Upper Midwest Vascular Network (UMVN)

May 7, 2021
1:00 pm – 4:00 pm CT
Remote
Meeting Attendance Credit

Before we get started, please sign in.

1. Click “Participants” in the box at the top or bottom of your screen.
2. If your full name is not listed, hover next to your name and you’ll see “rename”.
3. Click and sign in.

If you can’t sign in, please email Leka Johnson at ljohnson@svspso.org and let her know the identifier you were signed in under (ex –LM7832 or your phone number).

**SPECIAL NOTE: We do give credit to residents/fellows that don’t have a PATHWAYS user account !!!
Sign in with your Full name, MD, Name of Institution
Nominations

Congratulations!!!

• Assistant Medical Director, UMWVN
  Neel Mansukhani, MD
  Froedtert Health

• Venous RAC
  – Position not filled
## Agenda - May 7, 2021

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>CE Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00 pm</td>
<td>Welcome</td>
<td>No</td>
</tr>
</tbody>
</table>
| 1:05 pm| Regional Data Review
Randall DeMartino, MD, Regional Medical Leader, UMVN
Learning Objectives:
• Use the VQI regional reports to establish quality improvement goals for the vascular patients (outcomes) and for their center (process).
• Interpret and compare each centers’ VQI results to regional and national benchmarked data.
• Learn, through group discussion the VQI regional results to improve the quality of vascular health care by monitoring measurable performance indicators, SVS PSO evidence-based research, and outcomes.
• Identify high performing regional vascular centers to discuss variations in care and clinical practice patterns to improve outcomes and prompt quality improvement recommendations for vascular care patients. Sharing of best practices/pathways of care. | Yes       |
| 2:05 pm| Regional QI Proposal
Randall DeMartino, MD, Regional Medical Leader, UMVN
Learning Objectives:
• Use the VQI regional reports to establish quality improvement goals for the vascular patients (outcomes) and for their center (process).
• Interpret and compare each centers’ VQI results to regional and national benchmarked data.
• Learn, through group discussion the VQI regional results to improve the quality of vascular health care by monitoring measurable performance indicators, SVS PSO evidence-based research, and outcomes.
• Identify high performing regional vascular centers to discuss variations in care and clinical practice patterns to improve outcomes and prompt quality improvement recommendations for vascular care patients. Sharing of best practices/pathways of care. | Yes       |
## Agenda (con’t)

<table>
<thead>
<tr>
<th>Time</th>
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<th>CE Credit</th>
</tr>
</thead>
</table>
| 2:35 pm| National VQI Update  
Caroline Morgan, BSN, Clinical Associate, PSO  
Learning Objectives:  
• Use the VQI regional reports to establish quality improvement goals for the vascular patients (outcomes) and for their center (process).  
• Identify high performing regional vascular centers to discuss variations in care and clinical practice patterns to improve outcomes and prompt quality improvement recommendations for vascular care patients.  
Sharing of best practices/pathways of care. | Yes       |
| 3:05 pm| AQC Update – Peter Rossi, M.D.                                       | No        |
|        | VQC Update – Fahad Shuja, M.D.                                       | No        |
|        | RAC Update – Joseph Hart, M.D.                                       | No        |
|        | Governing Council Update – Randall DeMartino, M.D.                   | No        |
| 3:30 pm| Case Presentations  
1. Amy Reed, MD, Title, University of Minnesota Medical Center (UMMC)  
2. Speaker 2, MD, rAAA Results with Medicare Matched Claims, Mayo Clinic  
3. Abby Rothstein, MD, TCAR Tips/Best Practices, Froedtert Health | No        |
| 4:00 pm| Open Discussion/Next Meeting/Meeting Evaluation                      | No        |
Disclosure

No presenter has a disclosure or conflict of interest to report.
Welcome and Introductions

Abbott Northwestern Hospital (Allina)
Altru Health System
Aspirus Wausau Hospital, Inc.
Aurora BayCare Medical Center, Green Bay
Aurora Medical Center, Grafton
Aurora Medical Center, Hartford (Washington County)
Aurora Medical Center, Kenosha
Aurora Medical Center, Manitowoc County
Aurora Medical Center, Oshkosh
Aurora Medical Center, Summit
Aurora Memorial Hospital, Burlington
Aurora Sheboygan Memorial Medical Center, Sheboygan
Aurora Sinai Medical Center, Milwaukee
Aurora St. Luke's Medical Center, Milwaukee
Aurora St. Luke's South Shore, Cudahy
Aurora West Allis Medical Center, West Allis
Avera Heart Hospital of South Dakota
Avera McKennan Hospital

Columbia St. Mary's Hospital Ozaukee, Inc.
Columbia St. Mary's Milwaukee Hospital, Inc.
Fairview Southdale Hospital
Fairview St. John's Hospital
Fairview St. Joseph's Hospital
Fox Valley Surgical Associates Ltd.
Froedtert Health
HealthPartners, Inc.

