

# Randomized clinical study on reversed saphenous infrapopliteal bypass to treat limb-threatening ischemia: common femoral artery *vs* superficial femoral or popliteal and tibial arteries as inflow

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## Background and purpose

The use of inflow sources distal to the common femoral artery (CFA) for bypasses to infrapopliteal arteries has been reported as a compromise measure when the length of the vein was not adequate. The purpose of this study was to compare the clinical outcome of vein infrapopliteal bypasses arising from the CFA and from the distal superficial femoral or popliteal and tibial arteries in patients with limb-threatening ischemia.

## Methods

Over 13 years, 160 vein infrapopliteal vein bypasses (160 patients) were randomized into two groups comprising 80 with an inflow arising from the CFA (group I) and 80 from below the CFA (group II). Patency and limb salvage rates were assessed by Kaplan-Meier analysis. All patients underwent graft surveillance at discharge, at 30 days and 6 months after surgery, then every 6 months thereafter. Follow-up ranged from 30 days to 127 months (mean 49 months).

## Results

Groups were similar with regard to age, sex and most atherosclerotic risk factors. Gangrene as an indication for surgery was statistically more frequent in group I (73.7% vs. 48.7%,  $P=0.002$ ), whereas nonhealing ulcer and rest pain were statistically more frequent in group II (51.2% vs. 25%,  $P=0.001$  and 46.2% vs. 28.7%,  $P=0.03$ , respectively). None of the patients died during the perioperative (30-day) period. At 1, 3 and 5 years patency and limb salvage rates were comparable between the groups, tending towards significance in the 5-year primary patency rate (73% vs. 57%,  $P=0.08$ ).

## Conclusions

In the absence of significant proximal disease, infrapopliteal revascularizations arising distal to the CFA can assure patency and limb salvage rates statistically similar to those performed using the CFA; moreover, the former needed fewer graft revisions to maintain the patency of failing grafts.