

Incidence of Retrograde Flow through the Vena Comitans of the Deep Inferior Epigastric Perforator

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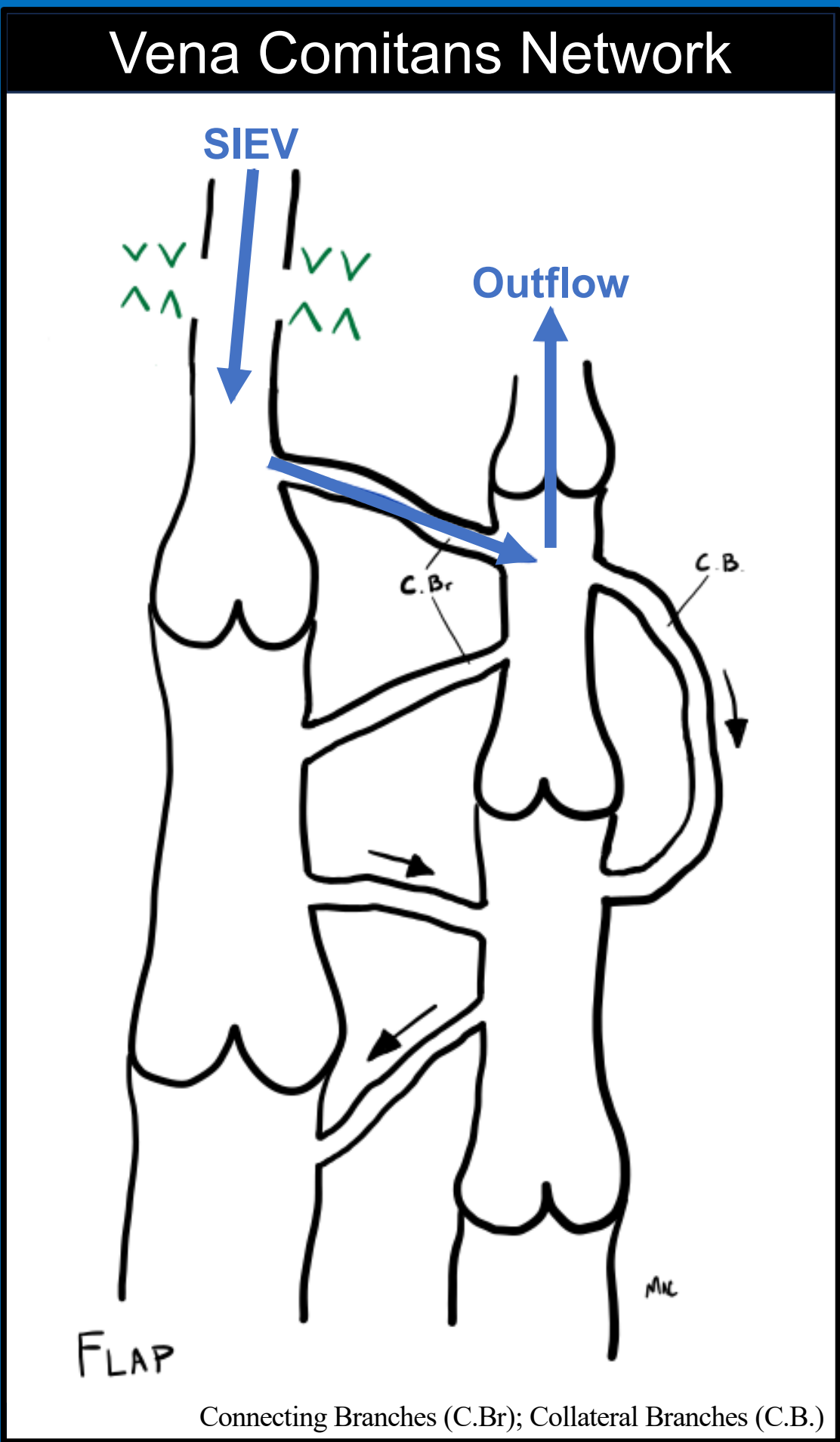
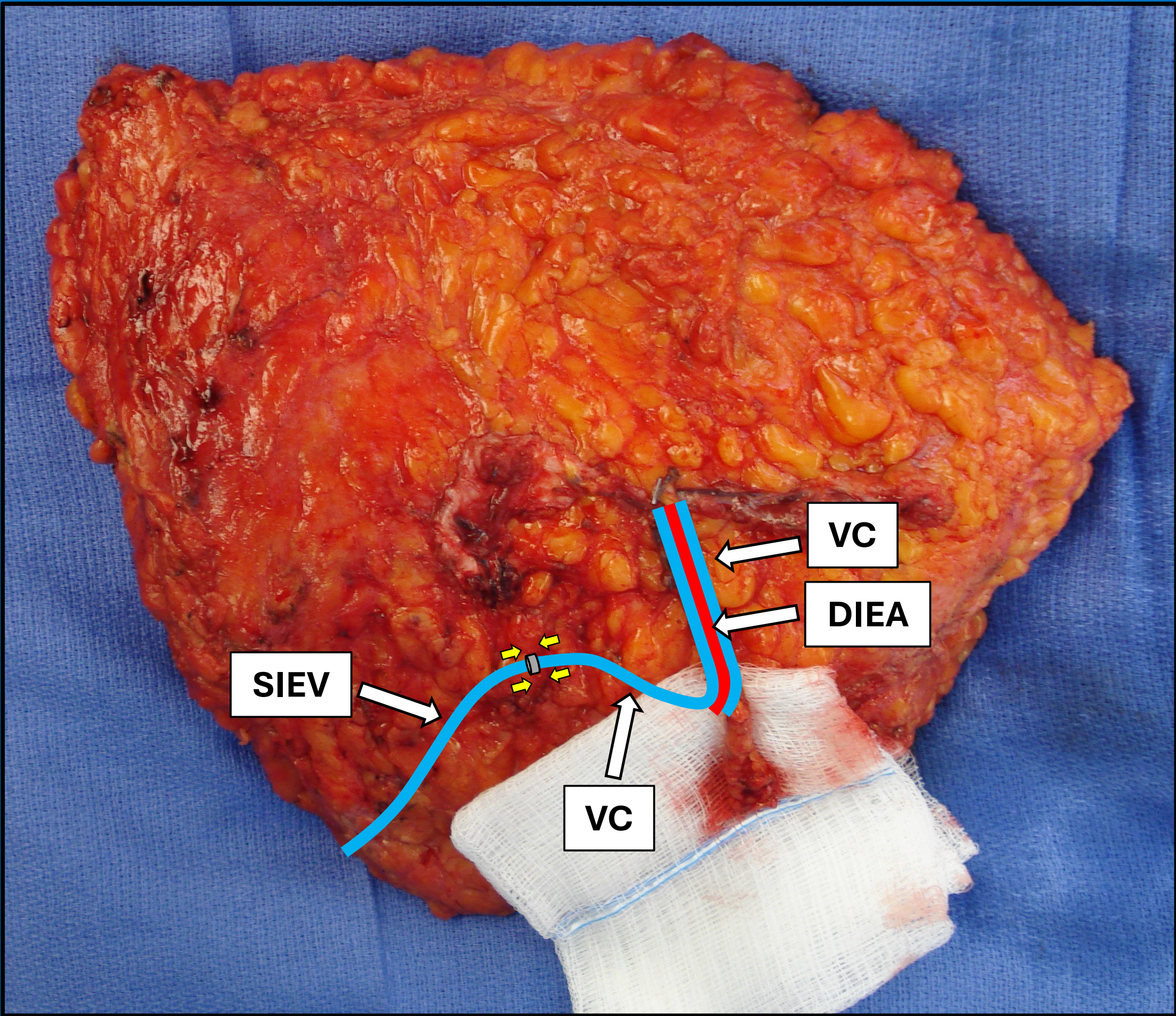
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BACKGROUND