M Health Fairview Clinic - Woodwinds
Marshfield Clinic Health System, Inc.
Mayo Clinic Health System - Franciscan Healthcare, Inc. (in La Crosse)
Mayo Clinic Hospital - Rochester
Mayo Clinic Northwest Wisconsin
Mercy Hospital (Allina)
North Memorial Health Hospital
Radiology Associates-Fox Valley
Sacred Heart Hospital of the Hospital
Sisters of the Third Order of St. Francis
Sanford Bemidji Medical Center
Sanford Clinic Vascular Associates
Sanford Medical Center Fargo

SSM Health St. Agnes Hospital - Fond du Lac, WI
SSM Health St. Mary's Hospital - Madison
St. Luke's Hospital - MN
St. Vincent Hospital of the Hospital
Sisters of the Third Order of St. Francis
United Hospital (Allina)
Unity Hospital (Allina)
UnityPoint Health - Meriter Hospital
University of Minnesota Medical Center (UMMC)
University of Wisconsin Hospitals and Clinics Authority
Waukesha Memorial Hospital

New = 5
Total = 48
We realize that some of you may not be receiving all the emails that are sent by the VQI/PSO/M2S PATHWAYS.

To assist in helping you get the most updated info possible, we want to direct you to a few areas to get information:

1. VQI.org – specifically YOUR Regional Group Website! You will find the latest announcements, meeting information, contact information and much more.

2. M2S PATHWAYS – Bubble notifications when you login to the platform, as well as information in the Resources tab, can give you the very latest announcements.

3. If you are not receiving emails, consider asking your hospital IT to whitelist/allow emails from pathwayssupport@m2s.com. Mass emails via Mailchimp are sent from this email address and sending name “Vascular Quality Initiative”, “PATHWAYS”, or “SVS PSO”.

Getting Information
This report is patient safety work product generated within the SVS PSO, LLC, and is considered privileged and confidential.

About the Report

The VQI Regional Quality Report is produced semiannually to provide centers and regions targeted, comparative results and benchmarks for a variety of procedures, process measures, and postoperative outcomes. The report is organized into separate reports that can be quickly accessed by clicking on the report names in the table of contents on the left.

For drill-down and data feedback on your center’s cases, click on “VQI Case Appendix” in the table of contents on the left.
Important Notes

- All results are based on data entered into the VQI as of January 31, 2021. Any subsequent changes or updates to data after that date will not be reflected in this report.

- Procedure timeframes and inclusion/exclusion criteria are given at the top of each report. Cases are also excluded if outcomes are missing or not enough data was entered to determine whether the case met inclusion/exclusion criteria.

- Regions must have at least 3 centers with included cases for regional results to be displayed in tables and line charts.

- Regions must have at least 3 centers with at least 10 included cases per center for regional results to be displayed in bar charts. It is therefore possible for a region’s results to be displayed in tables and line charts, but not in bar charts.

- For risk-adjusted reports, regions must have at least 3 centers with at least 10 complete cases per center for regional results to be displayed in bar charts. It is therefore possible for a region’s results to be displayed in tables and line charts, but not in bar charts.

- In all graphics, "**" indicates a p-value <.05.
Dashboard

The dashboard provides a high-level summarization of your center’s results for each of 25 reports, and gives both regional and VQI-wide benchmarks for comparison. The “Your Center” column gives the percentage of your center’s cases with the noted outcome. Numbers in parentheses give the number of cases with the outcome and the total number of cases meeting the inclusion criteria for that report. The “Your Region” and “VQI Overall” columns give the overall, aggregate percentage of cases with the noted outcome, as well as the 25th, 50th (median), and 75th percentiles, for centers in your region and VQI, respectively ([25th|50th|75th]). Your center’s results are highlighted blue if your center is in the “best” 25th percentile for VQI Overall, and coral if your center is in the “worst” 25th percentile for VQI Overall.

For details on a particular report, click on the report name in the table of contents on the left.

