Vascular Quality Initiative®

Spring Meeting
April 28, 2017

Hosted by
Coastal Vascular & Interventional PLLC Pensacola Beach, Florida
Agenda:

Morning Session:
• Welcome and SEVSG/VQI Update- Yazan Duwayri, MD, Emory University, Medical Director SEVSG
• Welcome and Introduction from Host Site – Shonak Patel, MD, Coastal Vascular & Interventional PLLC
• National VQI Update- Jim Wadzinski, PSO General Manager
• Pathways Development Update – Meridith Mitchell, Director, Business Development M2S
• Regional Report findings- Yazan Duwayri, MD
• Governing Council Update- Yazan Duwayri, MD
• Arterial Quality Council & Research Advisory Council updates – Adam Beck, MD
• National Quality Improvement Efforts – LTFU and Statin Therapy; LTFU and EVAR - Adam Beck, MD

Afternoon Session:
• VQI Literature Review- Jaime Benarroch, MD & Emily Spangler, MD
• Outcomes Reporting after AAA Repair - Kristina Giles, MD
• High HgbA1C and Outcomes after Lower Extremity Revascularization - Shipra Arya, MD
• Enhanced Recovery after Surgery: From Colorectal to Vascular Surgery – Dan Chu, MD
• Quality Payment Program Update- Yazan Duwayri, MD
• Abstraction of select PVI and CAS cases & difficult data definition discussion- Cynthia Ritter, MS, BSN
• SEVSG Future Directions and Closing Remarks: Yazan Duwayri, MD
Welcome and Introductions

Piedmont Athens Regional Medical
Albany Vascular Specialist Center
Anderson Regional Medical Center
Baptist Hospital of Miami
Coastal Vascular & Interventional- PLLC
Florida Hospital
Floyd Medical Center
Grady Memorial Hospital (GA)
John F Lucas III- MD
Mayo Clinic Florida
Memorial Health University Medical
Memorial Hospital Pembroke
Memorial Hospital West
Memorial Regional Hospital
Miami Vein Center
North Florida Regional Medical Center- Inc.
Northside Hospital Atlanta
Northside Hospital Cherokee
Northside Hospital Forsyth
Orlando Health - Dr. P. Phillips Hospital
Orlando Health - Orlando Regional
Orlando Health - South Seminole
Palm Beach Gardens Medical Center
Piedmont Hospital
Redmond Regional Medical Center
Rush Foundation Hospital
Sarasota Memorial Hospital
South Miami Hospital
St. Anthony's Hospital
Surgical Specialists of Central Florida
Tampa Cardiovascular Associates
Tampa General Hospital
The Emory Clinic
The Vein and Vascular Institute of Tampa Bay
Tift Regional Medical Center
University Of Alabama Medical Center
University of Florida- Gainesville
Vascular Surgery Associates
Wellstar Cobb Hospital
Wellstar Kennestone Hospital
National VQI Update:
Jim Wadzinski, SVS PSO
Participating Centers

VQI Participating Centers

413 Centers, 46 States + Ontario
Vascular Quality Initiative®

17 Regional Quality Groups

- Pacific NW Vascular Study Group
- Mid-America Vascular Study Group
- Upper MidWest Vascular Network
- Midwest Vascular Collaborative
- Great Lakes Vascular Study Group
- Vascular Study Group of New England
- Northern California Vascular Study Group
- Southern California Vascular Outcomes Improvement Collaborative
- Rocky Mountain Vascular Quality Initiative
- Michigan Vascular Study Group
- Southern Vascular Outcomes Network
- Southeastern Vascular Study Group
- Vascular Study Group of Greater New York
- Mid-Atlantic Vascular Study Group
- Virginias Vascular Study Group
- Carolinas Vascular Quality Group
- MidSouth Vascular Study Group

AK
HI
### Total Procedures Captured (as of 3/1/2017)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Total Procedures</th>
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</thead>
<tbody>
<tr>
<td>Peripheral Vascular Intervention</td>
<td>112,095</td>
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<tr>
<td>Carotid Endarterectomy</td>
<td>79,320</td>
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<tr>
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<tr>
<td>Endovascular AAA Repair</td>
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</tr>
<tr>
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<td>Carotid Artery Stent</td>
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<td>Supra-Inguinal Bypass</td>
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<td>Varicose Vein</td>
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</tr>
<tr>
<td>Open AAA Repair</td>
<td>9,249</td>
</tr>
<tr>
<td>Thoracic and Complex EVAR</td>
<td>8,208</td>
</tr>
<tr>
<td>Lower Extremity Amputations</td>
<td>6,932</td>
</tr>
<tr>
<td>IVC Filter</td>
<td>6,901</td>
</tr>
</tbody>
</table>

**VQI Total Procedure Volume**

Total Procedure Volume tab reflects net procedures added to the registry for the month.
SEVSG Website:

Southeastern Vascular Study Group Menu
- Home
- About Us
- VQI Risk Models
- Contact Us
- Data Elements
- Data Reports
- Events
- SEVSG Presentations
- Bylaws
- Participating Hospitals and Surgeons
- Data Management
- Vascular Quality Initiative Data Entry Portal

Southeastern Vascular Study Group

Southeastern Vascular Study Group News

SEVSG Meetings 2017
SAVE THE DATE
Date: April 28, 2017
Time: 10:00am - 3:00pm
Location: Hilton Pensacola Beach, Pensacola Beach, Florida
Registration Link
Please see the links below for the Fall Meeting minutes and presentations:
2016 Fall Meeting Minutes
2016 Fall Meeting Presentation

Southeastern Vascular Study Group
Emory University
Division of Vascular Surgery and Endovascular Therapy
1365 Clifton Road, NE
Atlanta, GA 30322
Phone: 404-727-1994
Fax: 404-727-3396
Member Only Website

- Purpose: To help and encourage members to share quality improvement and best practice information more easily between and within Regional Quality Groups.

- The site will include a new *topical discussion forum* for VQI members that is password protected.

- Lead Regional Data Managers are currently pilot testing the site and we expect it to be operational 2\textsuperscript{nd} quarter 2017.
Summary Description

The Members Only area is a set of web pages which are password protected and designed for use by VQI Regional Data Managers, Data Managers/Hospital Managers, Physicians and other VQI members. These pages should introduce you to the new pages and functionality. The Members Only area consists of a National Shared Area, a Regional Shared Area and Members’ Forums.

