Objectives: We aimed to evaluate whether the new Society for Vascular Surgery (SVS) wound, ischemia, and foot infection (WIFI) classification system correlates with important clinical outcomes for limb salvage and wound healing.

Methods: We analyzed 201 consecutive patients with threatened limbs treated from 2010 to 2011 in an academic center. We stratified patients into clinical stages 1 to 4 based on the SVS WIFI classification. We compared the SVS objective performance goals of major amputation, 1-year amputation-free survival rate (AFS), and wound healing time (WHT) according to WIFI clinical stages.

Results: Patients were a mean age of 59 years, 79% were men, and 86% had diabetes. Forty-two patients (21%) required major amputation, and 159 (78%) had limb salvage. The amputation group had a significantly higher prevalence of advanced stage 4 patients ($P < .001$), whereas the limb salvage group presented predominantly as stages 1 to 3. Patients in clinical stages 3 and 4 had a significantly higher incidence of amputation ($P < .001$), decreased AFS ($P < .001$), and delayed WHT ($P < .001$) compared with those in stages 1 and 2. Among patients presenting with stage 3, primarily as a result of wound and ischemia, revascularization resulted in accelerated WHT ($P = .008$).

Conclusions: These data support the underlying concept of the SVS WIFI classification. As the clinical stage progresses, the risk of major amputation increases, 1-year AFSs declines, and time to wound healing is prolonged. We further demonstrated benefit of revascularization to improve WHT in selected patients, especially those in stage 3. Future efforts are warranted to incorporate the SVS WIFI classification into clinical decision-making algorithms in conjunction with a comorbidity index and anatomic classification.

### Table.

<table>
<thead>
<tr>
<th>Stage</th>
<th>No.</th>
<th>Amputation, % (n)</th>
<th>1-year AFS, % (n)</th>
<th>Mean WHT (95% CI), (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>39</td>
<td>0 (0)</td>
<td>100 (39)</td>
<td>94 (69-119)</td>
</tr>
<tr>
<td>2</td>
<td>50</td>
<td>0 (0)</td>
<td>100 (50)</td>
<td>115 (92-138)</td>
</tr>
<tr>
<td>3</td>
<td>53</td>
<td>8 (4)</td>
<td>92 (49)</td>
<td>162 (105-220)</td>
</tr>
<tr>
<td>4</td>
<td>39</td>
<td>64 (38)</td>
<td>63 (38)</td>
<td>263 (167-360)</td>
</tr>
</tbody>
</table>

AFS, Amputation-free survival; CI, confidence interval; WHT, wound healing time.

Author Disclosures: D. G. Armstrong: Nothing to disclose; B. C. Branco: Nothing to disclose; J. L. Mills: Nothing to disclose; A. Safavi: Nothing to disclose; L. X. Zhan: Nothing to disclose.

VESS6.

Healthcare Delivery Redesign for EVAR Leads to Quality Improvement and Cost Reduction


Objectives: Endovascular aneurysm repair (EVAR) is now a mainstay of therapy for abdominal aortic aneurysm, although it remains associated with significant expense. We performed a comprehensive analysis of EVAR delivery at an academic medical center to identify targets for quality improvement and cost reduction in light of impending health care reform.

Methods: All infrarenal EVARs performed from April 2011 to March 2012 were identified ($n = 127$). Procedures were included if they met standard commercial instructions for use guidelines, used a single manufacturer, and were billed to Medicare Diagnosis-Related Group 238 ($n = 49$). Using DMAIC (define, measure, analyze, improve, control) quality improvement methodology, targets for EVAR quality improvement were identified, and high-yield changes were implemented. Procedure technical costs were calculated before and after process redesign.

Results: Perioperative services and clinic visits were identified as targets for quality improvement efforts and cost reduction. Mean technical costs before the intervention were $31,672, with endograft implants accounting for 52%. Pricing redesign in collaboration with hospital purchasing reduced mean EVAR technical costs to $28,607, a 10% reduction in overall cost, with endograft implants now accounting for 46%. Perioperative implementation of instrument tray redesign reduced instrument use by 32% (184 vs 132 instruments), saving $50,000 annually. Unnecessary clinic visits were reduced by 39% (1.6 vs 1.1 clinic visits per patient) through implementation of a pre-clinic imaging protocol. There was no difference in mean length of stay after the intervention (2.85 vs 2.45 days, $P = NS$).

Conclusions: Comprehensive EVAR delivery redesign leads to cost reduction and waste elimination, while preserving quality. Future efforts aimed to achieve more competitive and transparent device pricing will make EVAR more cost neutral and enhance its financial sustainability for healthcare systems.


VESS7.

Prospective Independent Neurologic Evaluation of Patients Undergoing Carotid Revascularization: Can We Match the CREST results

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Objectives: To prospectively evaluate the neurologic status of all patients undergoing carotid revascularization in a single institution during a 6-year period.

Methods: Between January 2007 and June 2013, all patients undergoing carotid revascularization underwent independent neurologic evaluation preprocedure, postprocedure, and at 30 days. Symptom status (symptomatic vs asymptomatic), participation in clinical trials, stroke, death, and myocardial infarction (MI) were independently reviewed. $\chi^2$ Analysis and the Fisher exact test were performed.

Results: A total of 2301 interventions were performed: 1969 carotid endarterectomies (CEA) 85.6% and 332 carotid angioplasty and stent procedures (CAS) 14.4%. Stroke/death/MI was 5.0%. Of 1814 patients,