

# Supermicrosurgical Reconstruction of Large Defects on Ischemic Extremities using Supercharging Techniques on Latissimus Dorsi Perforator Flaps

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## Abstract

**Background:** In patients with underlying vasculopathies, the unavailability of main vessels for conventional microsurgery may preclude limb salvage. However, with the evolution of supermicrosurgical techniques, anastomosis at the perforator level that is sometimes spared by the underlying disease has become possible. To overcome pedicle obstruction issues following the procedure, a supercharging technique was used in reconstructions using a latissimus dorsi perforator (LDp) free flap.

**Methods:** From January 2008 to June 2010, a total of 21 patients underwent reconstructive procedures for large defects of the lower extremities using supermicrosurgery with arterial or venous supercharging techniques including a latissimus dorsi perforator, intercostal perforator, and the lateral thoracic vein.

**Results:** All flaps survived completely without arterial or venous problems. There were three minor complications of infection, venous congestion, and donor site hematoma. Except for a hematoma evacuation procedure, complications were managed conservatively.

**Conclusion:** The LDp flap can be harvested with numerous latissimus dorsi perforators, intercostal perforators and the lateral thoracic vein in order to perform the supercharging technique on reconstruction of large foot defects in patients with severe vasculopathy. This technique can be applied in various difficult situations including traumatic injury of the main limb vessels, and can increase survival rates for limb salvage, particularly in ischemic limb reconstruction.

## References

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