number of surgeries on patients age 80+ with CI has increased, rate per capita decreased by 14%, compared to a 20% decline in other age groups. The incidence of significant comorbidities has substantially increased; for claudicants: diabetes by 19%, HTP 30%, COPD 40%, CAD 21% and renal 230% in patients with CI. HTP, COPD, and CAD incidence was higher (23%, 32%, 8% respectively) but diabetes decreased by 6%. Cardiac, respiratory and infection complications after amputation have increased by 29%, 28% and 10%. For LER, respiratory complications increased 9% but cardiac and infection complications actually decreased (8 and 27%) Similar trends were observed for patients with combined LER and amputation. Length of stay (LOS) declined significantly in all groups with an overall decrease of 30% (p<0.05).

Conclusion: Despite the fact that patients, whether treated for claudication or CI, are sicker, older and have more complications, the rate of major amputations and LOS has significantly decreased due presumably to widespread and successful use of endo LER and/or to earlier interventions driven by the safety of endo LER.

Author Disclosures: R. Nowygrod, None; N.N. Egorova, None; S. Guillermu, None; N. Morrissey, None; A.C. Gelins, None; J.F. McKinsey, None.

PP40.
An Algorithm for Optimal Utilization of Percutaneous Closure Devices
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Purpose: To introduce an algorithm which has been successful in minimizing complications related to the use of percutaneous closure devices.

Method: The following algorithm was implemented as a result: 1) Perclose was the default closure device used, except in cases where the artery was very calcified or had dense scar tissue, in which case the Angioseal was the first choice. If a Perclose failed, the Angioseal was attempted. If an Angioseal failed, pressure was held for 15-30 minutes without peeking. If holding pressure failed, a Femostop (Radi Medical) was applied. 2) Methods: The author made 201 punctures in 191 (103 male, 88 female) patients undergoing endovascular procedures from April 2006 to October 2008. Risk factors included arrhythmia (n=12, 6.28%), coronary artery disease (n=55, 28.80%), congestive heart failure (n=9, 4.71%), diabetes (n=73, 38.22%), dialysis (n=9, 4.71%), hyperlipidemia (n=43, 22.51%), hypertension (n=119, 62.30%), COPD (n=13, 6.81%), history of MI (n=26, 13.61%), TIA/CVA (n=7, 3.66%). ASA classifications were I (n=9, 4.71%), II (n=35, 18.32%), III (n=115, 60.21%) and IV (n=23, 12.04%). Failure of the closure device was defined as persistent bleeding requiring manual pressure, formation of a hematoma, blood transfusion, or hospitalization. Failure of the algorithm was defined as formation of a hematoma, blood transfusion or hospitalization.

Results: Perclose was selected as the first choice in 78.11% (n=157) of punctures and the Angioseal was selected in 17.80% (n=35) for Angioseal was attempted. If an Angioseal failed, pressure was held for 15-30 minutes without peeking. If holding pressure failed, a Femostop (Radi Medical) was applied.

Conclusion: The described algorithm minimizes closure device-related complications. Implementation of this algorithm increases the safety of performing endovascular interventions in an office angiography.


PP41.
Long Term Results of Open Versus Endovascular Revascularization of Superficial Femoral Artery Occlusive Disease: A Case Control Series
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Background: For patients with superficial femoral artery (SFA) occlusive disease the most appropriate treatment has yet to be determined. We performed a case control comparison of long term results of femoral popliteal bypass and SFA endovascular interventions to examine the characteristics of patients and procedures to optimize results.

Results: During the study period 152 limbs in 141 patients (66% male, mean age 66±22 years) underwent femoral-popliteal bypass; 233 limbs in 204 patients (49% male, mean age 70±11 years) underwent SFA intervention. Surgery was performed more commonly for claudication (46% vs. 56%), and more commonly for critical ischemia (54% vs. 44%). Six year primary, primary assisted and secondary patency rates were 56%, 64% and 75% respectively for bypass patients. Six year primary, primary assisted and secondary patency rates were 40%, 67% and 85% respectively for SFA interventions. Six years limb salvage for surgery was 80%; six year limb salvage rate was 92% for SFA interventions. Complications occurred in 21% of the surgery group and in 1.2% of the endovascular group. Re-intervention was required in 24% of surgery patients and in 14% of endovascular patients. Failure of SFA intervention led to bypass in 5% of patients, however prior failed intervention did not change target artery. Predictors of failed patency for both the surgery and SFA intervention group were female gender, diabetes, creatinine > 1.8, and critical limb ischemia. However, limb salvage was no different for all groups.