Legend: Blue = “Best” 25th percentile  Coral = “Worst” 25th percentile

Note that procedure volume results are not highlighted
Dashboard Highlights

• New Colors

• New procedure groupings

• New Case Appendix with...
Dashboard Highlights

- Embedded drill-down and data feedback

VQI Case Appendix

Winter 2020

About the Appendix

The VQI Case Appendix provides embedded data feedback and drill-down for each dashboard report. Using the appendix, centers can easily identify and download cases that were reviewed or excluded from each report, as well as cases with each noted outcome.

The interactive tables below give your center’s cases (both reviewed and excluded) entered for the procedure timeframe of each report (as of 11/30/2020). Each row references a particular case and each case is referenced by a PRIMPROCID, a unique case identifier assigned to each procedure to protect patient identity. Additional data elements are included for each case to further facilitate quality improvement efforts, including procedure and patient characteristics, length-of-stay (LOS) data, discharge medication data, complication data, and other data elements related to dashboard report construction.

To download a .csv or .xlsx file containing your center’s data, click on either the “CSV” or “Excel” buttons located above each interactive table.
Dashboard Highlights

- Embedded drill-down and data feedback

![Dashboard Image]

- **INFRA Cases: 80**
  - Number of INFRA cases in procedure timeframe
- **INFRA CLAUD (CLI) Cases Reviewed: 9 (66)**
  - Number of INFRA cases included in each INFRA dashboard
- **INFRA Cases Excluded: 5**
  - Number of INFRA cases not included in either INFRA dashboard (note: 5+9+66=80)

**Binary indicators for dashboard inclusion**
(1=yes, 0 = no)

**Download .csv or .xlsx file of your data**

**Search:**
Returns every row containing at least 1 cell satisfying the value entered in the search bar (not incredibly useful)

**Sort on any column by clicking the double arrows**

**Click to page thru your cases**
(10, 25, 50, 100, 250, or 500)

**Use scroll bar to see additional variables**

**Change the # of rows for display**
(10, 25, 50, 100, 250, or 500)
<table>
<thead>
<tr>
<th>Procedure Group</th>
<th>Outcome</th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Procedure Volume</td>
<td>[47</td>
<td>117</td>
<td>213]</td>
</tr>
<tr>
<td></td>
<td>Procedure Volume, All Years</td>
<td>[144</td>
<td>610</td>
<td>1532]</td>
</tr>
<tr>
<td>Multiple</td>
<td>Long Term Follow-up</td>
<td>84.4% [82%</td>
<td>94%</td>
<td>95%]</td>
</tr>
<tr>
<td></td>
<td>Discharge Medications</td>
<td>88.9% [86%</td>
<td>68%</td>
<td>95%]</td>
</tr>
<tr>
<td>TFEM CAS ASYMP</td>
<td>Stroke/Death</td>
<td>1.4% [0%</td>
<td>0%</td>
<td>0%]</td>
</tr>
<tr>
<td>TFEM CAS SYMP</td>
<td>Stroke/Death</td>
<td>4.9% [0%</td>
<td>0%</td>
<td>0%]</td>
</tr>
<tr>
<td>TCAR ASYMP</td>
<td>Stroke/Death</td>
<td>1.3% [0%</td>
<td>0%</td>
<td>0%]</td>
</tr>
<tr>
<td>TCAR SYMP</td>
<td>Stroke/Death</td>
<td>0.8% [0%</td>
<td>0%</td>
<td>0%]</td>
</tr>
<tr>
<td>CEA ASYMP</td>
<td>Stroke/Death</td>
<td>22.3% [10%</td>
<td>25%</td>
<td>38%]</td>
</tr>
<tr>
<td></td>
<td>Postop LOS&gt;1 Day</td>
<td>0% [0%</td>
<td>0%</td>
<td>0%]</td>
</tr>
<tr>
<td>CEA SYMP</td>
<td>Stroke/Death</td>
<td>42.2% [18%</td>
<td>37%</td>
<td>52%]</td>
</tr>
<tr>
<td></td>
<td>Postop LOS&gt;1 Day</td>
<td>14.8% [8%</td>
<td>15%</td>
<td>20%]</td>
</tr>
<tr>
<td>EVAR</td>
<td>Sac Diameter Reporting</td>
<td>67.8% [53%</td>
<td>81%</td>
<td>87%]</td>
</tr>
<tr>
<td>TEVAR</td>
<td>Sac Diameter Reporting</td>
<td>79.7% [74%</td>
<td>80%</td>
<td>85%]</td>
</tr>
<tr>
<td>OAAA</td>
<td>In-Hospital Mortality</td>
<td>91.9% [78%</td>
<td>81%</td>
<td>89%]</td>
</tr>
<tr>
<td></td>
<td>SVS Sac Size Guideline</td>
<td>95.5% [100%</td>
<td>100%</td>
<td>100%]</td>
</tr>
<tr>
<td></td>
<td>SVS Cell-Saver Guideline</td>
<td>95.5% [100%</td>
<td>100%</td>
<td>100%]</td>
</tr>
<tr>
<td></td>
<td>SVS Iliac Inflow Guideline</td>
<td>99% [100%</td>
<td>100%</td>
<td>100%]</td>
</tr>
<tr>
<td>PVI CLAUD</td>
<td>ABI/Toe Pressure</td>
<td>71.8% [70%</td>
<td>83%</td>
<td>100%]</td>
</tr>
<tr>
<td>INFRA CLTI</td>
<td>Major Complications</td>
<td>4.4% [0%</td>
<td>0%</td>
<td>2%]</td>
</tr>
<tr>
<td>SUPRA CLTI</td>
<td>Major Complications</td>
<td>10.8% [0%</td>
<td>0%</td>
<td>13%]</td>
</tr>
<tr>
<td>LEAMP</td>
<td>Postop Complications</td>
<td>10.3% [0%</td>
<td>9%</td>
<td>11%]</td>
</tr>
<tr>
<td>HDA</td>
<td>Primary AVF vs. Graft</td>
<td>56.7% [50%</td>
<td>64%</td>
<td>75%]</td>
</tr>
<tr>
<td>IVCF</td>
<td>Filter Retrieval Reporting</td>
<td>NA (&lt;3 centers)</td>
<td>59.7% [36%</td>
<td>55%</td>
</tr>
</tbody>
</table>