Congested Deep Inferior Epigastric Perforator Flap

Venous congestion likely due to **reliance on the superficial drainage system**

Intra-flap anastomosis of the superficial inferior epigastric vein (SIEV) to the vena comitans (VC) of the DIEP can be used to restore outflow



Retrograde Flow through the Vena Comitans

Intra-flap anastomosis requires **retrograde flow** through the **one-way valves** of the venous system

- Connecting Branches
- Collateral Branches
- Weak Valves

Does it always work?

PURPOSE

Testing Patency of the Retrograde VC System

Establish a **method of intra-operative patency testing** prior to attempting anastomosis

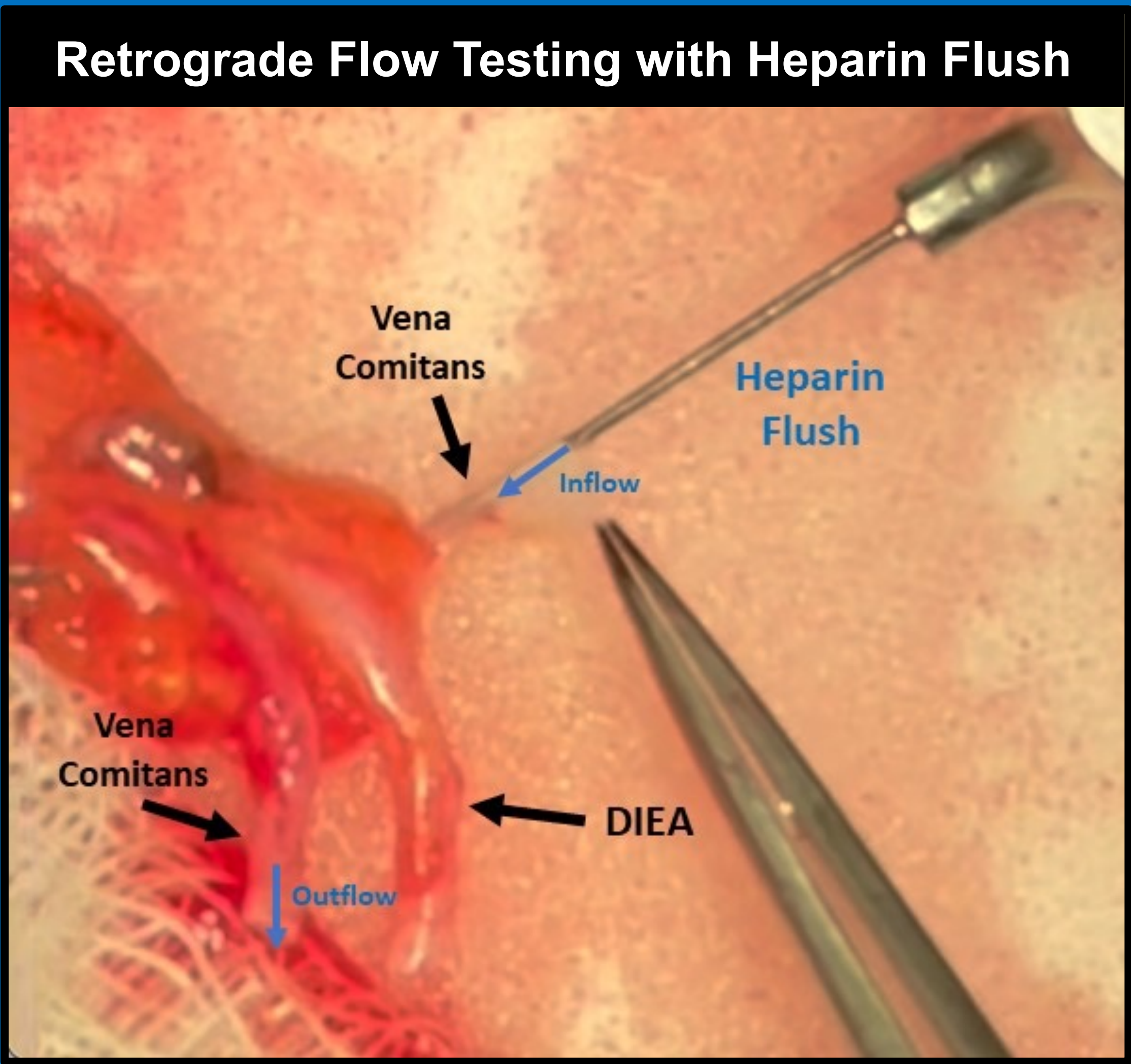
Identify the **patency rate** between VCs

- Commonly one vena larger than the other

METHODS

Retrograde venous flow through DIEP assessed during flap harvest

Heparin flush on a 23-gauge needle into each VC to visualize flow out the contralateral vena



Unidirectional flow between VCs compared using Chi-Squared goodness-of-fit (SPSSv24.0; p<0.05 significance level)

