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Nutritive perfusion at donor site after microvascular fibula transfer.

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There are many reports on the versatility of the fibular flap, but only a few studies have reported on the morbidity, and none on the nutritive perfusion, of the donor site. This study describes for the first time the quantitative investigation of nutritive perfusion at the donor site after osteomyo-cutaneous fibula transfer. Tissue nutrition of the lower leg was measured in 25 patients by micro-lightguide spectrophotometry and laser Doppler flowmetry. In a standardized examination, hemoglobin oxygenation and blood flow of the donor leg and the contralateral leg (intraindividual control) were measured at the nutritive region of the peroneal artery (I), posterior tibial artery (II), and anterior tibial artery (III). In the operated leg, blood flow was significantly reduced in region I with the sacrificed peroneal artery, and significantly increased in region II and III, probably for compensation ($P = 0.03$). Decreased hemoglobin oxygenation and blood flow of the peroneal region at the donor site were without significance in comparison to the control leg ($P = 0.55$ and $P = 0.35$, respectively). Decreased nutritive perfusion at the donor site was below the threshold of clinical manifestation, and supports the low donor site morbidity following fibular grafting. MICROSURGERY 23:306-312 2003

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