



# Preliminary Experience with the use of Endoscopic Vein Harvest of the Greater Saphenous Vein for Infringuinal Arterial Reconstruction

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## INTRODUCTION

- The BEST-CLI trial demonstrated superiority of single segment greater saphenous vein (GSV) bypass over endovascular revascularization for patients with critical limb ischemia.
- Endoscopic vein harvest (EVH) is widely used in cardiac surgery, yet remains controversial in vascular surgery.
- The main concerns regarding use of EVH include venous injury which may affect patency rates.

## OBJECTIVES

- The purpose of this study was to evaluate the feasibility of EVH of the GSV for infringuinal arterial reconstruction with respect to early patency and perioperative outcomes.

## METHODS

- Prospective study
- Single institution
- Total patients n=36**
- Vasoview Hemopro 2
- Consecutive patients undergoing infringuinal bypass between: **June 2022 - August 2023**

### Data Collected Included:

- Patient demographics
- Indications for procedure
- Operative time
- Length of stay
- Wound complications
- Postoperative narcotic use
- Graft patency

All Patients underwent follow-up with **duplex ultrasound** and **ankle brachial indices (ABI)** at **1 mo and 3 mo intervals** postoperatively

## RESULTS

Indication	n	%
Tissue loss	15	41.6
Ischemic rest pain	12	33.3
Disabling claudication	3	8.3
Popliteal aneurysm	6	16.6

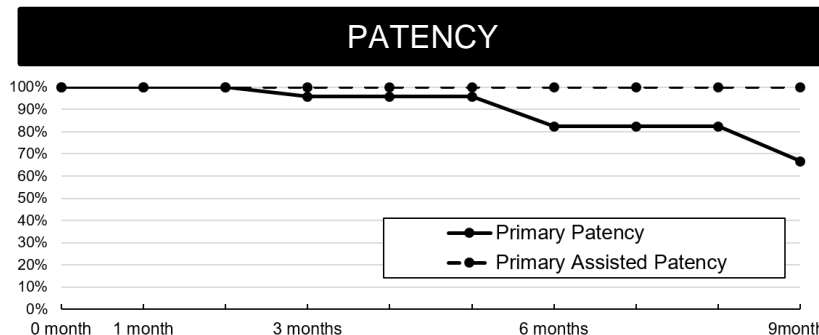
Median OR time: **7hr 10min**  
 IQR 6hr40m – 8hr30m

Median LOS: **3 days**  
 IQR 2 days – 6 days

Median Narcotic usage: **35 MME**  
 IQR 5 MME – 100 MME  
 Morphine Milligram Equivalents (MME)

**0 EVH associated wound complications**

Artery	Inflow artery	Outflow artery
Common femoral	22 (61.1%)	0
Superficial femoral	13 (36.2%)	0
Above-knee popliteal	0	7 (19.4%)
Below-knee popliteal	1 (2.7%)	10 (27.7%)
Tibial vessels	0	18 (50%)



## RESULTS

- Primary patency at 1, 6, and 9 months was 100%, 82.3% and 66.7%.
- Primary assisted patency was 100% at all intervals.
- Follow up was complete in 8 of 15 patients at 9 months.
- There were no vein or skin injuries during harvest.
- 5 patients experienced groin wound dehiscence unrelated to harvest sites.

## DISCUSSION

- Initial experience suggests that EVH of the GSV for infringuinal bypass is safe, technically feasible, and offers multiple benefits.
- Paucity of EVH associated wound complications corroborates multiple previous studies.
- No vein injuries occurred, which was a reason for initial apprehension of adopting EVH.
- Less postoperative pain is an interesting finding and a lesser noted benefit which warrants additional analysis.
- Further investigation is ongoing to evaluate long term durability of this approach.

## FUTURE DIRECTIONS

- Since initial review we have added additional recorded measures including:
  - Vein harvest time
  - Length of vein harvest (cm)
  - Nature of venous injury
- Potential investigations include patency in relation to length (cm) of continuous GSV harvested and comparison between target site patency.