is essential for successful free-flap reconstruction.