Accessing the Members Only Area

From the VQI Home page top right, you will see a new option: “Members Login”. Click here to access the Login Screen.
MEMBERS’ FORUMS

The Members’ Forums are areas for discussion and initially these Forums have been set up for each of the 12 Registries, Long Term Follow Up and a General Forum for general questions.

We also have the ability to create “sub-forums” for areas, depending on the needs of the users and the complexity. Creating Forums and Sub-Forums can only be done by Admin, but Topics can be added by all users.
VQI@VAM 2017 Is Coming to San Diego

• Date: Tuesday, May 30, 2017 (half day) through Wednesday, May 31st (full day)
• Place: San Diego Convention Center, San Diego, CA
• Housing and Registration is open (Check the SVS website)
VQI@VAM 2017 Is Coming to San Diego

- Tuesday Afternoon will be concurrent sessions on the

<table>
<thead>
<tr>
<th>Time</th>
<th>Concurrent Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00noon – 12:30pm</td>
<td>CONFERENCE OPENING (Water/soft drinks provided, no lunch provided but food available at venue)</td>
</tr>
<tr>
<td>12:40pm – 1:30pm</td>
<td>Peripheral Vascular Intervention</td>
</tr>
<tr>
<td>1:40pm – 2:30pm</td>
<td>Thoracic and Complex EVAR</td>
</tr>
<tr>
<td>2:40pm – 3:30pm</td>
<td>Peripheral Vascular Intervention (Repeated)</td>
</tr>
<tr>
<td>3:40pm – 4:30pm</td>
<td>EVAR Registry (Repeated)</td>
</tr>
</tbody>
</table>
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VQI@VAM 2017 Is Coming to San Diego

• Poster Session and Networking Reception from 5:00 – 6:30
  – We will have close to 20 posters
  – We will have attendees to the reception vote on the best poster.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>4:30pm – 5:00pm</td>
<td>Break Prior to Reception and Poster Viewing</td>
</tr>
<tr>
<td>5:00pm – 6:30pm</td>
<td>Cocktail Reception for Networking and Poster Viewing</td>
</tr>
</tbody>
</table>
Vascular Quality Initiative®

VQI@VAM 2017 Is Coming to San Diego

• Wednesday Sessions will Include the Following Topics:

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00am – 9:00am</td>
<td>Registry Overviews and Q&amp;A: Focus on Reporting and Analysis</td>
</tr>
<tr>
<td>9:00am – 10:00am</td>
<td>Quality Improvement Case Studies – Data and Reporting</td>
</tr>
<tr>
<td>10:00 – 10:15</td>
<td>BREAK</td>
</tr>
<tr>
<td>10:15am – 11:00am</td>
<td>The VQI Team – How Physicians and Data Managers Partner to Enhance Data Collection, Reporting and Analysis</td>
</tr>
<tr>
<td>11:00am – 11:45am</td>
<td>Data Automation- Smart Forms, Structured Op Notes and Improved Workflow</td>
</tr>
<tr>
<td>11:45am – 12:00noon</td>
<td>BREAK</td>
</tr>
<tr>
<td>12:00noon – 1:00pm</td>
<td>VQI Update and National Quality Initiatives (Working Lunch)</td>
</tr>
<tr>
<td>1:00pm – 1:45pm</td>
<td>Quality Improvement Case Studies – Outcomes</td>
</tr>
<tr>
<td>1:45pm – 2:15pm</td>
<td>The Role of VQI in Office Based Labs (OBLs)</td>
</tr>
<tr>
<td>2:15pm – 2:30pm</td>
<td>BREAK</td>
</tr>
<tr>
<td>2:30pm – 3:15pm</td>
<td>Corporate Structures to Support QI and Positioning the VQI to the C-Suite</td>
</tr>
<tr>
<td>3:15pm – 4:00pm</td>
<td>Enhanced Recovery After Surgery (ERAS): Adopting the Protocol in Vascular</td>
</tr>
<tr>
<td>4:00pm – 4:45pm</td>
<td>Current Research Projects from Approved RAC Requests</td>
</tr>
<tr>
<td>4:45pm – 5:00pm</td>
<td>CONFERENCE CLOSING</td>
</tr>
</tbody>
</table>
In the April 2017 issue, we highlight the following topics:

- **VQI@VAM 2017: Agenda and More**
- **New Members Only Area on VQI Website**
- **National QI Webinars**
- **Industry Studies**
- **VQI Participation Award Recipients**
- **Welcome to New VQI Members**
- **Clarification on Long Term Follow-up (LTFU) Information**
- **Special Project: Vascular Patient Advisors Session at VAM**
- **Research Publications and Presentations**
- **Latest VQI Participation and Volume Statistics**

**VQI@VAM 2017: Agenda and More**

The SVS PSO has developed a comprehensive agenda of presentations and events, member requested sessions, and programming that covers the breadth of VQI Registries and networking opportunities.
Two New National QI Projects
The SVS PSO is launching two national initiatives together with implementation tools aimed squarely at using data to improve patient care.

✓ Prescribing anti-platelets and statins to appropriate patients to improve their long-term vascular health
✓ Increasing follow-up imaging rates at one year for endovascular aneurysm repair patients – April 25th Webinar: Sal & Adam

The goal for both of these initiatives is 100% compliance. To support increased compliance, the PSO, working with the Arterial Quality Council and the Quality Improvement Workgroup, is developing implementation tools for members, issuing comparative reports and data on improvements over time.
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 anti-platelet 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 bi-annual 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 antiplatelet 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.
VQI QI Resources

- New on-line QI resources are available within on the VQI Members Only Website and VQI **M2S PATHWAYS** in the Resources Section:

  - *Leading Change* webinar slides and audio transcripts on change management by Dr. Ted James

  - Slides from all of the VQI@VAM 2016 presentations

  - Videos from 2016 VQI@VAM on the Members Only Website

  - Digital QI Project Guide – a ‘soup to nuts’ guide for QI project implementation.
# QI Project Charter – Template

## Project Overview

<table>
<thead>
<tr>
<th>Problem Statement:</th>
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<table>
<thead>
<tr>
<th>Goal:</th>
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<table>
<thead>
<tr>
<th>Scope:</th>
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</table>

<table>
<thead>
<tr>
<th>Deliverable(s):</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Resources Required:</th>
</tr>
</thead>
</table>

## Key Metrics

<table>
<thead>
<tr>
<th>Outcome Metrics:</th>
<th>Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Milestone / Description:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process Metrics:</th>
</tr>
</thead>
</table>

## Team Members

<table>
<thead>
<tr>
<th>Exec Sponsor:</th>
<th>Clinical Sponsor:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sponsor:</td>
<td>Process Owner:</td>
</tr>
<tr>
<td>Project Leader:</td>
<td>Team Members:</td>
</tr>
</tbody>
</table>
## Problem Statement: Discharge Medication Example from Hospital A

Only 61% of eligible vascular procedure patients at Hospital X are discharged on antiplatelets and statins. Increasing the prescribing rate of antiplatelet and statin therapy for vascular procedure patients at discharge increases graft patency and increases survival at one year and five years post procedure.

