# Successful Deep Inferior Epigastric Perforator Flap Breast Reconstruction Following Prior Deep Inferior Epigastric Source Vessel Ligation

## Introduction

Deep inferior epigastric perforator (DIEP) flaps represent an excellent method of breast reconstruction. Its success is predicated upon careful dissection of the dominant deep inferior epigastric (DIE) perforators and the patency of its associated source vessels. Prior ligation of the DIE vessels would thereby negatively impact DIEP flap harvest. If collateral branches maintain the patency of these source vessels, DIEP flap harvest may still be possible. We have successfully performed two bilateral DIEP breast reconstructions following prior ligation of the DIE source vessels.

## Methods

A retrospective review of two cases of DIEP breast reconstruction was performed following prior ligation of the DIE source vessels. The characteristics and findings in these specific cases were analyzed.

## Results

The first patient had multiple failed attempts at bilateral breast reconstruction using implants and latissimus flaps. The right chest wall had been previously radiated. A bilateral salpingo-oophorectomy had been performed for ovarian carcinoma via a Pfannenstiel incision. The DIE source vessels were found to be ligated and transected bilaterally from her gynecologic procedure near their origin at the iliac vessels. Although diminutive in size, intercostal collaterals near the hemoclips maintained source vessel patency and bilateral DIEP reconstruction was completed. The second patient had prior latissimus-based breast reconstructions with submuscular implants. This was complicated by a right-sided infected seroma and bilateral implant capsular contracture. She had undergone a prior delay procedure for possible pedicled TRAM flap reconstruction but did not wish to sacrifice her rectus muscles. CT angiography was performed of the abdomen and pelvis for possible gluteal artery perforator flap reconstruction. Despite clips on the DIE vessels near their origin, they appeared patent and of suitable caliber with sufficient length for bilateral breast reconstruction. Bilateral DIEP breast reconstruction was successfully performed without any associated complications.

## Conclusion

Successful DIEP flap reconstruction depends upon the patency of the DIE source vessels and sufficient perforators to maintain normal flap perfusion. Prior ligation of the DIE source vessels would therefore negatively impact successful flap harvest. If, however, collateral vessels maintain the patency of these source vessels, DIEP flap reconstruction can thereby be carried out successfully as demonstrated by these two cases. Radiologic imaging can aid in identifying such cases.