

**#1 LONG-TERM RESULTS OF INFRAGENICULATE BYPASS
GRAFTING USING ALL-AUTOGENOUS COMPOSITE VEIN**

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Objective: Infrageniculate (below-knee) bypass using all-autogenous composite vein requires multiple incisions, venovenostomy, and prolonged operating times. The purpose of this study was to evaluate the long-term results of this procedure, with comparisons to grafts created from single-segment greater saphenous vein (GSV) or polytetrafluoroethylene (PTFE).

Methods: 345 consecutive infrainguinal bypass grafts with an infrageniculate distal target artery were created in 298 patients in a single institution between January 1995 and September 1999. Co-morbid conditions were common including diabetes (62%), coronary artery disease (58%), prior lower extremity revascularization (41%), prior CABG (18%), and end-stage renal failure (18%). The indication for revascularization was limb salvage in 87% of cases. The grafts were constructed from single segments of GSV (n=246), from two or more vein segments resulting in an all-autogenous composite graft (n=57), or from PTFE (n=42) using a variety of distal adjuncts including vein patches (n=4) and arteriovenous fistulas (n=11). All-autogenous composite grafts were constructed using segments of ipsilateral or contralateral GSV (n=46), upper extremity vein (n=19), superficial femoral vein (n=5), or lesser saphenous vein (n=4). The majority of grafts were constructed using two segments of vein (n=54), although three segments were required in three cases. Patients undergoing composite graft revascularization (as compared to single-segment GSV grafts) exhibited higher incidences of diabetes mellitus (69% vs. 49%; p=0.04), prior bypass in the contralateral leg (32% vs. 16%; p<0.01), and prior bypass in the ipsilateral leg (51 vs. 16%; p<0.001).

Results: Three-year results are shown in the table below (median follow-up 12 months, range 0.1-61 months):

	30-day mortality	1°-assisted patency	2° patency	Limb salvage	Patient survival
GSV	3%	62±6%	70±5%	76±4%	84±3%
Composite	2	40±13	61±9 71±9		83±8
PTFE	0	11±10*	21±11*	35±13*	91±6

*p<0.05 compared to GSV or Composite

Conclusion: Infrageniculate all-autologous composite vein grafts exhibit similar long-term results to GSV grafts, and far superior results to PTFE grafts. For patients with inadequate intact GSV, the all-autogenous composite vein graft is the conduit of choice.