EVAR LONG TERM FOLLOW-UP IMAGING: UNDERSTANDING CURRENT TRENDS TO IMPROVE THE FUTURE

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Overview

- Background
- QI Initiative
- Current Trends
- Future Directions
Fundamental Principles of Aneurysm Care

EVAR patient without imaging follow-up = Unrepaired AAA
Medicare Trends Long-Term Follow-up after EVAR

Number of Hospitalizations for EVAR procedures per 100,000 Medicare Beneficiaries

2.5-fold increase in annual EVAR procedures [1400 in 2001 vs 3529 in 2008]

Medicare Trends Long-Term Follow-up after EVAR

Proportion lost to follow-up at 1, 3 and 5 years: 22%, 38%, and 50%.
Mortality Impact of Poor LTFU after EVAR in VQI

Endovascular aneurysm repair patients who are lost to follow-up have worse outcomes

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From the Society for Vascular Surgery
Current VQI Procedure Volume Trends

All 17 Regional Groups, 400+ centers, 4000+ Physicians

<table>
<thead>
<tr>
<th>Total Procedures Captured (as of 4/1/2018)</th>
<th>469,847</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peripheral Vascular Intervention</td>
<td>148,558</td>
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<tr>
<td>Carotid Endarterectomy</td>
<td>99,522</td>
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<tr>
<td>Infra-Iliacal Bypass</td>
<td>44,828</td>
</tr>
<tr>
<td>Endovascular AAA Repair</td>
<td>40,251</td>
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<tr>
<td>Hemodialysis Access</td>
<td>38,810</td>
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<td>Carotid Artery Stent</td>
<td>20,527</td>
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<tr>
<td>Varicose Vein</td>
<td>20,070</td>
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<tr>
<td>Supra-Iliacal Bypass</td>
<td>15,040</td>
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<tr>
<td>Thoracic and Complex EVAR</td>
<td>11,237</td>
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<tr>
<td>Open AAA Repair</td>
<td>10,871</td>
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<tr>
<td>Lower Extremity Amputations</td>
<td>10,321</td>
</tr>
<tr>
<td>IVC Filter</td>
<td>9,812</td>
</tr>
</tbody>
</table>

VQI Total Procedure Volume

Total Procedure Volume tab reflects net procedures added to the registry for the month
SVS PSO Launches 2 National Initiatives

The SVS Patient Safety Organization (SVS PSO) is launching two national initiatives aimed at improving patient care with a data-driven approach.

They are:
- Reminding vascular surgeons to prescribe antplatelet agents and statins to vascular patients to improve long-term outcomes, led by Dr. Randall R. DeMartino, co-chair of the Vascular Medicine Registry.
- Promoting follow-up imaging at one year for endovascular aneurysm repair (EVAR) patients, led by Dr. Salvatore Scali, EVAR registry chair.

For both initiatives, the SVS PSO is creating toolkits and educational webinars for members, promoting best practices and offering comparative benchmarks. “We issue reports and registry data that show that certain practices can improve patients’ outcomes,” said Dr. Jens Eldrup-Jorgensen, SVS PSO medical director. “We also provide biannual data releases to help hospitals assess their performance over time and in comparison to other facilities nationally and within their region.”

Discharge medications
For example, the Vascular Quality Initiative (VQI) released data last year on the impact of prescribing statins after discharge and how it improved patient outcomes. Patients on statins and antplatelet agents had an impressive improvement in five-year survival rates compared to patients on neither medication, or on only one. Members found the data so compelling that the SVS PSO is expanding the initiative at the local and national levels.

Two components are essential for improvement: proper discharge planning and follow-up information and patient education/compliance.

There are a number of ways that high-performing hospitals facilitate the process,” said Dr. Adam Beck, chair of the Arterial Quality Committee. “Some have instituted new standing orders and reminders in their electronic medical records, or have nurse navigators work one-on-one with patients to make sure they have the appropriate prescriptions.” It is critical that patients understand the importance of taking their medications before they leave the hospital and then maintain contact with their vascular surgeon, he said.

EVAR Long-term Follow-up Imaging
The second initiative emphasizes the importance of long-term follow-up care – with imaging as a crucial component – for EVAR patients.

“We feel surgeons should follow up close to 100 percent of their patients at one year after EVAR with imaging,” said Dr. Eldrup-Jorgensen. “Currently those figures aren’t as high as they should be.”

The imaging – MRI, CT or ultrasound – at one year is vitally important to document the adequacy of the AAA repair, he said. Noninvasive imaging is critical to assessing the success of the aneurysm repair and determining the presence of an endoleak that might require re-intervention.

Both national quality initiatives require continuous effort and rely upon data to monitor the effectiveness of these efforts, said Dr. Beck. “We issue hospital and physician reports every six months; providers have to be conscious of checking their data to be sure quality improvements stay in place,” he said. Information now being collected underscores the importance of developing and maintaining long-term relationships with patients – a practice SVS members not only embrace but also prize.

“It’s exciting to know that VQI members are using this registry data to improve care,” said Dr. Eldrup-Jorgensen. “The mission of VQI is to improve the care of the vascular patient and we are pleased that we can provide data that allows providers to improve their care and up their game.”

For more information, contact Nadine Caputo, quality director, at ncaputo@svspso.org.
Eligible Window for EVAR LTFU

Postoperative month

Long-term follow-up interval

0 1 6 9 12 15 18 21

EVAR
QI Initiative Project Strategy

- Focus Groups
- Webinar
- Questionnaire/Survey
- Email blast/Push Report
- National Meeting
- Fall & Spring Regional Meetings
- New COPI Report
- Pilot Project
- Publication
Current Trends in VQI
EVAR Procedures Contributed to VQI by Region
EVAR LTFU by Region (any method: 2015 cases)
Imaging Performed 9-21 Months after EVAR by Year
Imaging Type Performed 9-21 Months after EVAR

(2011-2015)
EVAR LTFU QI: Lessons Learned First Year

Organizational Success Factors

• Strong relationships with physician private practices
• Physician leadership
• Staff person responsible for LTFU
• Patient education – early (pre-op) and often
• Communication of patient expectations (follow-up forever)
Processes that work at high performing centers

- Protocol for LTFU beginning at 9 months – 21 months post EVAR
- Multiple reminders/communication channels (letters, phone, texts, patient portals)
- Same day imaging and follow-up visits
- Automated tracking of missed visits
- Communication with multiple staff on LTFU status; monthly data runs
EVAR LTFU QI: Lessons Learned First Year

Challenges

• Transfer patients – out of area
• Tracking hard to reach patients: Facebook, obits, certified letters
EVAR LTFU QI: Future Directions

- EVAR LTFU report development*
- Dashboard Tracking
- Increase incentives for LTFU reporting?
- Medicare Linkage/VQI integration to auto-update?
- Changes in the LTFU form [why patients are lost to LTFU]
- 2nd Email blast
- Low and High performing center focus groups
- National meeting
- Publication
Thank you
TEVAR
TEVAR Procedures in VQI by Year
TEVAR Procedures in VQI by Region
TEVAR LTFU by Region (any method: 2015 cases)
Imaging Performed 9-21 Months after TEVAR
Imaging Types Performed 9-21 Months after TEVAR

- CT+Con: 80%
- CT only: 10%
- Other: 5%
- CT+Con+Dup: 4%
- CT+Dup: 2%
- MRI: 1%