## Problem Statement
What is wrong with our current process? Why do we care? Create a statement that is specific, measurable and relevant. Include data or use placeholders until you get the data.

## Goal: Example
- Twenty-five percent increase in prescribing rates at six months postproject implementation. Verify that 76% of eligible vascular procedure patients are discharged on an antiplatelet and statin medication at six months after project implementation (June, 2015).
- Another 25% increase at one year post implementation. Verify that 95% of eligible vascular procedure patients are discharged on an antiplatelet and statin medication at one year after project implementation (January, 2016).

## Goal: What do we want to achieve and when do we want to achieve it?
## QI Project Charter

**Scope:** Example

- Educate vascular procedure providers on the importance of prescribing antiplatelets and statins to their vascular procedure patients and coordination with their primary care physicians
- Revise vascular discharge order sets
- Utilize the expertise of pharmacists and care coordinators
- The project will be tested for a 12-month period.

**Scope:** What areas will we improve and over what time period will we do the improvement? What are the limitations (e.g., limited to certain units or for a certain time period.)

**Deliverable(s):**

- Discharge order medication templates
- Sample PCP letter templates

**Deliverable(s)**

What new processes will we deliver in order to help reach our goals?

**Resources Required:** Example

- IT
- Care Coordinators
- Pharmacists

**Resources Required**

What people, materials, and/or finances will be needed to conduct the project? Who must be kept informed?
# QI Project Charter

<table>
<thead>
<tr>
<th>Key Metrics</th>
<th>Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome Metrics:</strong> Example</td>
<td><strong>Milestone / Description Example</strong></td>
</tr>
</tbody>
</table>
| Increased one and five year survival rates for vascular procedure patients that were discharged on antiplatelet and statin medications. | • Confirm baseline information using VQI data  
• Notify and educate all vascular procedure providers on the new initiative.  
• Contact IT for guidance in adding templates  
• Meet with care coordinators to identify programs to aid patients in obtaining medications, if needed.  
• Revise 100% of provider discharge order sets to reflect AP and statin medication options. |
| **Outcome Metrics** | **Date (mm/yy):** |
| “How will you know the project is successful?”  
e.g., LOS, surgical site infections | |
| **Process Metrics:** Example | **Milestone / Description:** |
| • Verify that 76% of eligible vascular procedure patients were discharged on an antiplatelet and statin medication at six months after project implementation using VQI and/or EMR data.  
• Verify that 95% of eligible PVI patients were discharged on an antiplatelet and statin medication at one year after project implementation using VQI registry data and reports using VQI and/or EMR data. | Complete ‘QI Project Overview’  
Confirm baseline outcome metric  
Identify root cause / hypothesis  
Identify potential improvement(s)  
Implement improvement(s)  
Evaluate progress & confirm action plan |
| **Process Metrics:** | |
| “How will you ensure the interventions you implement are being completed?”  
e.g., % pts on progressive care unit, % discharged patients on statins and anti-platelets Rx | |
Educational Webinars 2017

Topics for the educational webinars in the first half of 2017 include:

**February:** National QI Projects: Discharge Medications: Reaching and Sustaining our Goal of 100% by Randy R. De Martino, MD, MS and Cheryl R. Jackson, DNP, MS, RN, CPHQ

**March:** PVI Clone and CAS Registry (TCAR)

**April 25:** National QI Projects: Quality Improvement Process and Tools for EVAR LTFU Imaging

**May:** PVI – forum with users and developers
2016 Participation Award Results

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Participation Award potential changes:

- Participation in National, Regional or Local QI project using VQI data
- Credit for attendance at the Annual meeting (data managers only)
- Penalty of not being able to get data for research if your attendance at the regional meetings is low over a certain number of years
- Should you get a star award at all if you are on probation for <50% LTFU
- Additional participation point if your site gives a presentation at a regional meeting
VQI Datasets for Research

- Data discrepancies identified
- Due to multiple revisions and coding
- No significant errors in key outcome variables (SO FAR – audit not done yet)
- **Conclusion** – Large complex data sets need periodic, regular review
- Multiple new quality assurance measures instituted
Moving forward

New Quality Assurance Measures

• New Data Quality Control Testing
• New Sign off for Development Specifications and before release of new Code
• New Software for Quality Assurance
• New Code to ensure Consistency of BDS across Registries
• New Data Warehouse
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Pathways Development Update
PVI Clone Data

- Release in Q1 of this year.
- Functionality will allow users to generate a new PVI procedure based on an existing PVI procedure.
PVI Clone Data

- Certain data elements from the Demographics and History section are included and all have are time sensitive to the date of procedure.
- This should provide a large time savings to users who are entering repeat PVI procedures for a single patient.

<table>
<thead>
<tr>
<th>Page</th>
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<th>Long Field Name</th>
<th>Field Value</th>
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<tr>
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<td>Living Status</td>
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<td>Pre-op ACE-Inhibitor/ARB</td>
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<td>Pre-Procedure Medications</td>
<td>Pre ASA</td>
<td>Pre-op ASA</td>
<td>Yes</td>
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<tr>
<td>Demographics</td>
<td>Pre-Procedure Medications</td>
<td>Pre Chronic Anticoagulant</td>
<td>Pre-op Chronic Anticoagulant</td>
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<tr>
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<td>Pre Anticoagulant Drugs</td>
<td>Pre-op F2/12 Antagonist</td>
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</table>
PVI Post-Procedure Tab Revision

- Redesign of the Post-Procedure tab of the PVI registry.
- Goal of improving data collection and complication rate accuracy.
- Streamlined the user experience and reduces the chance of information being missed.
- Discharge Status is now being collected for every PVI procedure.
PVI Post-Procedure Tab Revision

Post-Procedure Information

Procedure Complications Select ▼
Discharge Status Select ▼

Complications

Cardiac Select ▼ Myocardial Infarction Select ▼ Pulmonary Select ▼
Renal Select ▼ Access Site Cx Select ▼ Serious Contrast Reaction Select ▼
Other Select ▼

