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# 30-day Surgical Site Infection and Reintervention Rates In Lower Extremity Bypass Patients at LVHN

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## Background

- Nat'l clean SSI rate: ~2.1%
- Nat'l LE bypass SSI rate: ~3.5-32%
- 30-day readmit rates s/p LE bypass: 28.6%
  - Most common cause of readmission
  - Increased cost to system
  - Increased morbidity & mortality
  - Decreased patient QOL
- LE bypass can be performed open or endovascularly

## Problem Statement

The purpose of this project was to evaluate the 30-day SSI rate in lower extremity bypass patients at LVHN

## Methods

- Internally designated & designed quality improvement (QI) single-center study
- 334 initial patients included from 2017-2018
  - Master list of CPT codes relating to LE bypass
- Reintervention CPT codes obtained from 2017-2018
  - Cross-matched two databases with retrospective chart review

Table I: CPT codes and frequency of corresponding procedures from 2017-2018 at LVPV Vascular Surgery				Table II: CPT codes, post-exclusion criteria, related to postop wound complications		
CPT Code	Procedure Description	# of operations (2017-2018)	Exclusion Criteria	CPT Code	Procedure Description	#
35556	Bypass graft, with vein, fem-pop	63	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD	35860	PR EXPLOR POSTOP BLEED,INFECTION,CLOT-EXTR	3
35558	Bypass graft, with vein, fem-fem	3	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD	10180	PR COMPLEX DRAINAGE, WOUND	9
35565	Bypass graft, with vein, iliofem	3	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD	35903	PR EXCISION, INFECTION, GRAFT, EXTREMITY	4
35566	Bypass graft, with vein, fem-AT, PT, peroneal or other distal vessel	60	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD	TOTAL		16
35571	Bypass graft, with vein, pop-tibial, peroneal or other distal vessel	22	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD			
35583	In-situ vein bypass, fem-pop	5	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD			
35585	In-situ vein bypass, fem-AT, PT, peroneal or other distal vessel	7	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD			
35587	In-situ vein bypass, pop-tib, peroneal	0*	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD			
35621	Bypass graft, with other than vein, ax-fem	9	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD			
35623	Bypass graft, with other than vein, ax-pop or tibial	0*	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD			
35646	Bypass graft, with other than vein, aortobifem	20	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD			
35647	Bypass graft, with other than vein, aortounifem	4	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD			
35654	Bypass graft, with other than vein, ax-fem-fem	6	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD			
35656	Bypass graft, with other than vein, fem-pop	59	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD			
35661	Bypass graft, with other than vein, fem-fem	33	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD			
35665	Bypass graft, with other than vein, iliofem	13	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD			
35666	Bypass graft, with other than vein, fem-AT, PT, or peroneal	23	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD			
35671	Bypass graft, with other than vein, pop-tib, peroneal	0*	RETURN TO THE OPERATING ROOM FOR A REPEAT PROCEDURE DURING THE POSTOPERATIVE PERIOD			

## Results

Table I: CPT codes and frequency of corresponding procedures from 2017-2018 at LVPV Vascular Surgery

CPT Code	Procedure Description	# of operations (2017-2018)
35556	Bypass graft, with vein, fem-pop	63
35558	Bypass graft, with vein, fem-fem	3
35565	Bypass graft, with vein, iliofem	3
35566	Bypass graft, with vein, fem-AT, PT, peroneal or other distal vessel	60
35571	Bypass graft, with vein, pop-tibial, peroneal or other distal vessel	22
35583	In-situ vein bypass, fem-pop	5
35585	In-situ vein bypass, fem-AT, PT, peroneal or other distal vessel	7
35587	In-situ vein bypass, pop-tib, peroneal	0*
35621	Bypass graft, with other than vein, ax-fem	9
35623	Bypass graft, with other than vein, ax-pop or tibial	0*
35646	Bypass graft, with other than vein, aortobifem	20
35647	Bypass graft, with other than vein, aortounifem	4
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35661	Bypass graft, with other than vein, fem-fem	33
35665	Bypass graft, with other than vein, iliofem	13
35666	Bypass graft, with other than vein, fem-AT, PT, or peroneal	23
35671	Bypass graft, with other than vein, pop-tib, peroneal	0*

Table II: CPT codes, post-exclusion criteria, related to postop wound complications

CPT Code	Procedure Description	#
35860	PR EXPLOR POSTOP BLEED,INFECTION,CLOT-EXTR	3
10180	PR COMPLEX DRAINAGE, WOUND	9
35903	PR EXCISION, INFECTION, GRAFT, EXTREMITY	4
TOTAL		16

Table III: Conduit and bypass types leading to 30-day groin SSI rates

Procedure	Vein	Graft	TOTAL
Fem-fem		1	1
Fem-pop	4	2	6
Fem-AT/PT/peroneal or other distal vessel		2	2
Aorto-bifem		1	1
Axillary-bifem		1	1
TOTAL	4	7	11

## Discussion

- SSI rate of **3.6%**
  - Within nat'l reported range of 3.5-32%
  - Relatively low rate = positive news
- Overall outcomes s/p LE procedures remain poor
  - Patient comorbidities
  - High-risk and lengthy procedures
  - Association b/w PAD and CAD
- SELECT Principles
  - Cost Savings (Health Systems)
    - Avoid further interventions
    - Decrease morbidity & mortality
  - VBPCC
    - Improve patient QOL

## Conclusions

- 30-day groin SSI rate at LVPV Vascular Surgery
  - ~3.6%
  - Near lower range of nat'l reports of 3.5-32%
- Expanded inclusion criteria and more detailed chart review
  - Increase sample size
  - More robust cohort
- Assess impact of patient characteristics and peri-op variables

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