

Comparison of Coupler-Assisted Versus Hand-Sewn Venous Anastomosis in DIEP Flap Breast Reconstruction: A Single-Institution Study

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Background	Methods
• Microsurgical venous anastomosis is a critical step in free flap breast reconstruction. • Venous coupler device: less technically demanding, time-saving. • Limited data on its use in DIEP flap breast reconstruction. • Is the venous coupler device a safe alternative to hand-sewn venous anastomosis in DIEP flap breast reconstruction?	• Design: Retrospective cohort study (2018–2024) • Patients: 114 women → 141 DIEP flap reconstructions • Groups: Coupler-assisted (n=76, 53.9%) Hand-sewn (n=65, 46.1%) • Outcomes: Primary: Flap ischemia time secondary: Operative time and postoperative complications.

Resultats	Conclusion
• Ischemia Time: Coupler: 79.3 ± 31.8 min vs. Hand-sewn: 107.5 ± 29.4 min, 28 min shorter, (p < 0.001) • Operating Time: Coupler: 477.7 ± 134.9 min vs. Hand-sewn: 599.2 ± 142.5 min ≈ 2 h shorter, (p < 0.001) • Complications: No significant differences in donor-site or recipient-site complications • Flap loss rate: 1.5% overall	• Coupler-assisted venous anastomosis significantly reduces ischemia and operative times. • No increase in postoperative complication rates compared to hand-sewn technique. • The venous coupler represents a safe and efficient option for DIEP flap breast reconstruction, while maintaining hand-sewn proficiency remains essential.

Variable	Coupler (n = 76)	Hand-sewn (n = 65)	p-value
Operating time, min (mean ± SD)	477.7 ± 134.9	599.2 ± 142.5	<0.001
Ischemia time, min (mean ± SD)	79.3 ± 31.8	107.5 ± 29.4	<0.001
Any complication (%)	42.1	38.5	0.715
Total flap loss (%)	0	1.5	0.461

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