Artery Complications/Treatments

Thrombosis Select ▼ Embolization Select ▼ Target Lesion Dissection Select ▼
Dissection Remote Select ▼ Perforation Select ▼

Access Site Complications/Treatments

Site 1

Hematoma Select ▼
Stenosis/Occlusion Select ▼
Infection Select ▼
Pseudaneurysm Select ▼
AV Fistula Select ▼

Post-Procedure Medications

Any Change in Medications Select ▼
Post ASA Select ▼ Post Antiplatelet Drugs Select ▼ Post Statin Select ▼
Post Chronic Anticoagulant Select ▼ Post ACE-Inhibitor/ARB Select ▼ Post Cilostazol Select ▼

Comments
**TEVAR Dissection Postmarket Surveillance**

- **Sponsors:** Medtronic and W.L. Gore
- **Sites** have received $854,100 as of 1/31/2017 as compensation for their time.
- **FDA** has received 4 summary reports (non-identifiable data)
- **Steering Committee** is drafting an abstract highlighting 30 day outcomes

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Enrolling new sites</th>
<th>Number of Sites</th>
<th>Number of Patients</th>
<th>Follow Up</th>
<th>Reimbursement</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Year</td>
<td>No</td>
<td>50</td>
<td>400 (389 patients enrolled)</td>
<td>At 30 days and annually for 5 years</td>
<td>Per Subject: $4,000 - $1300 Initial Treatment - $400 Each follow up visits - $700 Final 5 year follow up $700 Add’ l intervention</td>
</tr>
<tr>
<td>1 Year</td>
<td>Yes</td>
<td>Up to 50</td>
<td>200 (143 patients enrolled)</td>
<td>Annually for 1 year</td>
<td>$400 for each procedure with a completed 1 year follow up</td>
</tr>
</tbody>
</table>
Lombard Aorfix Postmarket Surveillance

- Sponsor: Lombard Medical
- EVAR Registry
- Sites have received $79,200.00 as of 1/31/2017 as compensation for their time.
- Lombard has received 4 data reports (non-identifiable data)

<table>
<thead>
<tr>
<th>Enrolling</th>
<th>Number of Sites</th>
<th>Number of Patients</th>
<th>Follow Up</th>
<th>Reimbursement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>50</td>
<td>234 (40 patients enrolled)</td>
<td>At 30 days and annually for 5 years</td>
<td>Per Subject: $4,000 - $1300 Initial Treatment - $400 Each follow up visits - $700 Final 5 year follow up $700 Add’l intervention</td>
</tr>
</tbody>
</table>
Medtronic IN.PACT DCB ISR Postmarket Surveillance

- Sponsor: Medtronic
- PVI Registry
- The Medtronic IN.PACT® Admiral® DCB ISR Project is a prospective, non-randomized, multi-center, single arm post market registry surveillance of the clinical use of the Medtronic IN.PACT® Admiral® Paclitaxel-Coated PTA Balloon
- The primary objective of this project is to assess the long-term safety and performance of the IN.PACT® Admiral® DCB in a U.S. population for the treatment of ISR lesions in the superficial femoral and popliteal arteries.

<table>
<thead>
<tr>
<th>Enrolling</th>
<th>Number of Sites</th>
<th>Number of Patients</th>
<th>Follow Up</th>
<th>Reimbursement</th>
</tr>
</thead>
</table>
| Yes       | 50              | 300 (2 patients enrolled) | At 12, 24 and 36 Months | Per Subject: $1,950  
- $350 Initial Treatment  
- $500 1 and 2 year FU visits  
- $600 Final 3 year FU visit |
Bard® LifeStent® Popliteal Artery Stent Project

- Sponsor: Bard Peripheral Vascular, Inc.
- PVI Registry
- Objective: to conduct long term post-market surveillance of the safety (including fractures assessed at revision) and effectiveness of the Bard® LifeStent® Vascular Stent Systems for the treatment of symptomatic de novo or restenotic lesions in the popliteal artery.

<table>
<thead>
<tr>
<th>Enrolling</th>
<th>Number of Sites</th>
<th>Number of Patients</th>
<th>Follow Up</th>
<th>Reimbursement</th>
</tr>
</thead>
</table>
| Yes       | Up to 30 (5 currently enrolled) | 74 | 12 months and 24 months | Per Subject: $1400  
- $400 Initial Treatment  
- $500 Each follow up visits  
- $400 Additional TLR or TVR intervention |
CREST 2 Registry Project

- CAS Registry with Supplemental 1-page form
- Enrolling
- 64 Physicians are participating through VQI
- Objectives
  - Promote rapid initiation and completion of enrollment in the CREST-2 trial
  - Ensure that CAS is performed by adequately experienced operators within CREST-2 and C2R
  - Closely monitor clinical outcomes of C2R patients
  - Prevent inappropriate use of CAS outside of C2R
- C2R Investigators have received 10 reports
  - Patient-level data is non-identifiable per HIPAA
  - Physician and center names are transferred IAW project data sharing agreement
Collaboration with CMS to provide reimbursement for TCAR in medical high risk symptomatic or asymptomatic patients if entered into VQI CAS Registry + 1 Yr follow-up

Data will be compared with outcome of CEA procedures in VQI during the same time interval

Goal is to generate real-world data for future decisions about coverage of TCAR as distinct from trans-femoral CAS

Enter TCAR case using FDA approved stent/flow-reversal into Registry, submit Medicare claim using NCT 02850588
Trans-Carotid Artery Revascularization Project

VQL Information:
http://www.vascularqualityinitiative.org/vqi-resource-library/tcar-surveillance-project/

Clinical Trials Information:
https://clinicaltrials.gov/ct2/show/NCT02850588?term=TCAR&rank=1

CMS:
• https://www.cms.gov/Medicare/Medicare-General-Information/MedicareApprovedFacilitie/Carotid-Artery-Stenting-CAS-Investigational-Studies.html
TCAR vs. CREST2

- For physicians that are doing TCAR and are not in CREST2:
  - Use the new CAS form, include the NCT# on the claim

- For physicians that are doing TCAR and ARE in CREST2 or Just CREST2:
  - Use the original CAS form (not the new CAS form), and follow the CREST2 instructions. This ensures that the case is provided to the CREST2 team and the physician gets paid
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VQI Enhancements On The Way
IVC Filter Retrieval Reporting

