

Background: The proximal lateral lower leg flap is a flap suited for the reconstruction of small and thin defects. The purpose of this study was to map the position and consistency of the perforator vessels and to review its reliability and technical considerations clinically.

Methods: The location, number, and size of perforator vessels in the proximal third of the lateral lower leg were investigated in 20 fresh frozen cadaveric lower limbs. This was analyzed together with 22 clinical cases.

Results: Cadaveric dissection showed that there were 1-2 perforators in the proximal third of the lateral lower leg and these perforator vessels were found to be 63% septocutaneous and 37% musculocutaneous. The source vessel of the perforators was variable. Clinically the recipient site consisted of the head and neck in 8 cases, the foot and ankle region in 13 cases, and 1 case in the hand. The mean thickness of this flap was 5.8 ± 0.8 mm. Vascular pedicle length ranged from 5 to 8.5 cm. The mean diameter of flap artery was 1.3 ± 0.3 mm. One flap failure was seen due to arterial thrombosis. The overall flap survival rate was 95%.

Conclusions: The proximal lateral lower leg flap has the advantages of being thin and pliable, quick to harvest with no major arteries sacrificed. There is minimal donor site morbidity and primary closure of the donor site is possible in the majority of cases.