Conclusion: Though long term patency and limb salvage were equivalent in this case controlled study of femoral popliteal bypass versus SFA interventions, re-inventions and complications occurred at a higher rate in the surgery group. Women, diabetics and renal failure patients had sustained patency less frequently with both treatments; however, limb salvage was not disadvantaged for any group. SFA stent placement should therefore be initial therapy for patients with SFA occlusive disease.

Author Disclosures: E.M. Razucio, None; A. Bjerket, None; D. Walsh, None; R. Powell, None.

PP42.
Blood Transfusion is Associated With Increased Morbidity and Mortality After Lower Extremity Revascularization
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Background: In adult ICU, trauma, and surgical patients, blood transfusion is associated with increased morbidity and mortality as well as increased risk of venous /arterial thrombotic events and mortality in hospitalized cancer patients. We analyzed data from the NSQIP database to examine the effect of intraoperative blood transfusion in patients undergoing lower extremity revascularization (LER).

Methods: We queried the ACS NSQIP database from 2005 to 2007. CPT codes were used to identify LER procedures which were grouped into thromboembolarductectomy (TEA), bypass with vein (BV) or prosthetic graft (BP). Multivariable analysis adjusted transfusion impact for clinical risk factors, procedure group and complexity.

Results: Our query resulted in 8799 patients, 66.8±12.0 years of age, of whom 5469 (63.8%) were male. 12% underwent TEA, 42% underwent BP and 46% were treated with endovascular intervention. All-cause mortality was 2.9%, morbidity 28.5%. Transfusion rates varied across procedure group from 14.5% in TEA patients, 20.1% in BV patients, to 27.1% in BP patients. Intraoperative transfusion was associated with increased morbidity and mortality; after adjustment for clinical risk factors, procedure type and complexity, transfusion remained significantly predictive of poorer outcomes:

Table. 30-day outcomes for lower extremity revascularization; patients transfused intraoperatively versus not. Unadjusted rates and odds ratios adjusted for all significant ACS NSQIP clinical risk factors, procedure group and complexity

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Not transfused</th>
<th>Transfused</th>
<th>P-value</th>
<th>Adjusted odds ratio (95% CI)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality</td>
<td>1.9</td>
<td>6.2</td>
<td>&lt;0.001</td>
<td>2.2 (1.6-2.9)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Morbidity</td>
<td>21.7</td>
<td>38.8</td>
<td>&lt;0.001</td>
<td>1.7 (1.5-2.0)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Graft Failure</td>
<td>4.8</td>
<td>7.8</td>
<td>&lt;0.001</td>
<td>1.4 (1.2-1.8)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Return to O.R.</td>
<td>15.4</td>
<td>26.8</td>
<td>&lt;0.001</td>
<td>1.5 (1.3-1.7)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Wound Complication</td>
<td>10.0</td>
<td>14.4</td>
<td>&lt;0.001</td>
<td>1.6 (1.4-2.0)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Sepsis/Septic Shock</td>
<td>5.0</td>
<td>12.9</td>
<td>&lt;0.001</td>
<td>1.9 (1.6-2.3)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Pulmonary Complication</td>
<td>3.5</td>
<td>14.5</td>
<td>&lt;0.001</td>
<td>3.0 (2.5-3.7)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Renal Insuff./Failure</td>
<td>1.0</td>
<td>3.8</td>
<td>&lt;0.001</td>
<td>1.9 (1.5-2.8)</td>
<td>0.002</td>
</tr>
</tbody>
</table>

N/ % 682/77/6 % 1971/22.4%