• All patients implanted with retrievable filters will populate report
  – If follow-up recorded indicates filter has been retrieved this patient will be excluded from report

• Interactive functionality
  – User defines duration to retrieval
  – Customize interval based on specific IVC filter used
  – Highlights patients past due for retrieval
  – Report delivered via email at defined frequency
## Primary Physician: Gregory House

<table>
<thead>
<tr>
<th>Surgery Date</th>
<th>Last Name</th>
<th>First Name</th>
<th>Date of Birth</th>
<th>MRN</th>
<th>Planned Duration</th>
<th>Days Since Procedure</th>
<th>Insertion Site</th>
<th>Landing Site</th>
<th>Manufacturer</th>
<th>Device Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>05-OCT-16</td>
<td>Hannaford</td>
<td>Amy</td>
<td>01-JAN-50</td>
<td>01011950</td>
<td>Temporary</td>
<td>37</td>
<td>Right femoral</td>
<td>Iliac, right</td>
<td>Boston Scientific</td>
<td>Other (retrievable)</td>
</tr>
<tr>
<td>12-AUG-16</td>
<td>Clarkson</td>
<td>Micheal</td>
<td>01-JAN-50</td>
<td>0</td>
<td>Temporary</td>
<td>91</td>
<td>Right jugular</td>
<td>Infra-renal</td>
<td>ALN</td>
<td>ALN Optional (retrievable)</td>
</tr>
<tr>
<td>01-OCT-16</td>
<td>Gusling</td>
<td>Sheldon</td>
<td>01-JAN-50</td>
<td>Oracle00001</td>
<td>Temporary</td>
<td>41</td>
<td>Right jugular</td>
<td>Supra-renal</td>
<td>Bard</td>
<td>G2 (retrievable)</td>
</tr>
<tr>
<td>02-SEP-16</td>
<td>Stoner</td>
<td>Fred</td>
<td>01-JAN-52</td>
<td>02020</td>
<td>Temporary</td>
<td>70</td>
<td>Right leg vein</td>
<td>Supra-renal</td>
<td>B Braun</td>
<td>Tempofilter (retrievable)</td>
</tr>
<tr>
<td>12-DEC-15</td>
<td>Cooper</td>
<td>Jasmine</td>
<td>01-JAN-50</td>
<td>SQAIMCFU1</td>
<td>Temporary</td>
<td>335</td>
<td>Left femoral</td>
<td>Supra-renal</td>
<td>Cook</td>
<td>Celect (retrievable)</td>
</tr>
</tbody>
</table>
Email Deliverability

Have you experienced problems receiving our email newsletters or PATHWAYS updates? Contact us at vqi@m2s.com if you are not receiving emails from the VQI or PATHWAYS.

Types of emails we are currently sending:
• VQI Pulse eNewsletter
• PATHWAYS product updates
• VQI Registry news
• Webinar events
• and much more!
Regional Reports: Yazan Duwayri, MD

Notes: 1) In all reports, regional data are not shown for regions with <3 centers participating in the applicable registry. 2) In "by Center" bar charts, unless noted, data are not shown for centers with <10 cases. 3) In all graphics, "**" indicates a p-value<.05. 4) This report includes all data that had been entered into the VQI as of Jan. 1, 2017.

New HTML format!!
Total Procedure Volume, All Years (2003-Dec 2016)

<table>
<thead>
<tr>
<th>Your Region (N)</th>
<th>VQI (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS</td>
<td>813</td>
</tr>
<tr>
<td>CEA</td>
<td>5282</td>
</tr>
<tr>
<td>EVAR</td>
<td>1828</td>
</tr>
<tr>
<td>HEMO</td>
<td>4736</td>
</tr>
<tr>
<td>INFRA</td>
<td>2274</td>
</tr>
<tr>
<td>OAAA</td>
<td>466</td>
</tr>
<tr>
<td>PVI</td>
<td>5127</td>
</tr>
<tr>
<td>SUPRA</td>
<td>863</td>
</tr>
<tr>
<td>TEVAR</td>
<td>817</td>
</tr>
<tr>
<td>IVCF</td>
<td>770</td>
</tr>
<tr>
<td>Varicose Veins</td>
<td>1073</td>
</tr>
<tr>
<td>LEAMP</td>
<td>647</td>
</tr>
<tr>
<td>Overall</td>
<td>24696</td>
</tr>
</tbody>
</table>
Vascular Quality Initiative

Physician Specialties Across VQI (2016, N=4054 Physicians)

- Vascular Surgery: 40%
- Radiology: 20%
- Cardiology: 15%
- General Surgery: 10%
- None: 5%
- Cardiothoracic Surgery: 5%
- Other: 5%
- Neurosurgery: 5%
Vascular Quality Initiative

Physician Specialties Across Your Region (2016, N=354 Physicians)
## Percentage of Procedures Submitted With Missing Data (2016)

<table>
<thead>
<tr>
<th>Region</th>
<th>Your Region</th>
<th>VQI</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS</td>
<td>162 (62%)</td>
<td>2952 (50%)</td>
</tr>
<tr>
<td>CEA</td>
<td>1195 (26%)</td>
<td>13546 (29%)</td>
</tr>
<tr>
<td>EVAR</td>
<td>360 (75%)</td>
<td>5291 (60%)</td>
</tr>
<tr>
<td>HEMO</td>
<td>980 (39%)</td>
<td>5690 (36%)</td>
</tr>
<tr>
<td>INFRA</td>
<td>514 (86%)</td>
<td>5575 (81%)</td>
</tr>
<tr>
<td>OAAA</td>
<td>54 (22%)</td>
<td>1064 (31%)</td>
</tr>
<tr>
<td>PVI</td>
<td>1305 (66%)</td>
<td>15602 (52%)</td>
</tr>
<tr>
<td>SUPRA</td>
<td>183 (72%)</td>
<td>1852 (79%)</td>
</tr>
<tr>
<td>TEVAR</td>
<td>124 (14%)</td>
<td>1613 (28%)</td>
</tr>
<tr>
<td>IVCF</td>
<td>224 (47%)</td>
<td>1631 (17%)</td>
</tr>
<tr>
<td>Varicose Veins</td>
<td>691 (6%)</td>
<td>5197 (28%)</td>
</tr>
<tr>
<td>LEAMP</td>
<td>195 (73%)</td>
<td>1718 (72%)</td>
</tr>
<tr>
<td>2016 overall</td>
<td>5987 (47%)</td>
<td>61731 (46%)</td>
</tr>
<tr>
<td>2015 overall</td>
<td>7067 (52%)</td>
<td>75813 (49%)</td>
</tr>
</tbody>
</table>
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Percentage Submitted With Missing Data in Your Region (2016)