Legend: **Blue = “Best” 25th percentile**  **Coral = “Worst” 25th percentile**

Note that procedure volume results are not highlighted.
# Procedure Volume

Procedures performed between January 1 and December 31, 2020

Number of cases entered into the VQI, by registry and overall

<table>
<thead>
<tr>
<th></th>
<th>Your Center (N)</th>
<th>Your Region (N)</th>
<th>VQI Overall (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS (TFEM CAS &amp; TCAR)</td>
<td></td>
<td>607</td>
<td>11221</td>
</tr>
<tr>
<td>CEA</td>
<td></td>
<td>1395</td>
<td>15828</td>
</tr>
<tr>
<td>EVAR</td>
<td></td>
<td>469</td>
<td>6473</td>
</tr>
<tr>
<td>HDA</td>
<td></td>
<td>50</td>
<td>6405</td>
</tr>
<tr>
<td>INFRA</td>
<td></td>
<td>477</td>
<td>6797</td>
</tr>
<tr>
<td>IVCF</td>
<td></td>
<td>NA (&lt;3 centers)</td>
<td>1515</td>
</tr>
<tr>
<td>LEAMP</td>
<td></td>
<td>476</td>
<td>3192</td>
</tr>
<tr>
<td>OAAA</td>
<td></td>
<td>99</td>
<td>1243</td>
</tr>
<tr>
<td>PVI</td>
<td></td>
<td>2804</td>
<td>37799</td>
</tr>
<tr>
<td>SUPRA</td>
<td></td>
<td>122</td>
<td>1892</td>
</tr>
<tr>
<td>TEVAR</td>
<td></td>
<td>146</td>
<td>2691</td>
</tr>
<tr>
<td>Varicose Veins</td>
<td></td>
<td>NA (&lt;3 centers)</td>
<td>5938</td>
</tr>
<tr>
<td>Overall (Jan-Dec 2020)</td>
<td></td>
<td>6845</td>
<td>100994</td>
</tr>
<tr>
<td>Overall (Jan-Dec 2019)</td>
<td></td>
<td>7052</td>
<td>116809</td>
</tr>
</tbody>
</table>
# Procedure Volume, All Years