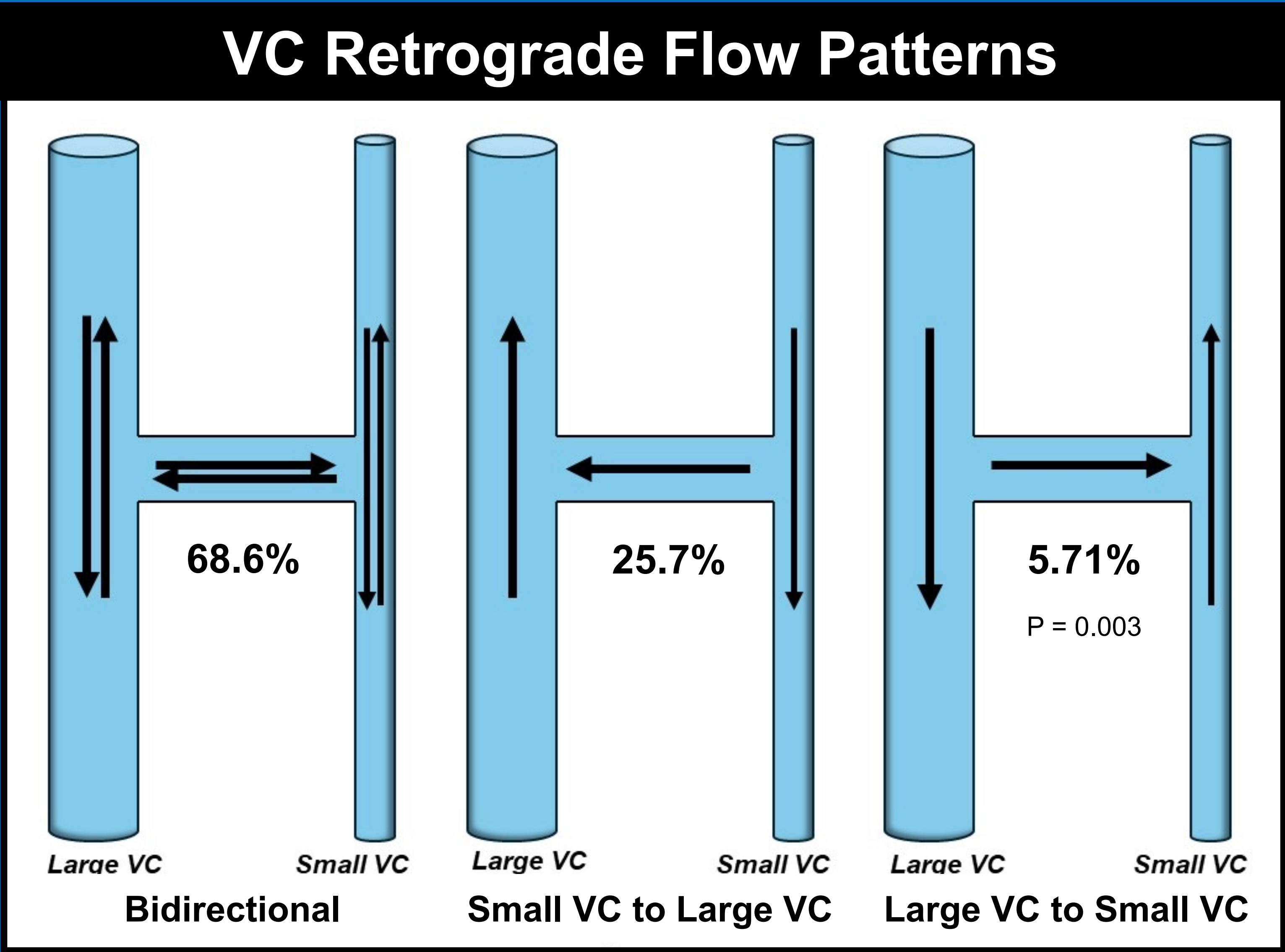
RESULTS

20 Patients Included & 37 DIEP Flaps Harvested

35/37 DIEP showed patent VC communication

Two flaps had only a single vena

Average luminal diameter: 2.38 mm



CONCLUSIONS

Retrograde flow through the DIEP is a **reliable salvage pathway**

31.4% of tested VCs **did not** have contralateral flow

The smaller VC is a more dependable anastomotic option