- Other centers in your region
- Your center

*** indicates center’s rate differs significantly from the regional rate.

Percentage Submitted With Missing Data Across VQI (2016)
# Vascular Quality Initiative

## LTFU as of January 1, 2017

<table>
<thead>
<tr>
<th>Your Region</th>
<th>VQI</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS</td>
<td>173 (53%)</td>
</tr>
<tr>
<td>CEA</td>
<td>1177 (54%)</td>
</tr>
<tr>
<td>EVAR</td>
<td>388 (54%)</td>
</tr>
<tr>
<td>HEMO</td>
<td>1034 (74%)</td>
</tr>
<tr>
<td>INFRA</td>
<td>398 (55%)</td>
</tr>
<tr>
<td>OAAA</td>
<td>93 (60%)</td>
</tr>
<tr>
<td>PVI</td>
<td>1190 (56%)</td>
</tr>
<tr>
<td>SUPRA</td>
<td>121 (64%)</td>
</tr>
<tr>
<td>TEVAR</td>
<td>195 (62%)</td>
</tr>
<tr>
<td>IVCF</td>
<td>148 (61%)</td>
</tr>
<tr>
<td>LEAMP</td>
<td>191 (60%)</td>
</tr>
<tr>
<td>2014 overall</td>
<td>5108 (60%)</td>
</tr>
<tr>
<td>2013 overall</td>
<td>2707 (76%)</td>
</tr>
</tbody>
</table>
Long-Term Follow-Up by Center in Your Region (2014)

Other centers in your region
Your center

*** indicates center's rate differs significantly from the regional rate.

Long-Term Follow-Up by Region Across VQI (2014)

Excludes patients who died in hospital and patients who were not treated for medical reason or non-compliant.

"***" indicates center's rate differs significantly from the regional rate.

Discharge Antiplatelet+Statin Rate by Center in Your Region (2016)

Discharge Antiplatelet+Statin Rate by Region Across VQI (2016)
Varicose Veins: Percentage of Procedures with Complete Patient-Reported Outcome Measures Recorded at Follow Up procedures; includes only patients with any follow-up visit recorded. All regional data omitted because most regions have <3 centers. Patient-reported outcome measures (PROMs) include heaviness, achiness, swelling, throbbing, itching, appearance and impact on work in side of operation.

PROMs by Center Across VQI (2015)

*** indicates center’s rate differs significantly from the overall VQI rate.
Infrainguinal Bypass: Percentage of Procedures with Chlorhexidine or Chlorhexidine+Alcohol Skin Prep (2016)

The table below shows the number of INFRA procedures in the VQI as of Jan. 1, 2017, the percentage of those cases in which chlorhexidine or chlorhexidine+alcohol skin prep was used, and the rate of in-hospital surgical-site infection.

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of procedures</td>
<td>512</td>
<td>5537</td>
</tr>
<tr>
<td>Rate of chlorhexidine or chlorhexidine+alcohol skin prep</td>
<td>87%</td>
<td>86%</td>
</tr>
<tr>
<td>Rate of in-hospital surgical-site infection</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>
Vascular Quality Initiative

Percentage With Chlorhexidine or Chlorhexidine+Alcohol Skin Prep in Your Region (2016)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

*** indicates center's rate differs significantly from the regional rate.

Percentage With Chlorhexidine or Chlorhexidine+Alcohol Skin Prep by Region Across VQI (2016)

The table below shows the number of percutaneous femoral PVI procedures in the VQI as of Jan. 1, 2017, the percentage of those cases in which ultrasound access guidance was used, and the rate of hematoma.

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of percutaneous femoral procedures</td>
<td>1211</td>
<td>14093</td>
</tr>
<tr>
<td>Rate of ultrasound access guidance</td>
<td>71%</td>
<td>67%</td>
</tr>
<tr>
<td>Rate of any hematoma (minor, moderate or major)</td>
<td>3%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Rate of moderate or major hematoma</td>
<td>0.9%</td>
<td>0.8%</td>
</tr>
</tbody>
</table>
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Rate of Ultrasound Access Guidance in Your Region (2016)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

“***” indicates center’s rate differs significantly from the regional rate.

Rate of Ultrasound Access Guidance by Region Across VQI (2016)
PVI: Percentage of Patients With ABI or TBI Reported Before Procedure (2016)

“ABI or TBI reported” indicates at least one measure was recorded for the side of the operation, or on both sides for bilateral and aortic procedures.

The table below shows the number of PVI procedures in the VQI as of Jan. 1, 2017, and the percentage of those cases in which ABI or TBI was recorded.

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of PVI procedures</td>
<td>1301</td>
<td>15568</td>
</tr>
<tr>
<td>Percentage with ABI/TBI recorded before procedure</td>
<td>66%</td>
<td>73%</td>
</tr>
<tr>
<td>Percentage of claudicants with ABI/TBI recorded</td>
<td>74%</td>
<td>79%</td>
</tr>
<tr>
<td>Percentage of patients with critical limb ischemia with ABI/TBI recorded</td>
<td>61%</td>
<td>70%</td>
</tr>
</tbody>
</table>
Vascular Quality Initiative®

Rate of ABI/TBI Assessment Before PVI in Your Region (2016)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

*** indicates center’s rate differs significantly from the regional rate.

Rate of ABI/TBI Assessment Before PVI by Region Across VQI (2016)
EVAR: Rate of Sac Diameter Reporting at Long-Term Follow-Up (2014)
Excludes patients without at least 9 months of LTFU

The table below shows the number of EVAR procedures with long-term follow-up that were in the VQI as of Jan. 1, 2017, and the percentage of those cases in which sac diameter was recorded at LTFU.

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of EVAR procedures with at least 9 months of follow-up</td>
<td>209</td>
<td>3937</td>
</tr>
<tr>
<td>Percentage with sac diameter recorded at follow-up</td>
<td>82%</td>
<td>79%</td>
</tr>
</tbody>
</table>
Vascular Quality Initiative®

Rate of LTFU Sac Diameter Reporting in Your Region (2014)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

*** indicates center’s rate differs significantly from the regional rate.

Rate of LTFU Sac Diameter Reporting by Region Across VQI (2014)

- Mid-Atlantic
- Carolinas
- Virginias
- SOVONET
- Rocky Mtns.
- Up. Midwest
- VQI
- New York
- Mid-America
- Southeast
- Michigan
- Nor. Cal.
- New England
- Midwest
- So. Cal.
- G. Lakes
TEVAR: Rate of Sac Diameter Reporting at Long-Term Follow Up 2014, excluding patients without at least 9 month follow up

(your region did not have at least 3 centers with 10 procedures)

Rate of LTFU Sac Diameter Reporting by Region Across VQI (2014)

“Others” indicates centers that do not belong to a regional group. “*” indicates region’s rate differs significantly from the VQI rate.
Carotid Endarterectomy: Percentage of Patients with LOS>1 Day (2016)

Elective procedures, excluding prior ipsilateral CEA, concomitant CABG, proximal endovascular or other arterial operation, in-hospital death with LOS<=1 day, procedures done on weekends or not done on admission day.

The table below shows the number of CEA procedures meeting inclusion criteria that were in the VQI as of Jan. 1, 2017, and the observed and expected rates of those cases with LOS>1 Day.

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of CEA procedures meeting inclusion criteria</td>
<td>765</td>
<td>10108</td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 day among procedures meeting inclusion criteria</td>
<td>22%</td>
<td>24%</td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>704</td>
<td>9606</td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 among cases with complete data</td>
<td>21%</td>
<td>24%</td>
</tr>
<tr>
<td>Expected rate of LOS&gt;1 among cases with complete data*</td>
<td>24%</td>
<td>NA</td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.2</td>
<td>NA</td>
</tr>
</tbody>
</table>
Vascular Quality Initiative®

Rate of CEA Patients With LOS>1 Day in Your Region (2016)

Centers (centers with <10 cases not shown)

“***” indicates center’s observed rate differs significantly from its expected rate.

Rate of CEA Patients With LOS>1 Day by Region Across VQI (2016)
OAAA Repair: Percentage of Patients with LOS>8 Days (2016)
Excludes ruptured aneurysms and in-hospital deaths with LOS<=8 days, procedures not done on day of admission and weekend procedures.
The table below shows the number of OAAA procedures meeting the inclusion criteria that were in the VQI as of Jan. 1, 2017, and the observed and expected rates of those cases with LOS>8 Days.
(your region did not have at least 3 centers with 10 procedures)
Endovascular AAA Repair: Percentage of Patients with LOS>2 Days (2016)

Excludes ruptured aneurysms and in-hospital deaths with LOS<=2 days, patients with prior aortic surgery, procedures not done on day of admission and weekend procedures.

The table below shows the number of EVAR procedures meeting the inclusion criteria that were in the VQI as of Jan. 1, 2017, and the observed and expected rates of those cases with LOS>2 Days.

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of EVAR procedures meeting inclusion criteria</td>
<td>260</td>
<td>4194</td>
</tr>
<tr>
<td>Observed rate of LOS&gt;2 days among procedures meeting inclusion criteria</td>
<td>17%</td>
<td>14%</td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>216</td>
<td>3905</td>
</tr>
<tr>
<td>Observed rate of LOS&gt;2 among cases with complete data</td>
<td>16%</td>
<td>14%</td>
</tr>
<tr>
<td>Expected rate of LOS&gt;2 among cases with complete data*</td>
<td>14%</td>
<td>NA</td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.38</td>
<td>NA</td>
</tr>
</tbody>
</table>
Vascular Quality Initiative®

Rate of EVAR Patients With LOS>2 Days in Your Region (2016)

- Other centers in your region
- Your center
- Observed
- Expected

Centers (centers with <10 cases not shown)

"***" indicates center’s observed rate differs significantly from its expected rate.

Rate of EVAR Patients With LOS>2 Days by Region Across VQI (2016)

- Observed
- Expected

Regions:
- Rocky Mtns*
- Nor. Cal.
- Mid.-America
- Midwest
- Pacific NW
- Virginias
- Michigan
- New England
- New York
- VQI
- Carolinas
- Southeast
- SOVONET
- Up. Midwest
- So. Cal.
- Others
- Mid-Atlantic
- G. Lakes*
- MidSouth
Hemodialysis Access: Percentage of Primary AVF vs. Graft (2016)
Excludes patients with previous access procedure in the same arm

Rate of Primary AVF Access in Your Region (2016)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

*** indicates center’s rate differs significantly from the regional rate.

Rate of Primary AVF Access by Region Across VQI (2016)
IVCF: Percentage of Temporary Filters With Retrieval or Attempt at Retrieval (2015)

Excludes patients with permanent filters and patients who have died since discharge.

The table below shows the number of IVCF procedures meeting the inclusion criteria that were in the VQI as of Jan. 1, 2017, and the percentage of those cases in which the filter was retrieved, or an attempt was made to retrieve it, at any time post-procedure:

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of access procedures meeting inclusion criteria</td>
<td>242</td>
<td>1562</td>
</tr>
<tr>
<td>Percentage with filter retrieval, or attempt at retrieval</td>
<td>8%</td>
<td>33%</td>
</tr>
</tbody>
</table>
IVCF: Percentage of Temporary Filters With Retrieval or Attempt at Retrieval (2015)

Rate of IVCF Retrieval in Your Region (2015)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

"**" indicates center's rate differs significantly from the regional rate.

Rate of IVCF Retrieval by Region Across VQI (2015)
Elective procedures, excluding prior ipsilateral CAS, and dissection, and “other” lesion types below shows the number of CAS procedures meeting the criteria that were in the VQI as of Jan. 1, 2017, and the observed and expected rates of in-hospital stroke or death for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of CAS procedures meeting inclusion criteria</td>
<td>90</td>
<td>1708</td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>0%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>87</td>
<td>1610</td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>0%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data*</td>
<td>1.3%</td>
<td>NA</td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.63</td>
<td>NA</td>
</tr>
</tbody>
</table>
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Rate of In-Hospital Stroke or Death After CAS in Your Region (2016)

- Other centers in your region
- Your center
- Observed
- Expected

Centers (centers with <10 cases not shown)

“***” indicates center’s observed rate differs significantly from its expected rate.

Rate of In-Hospital Stroke or Death After CAS by Region Across VQI (2016)

- Observed
- Expected
Carotid Endarterectomy: Stroke or Death in Hospital (2016)
Elective procedures, excluding prior ipsilateral CEA and concomitant CABG, endovascular or other arterial procedure
The table below shows the number of CEA procedures meeting the inclusion criteria that were in the VQI as of Jan. 1, 2017, and the observed and expected rates of in-hospital stroke or death for those cases

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of CEA procedures meeting inclusion criteria</td>
<td>947</td>
<td>11302</td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>0.5%</td>
<td>1%</td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>882</td>
<td>10751</td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>0.6%</td>
<td>1%</td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data*</td>
<td>1%</td>
<td>NA</td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.24</td>
<td>NA</td>
</tr>
</tbody>
</table>
Vascular Quality Initiative®

Rate of In-Hospital Stroke or Death After CEA in Your Region (2016)
- Other centers in your region
- Your center
- Observed
- Expected

Centers (centers with <10 cases not shown)

*** indicates center's observed rate differs significantly from its expected rate.

Rate of In-Hospital Stroke or Death After CEA by Region Across VQI (2016)
- Observed
- Expected

Infrainguinal Bypass: Rate of Major Complications (2016)
Includes only patients with indication of rest pain or tissue loss. Major complications are defined as in-hospital death, ipsilateral BK or AK amputation or graft occlusion. The table below shows the number of INFRA cases with indication of rest pain or tissue loss that were in the VQI as of Jan. 1, 2017, and the percentage of those cases that resulted in in-hospital death, ipsilateral amputation or graft occlusion.

<table>
<thead>
<tr>
<th></th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of access procedures meeting inclusion criteria</td>
<td>288</td>
<td>3242</td>
</tr>
<tr>
<td>Percentage with major complications after INFRA</td>
<td>3.8%</td>
<td>4.1%</td>
</tr>
</tbody>
</table>
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Rate of Major Complications After INFRA in Your Region (2016)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

*** indicates center’s rate differs significantly from the regional rate.

Rate of Major Complications After INFRA by Region Across VQI (2016)
Open Non-ruptured AAA: In hospital Mortality (2016)

Elective procedures, excluding patients with prior aortic surgery, concomitant renal, infrainguinal or other abdominal procedures, and procedures performed on the weekend.

(your region did not have at least 3 hospitals with 10 procedures)
Governing Council Update:
Yazan Duwayri, MD
GC meeting at VEITH

- Strategic Planning Summary
  - National Quality Projects
  - Defining the Value of VQI to SVS Members
  - Data Integrity
  - Focus on MIPS
  - Work with SVS and the Clinical Practice Committee on Appropriateness

- M2S Update
  - CAS Revisions
  - Work with Medstreaming on Data Integration
  - Work with the PSO on MIPS/MACRA
GC meeting at VEITH

• Device Identification Sub-Committee
  – New policy for the release of BDS files with Device Identifiers
  – Would need an attestation that research was free of conflicts
  – Research would need to be reviewed before Identifiers would be granted
  – Need to work on Communications with Industry, prior to Publication

• Potential New Projects
  – EVAR Cost Study with MedAssets/Visient
  – Venous Stenting Registry
  – US News and World Report
Arterial Quality Council Update:
Adam Beck, MD
Vascular Quality Initiative®

VQI Committee Activities – Arterial Quality Committee

The Arterial Quality Committee (AQC) discussed term limits and succession planning for VQI Registry Chairs and Vice Chairs and recommended:

- Three year terms renewable every year for one year
- The Vice Chair should be prepared to accept the Chair position when the Chair steps down
- The Chair can rejoin the committee after stepping down
- The AQC Chair has the right to ask a Chair or Vice Chair to step down if the Registry Chair or Vice Chair is unable to fully participate

Registry Chairs were requested to examine existing research projects to help identify two to three quality improvement projects that may lead to best practice recommendations for procedures included in each Registry.
Implementation of National QI Projects:

- **Three VQI committees** working on the National QI project rollout of improving discharge medication and EVAR LTFU imaging rates.
- Provide physician specific reports and COPI reports for discussion at regional meetings
- Identify high performing centers
- Seek industry funding for EVAR LTFU imaging once a plan of work has been completed.
- **Publication** of National QI projects in Feb 22nd issue of *Vascular Specialist*
PSO National QI Project
Committee Process

SVS PSO
- Identify high performing centers
- **Provide input to/from regional meetings**
- Develop educational resources
- Develop COPI and Physician Reports
- Align with MIPS/MACRA
- Track successes

Arterial Quality Committee
- Goals, measures, definitions, benchmarks
- Analysis of results
- QI bundles (recommended clinical practices)
- Outcomes of interest to payers, administrators
- Recommended practices

Communications Committee
- Messaging to key stakeholders (providers, patients, administrators)
- Oversight of articles, press releases
- Physician and hospital engagement

Quality Improvement Workgroup
- QI implementation tools
- ‘How-To’ presentations
- Expert guidance for user groups
Implementation of National QI Projects:

**Later Steps**

- Planned VQI publication describing outcomes of patients with and without EVAR follow-up and imaging
- Registry changes: Automatic push reports that provide centers with information on patients needing follow-up imaging
- Incorporate QI project participation as part of the Participation Awards. Inform VQI members that adding QI project participation as part of the Awards program is being considered.
- Medicare integration/query to determine if imaging is being done elsewhere, but not entered in the VQI registry.
In addition to the spring and fall regional reports, this year we have published three COPI reports:
- 30-day stroke and 1-year mortality after CEA
- 30-day stroke or 1-year mortality after CAS
- COPI report on hematoma after PVI

We have also published three surgeon-level reports:
- Percentage of high-risk patients receiving CEA
- Percentage of patients receiving follow-up imaging after EVAR
- Surgeon-level report on percentage of high-risk patients receiving CAS

2017 Plan to repeat previous reports:
- First one is CEA LOS
Research Advisory Council Update:
Adam Beck, MD
National Research Process

http://www.vascularqualityinitiative.org/vqi-resource-library/quality-research/

Approved Project List – as of 12/13/2016

• To submit a proposal to be considered for the National RAC, please follow the link below and select “PSO National RAC – MONTH Proposal Submission.

http://abstracts123.com/svs1/meetinglogin
 Proposal Submissions

**April 2017**
- Call for Proposals: February 14, 2017
- Due Date: Midnight March 27, 2017
- Meeting: April 10, 2017
- Notification Sent: April 11, 2017

**June 2017 – Dates Subject to Change**
- Call for Proposals: April 11, 2017
- Due Date: May 29, 2017
- Meeting: June 12, 2017
- Notifications Sent: June 13, 2017
Regional Research Projects:

• Any new ideas?