Includes all procedures with procedure date through December 31, 2020

Number of cases entered into the VQI, by registry and overall

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Your Center (N)</th>
<th>Your Region (N)</th>
<th>VQI Overall (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS (TFEM CAS &amp; TCAR)</td>
<td>2541</td>
<td>49828</td>
<td></td>
</tr>
<tr>
<td>CEA</td>
<td>9982</td>
<td>150058</td>
<td></td>
</tr>
<tr>
<td>EVAR</td>
<td>3942</td>
<td>59655</td>
<td></td>
</tr>
<tr>
<td>HDA</td>
<td>215</td>
<td>59322</td>
<td></td>
</tr>
<tr>
<td>INFRA</td>
<td>3220</td>
<td>64165</td>
<td></td>
</tr>
<tr>
<td>IVCF</td>
<td>NA (&lt;3 centers)</td>
<td>15055</td>
<td></td>
</tr>
<tr>
<td>LEAMP</td>
<td>3023</td>
<td>19810</td>
<td></td>
</tr>
<tr>
<td>OAAA</td>
<td>763</td>
<td>14321</td>
<td></td>
</tr>
<tr>
<td>PVI</td>
<td>19381</td>
<td>251233</td>
<td></td>
</tr>
<tr>
<td>SUPRA</td>
<td>1087</td>
<td>20722</td>
<td></td>
</tr>
<tr>
<td>TEVAR</td>
<td>1190</td>
<td>19158</td>
<td></td>
</tr>
<tr>
<td>Varicose Veins</td>
<td>NA (&lt;3 centers)</td>
<td>42963</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>46378</td>
<td>766290</td>
<td></td>
</tr>
</tbody>
</table>
Procedure Volume by Center in Your Region (Through Dec 2020)

Other centers in your region
Your center

Centers (centers with <10 cases not shown)

Procedure Volume Across VQI (Through Dec 2020)

Regions (regions with <3 centers with at least 10 cases not shown)

“Others” indicates centers that do not belong to a regional group.
Physician Specialties

Physician Specialties Across VQI (as of January 31, 2021, N=5617 Physicians)
Physician Specialties Across Your Region (as of January 31, 2021, N=450 Physicians)
Long-Term Follow-up

Procedures performed between January 1 and December 31, 2018

Includes CAS (TFEM CAS and TCAR), CEA, EVAR, HDA, INFRA, IVCF, LEAMP, OAAA, PVI, SUPRA, and TEVAR procedures only. Excludes cases not eligible for long-term follow-up.

The table below gives the number of procedures meeting the inclusion criteria, and the percentage of those procedures with follow-up recorded between 9 and 21 months post-procedure.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS</td>
<td>356 (71%)</td>
<td>7782 (64%)</td>
<td></td>
</tr>
<tr>
<td>CEA</td>
<td>1365 (83%)</td>
<td>18807 (71%)</td>
<td></td>
</tr>
<tr>
<td>EVAR</td>
<td>461 (82%)</td>
<td>7327 (72%)</td>
<td></td>
</tr>
<tr>
<td>HDA</td>
<td>NA (&lt;3 centers)</td>
<td>8010 (67%)</td>
<td></td>
</tr>
<tr>
<td>INFRA</td>
<td>386 (90%)</td>
<td>7339 (72%)</td>
<td></td>
</tr>
<tr>
<td>IVCF</td>
<td>NA (&lt;3 centers)</td>
<td>2003 (77%)</td>
<td></td>
</tr>
<tr>
<td>LEAMP</td>
<td>378 (95%)</td>
<td>3309 (66%)</td>
<td></td>
</tr>
<tr>
<td>OAAA</td>
<td>66 (92%)</td>
<td>1251 (75%)</td>
<td></td>
</tr>
<tr>
<td>PVI</td>
<td>2601 (83%)</td>
<td>34936 (70%)</td>
<td></td>
</tr>
<tr>
<td>SUPRA</td>
<td>125 (87%)</td>
<td>2359 (72%)</td>
<td></td>
</tr>
<tr>
<td>TEVAR</td>
<td>166 (95%)</td>
<td>2684 (69%)</td>
<td></td>
</tr>
<tr>
<td>Overall (Jan-Dec 2018)</td>
<td>6035 (84%)</td>
<td>95807 (70%)</td>
<td></td>
</tr>
<tr>
<td>Overall (Jan-Dec 2017)</td>
<td>5659 (92%)</td>
<td>86744 (73%)</td>
<td></td>
</tr>
</tbody>
</table>
**Long-Term Follow-Up by Center in Your Region (Jan-Dec 2018)**

- **Other centers in your region**
- **Your center**

Centers (centers with <10 cases not shown)

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

**Long-Term Follow-Up by Region Across VQI (Jan-Dec 2018)**

Regions (regions with <3 centers with at least 10 cases not shown)

***Indicates region’s rate differs significantly from the VQI rate.***
Discharge Medications

Procedures performed between January 1 and December 31, 2020

Includes CAS (TFEM CAS and TCAR), CEA, EVAR, INFRA, LEAMP, OAAA, PVI, SUPRA, and TEVAR procedures only. Antiplatelet is defined as ASA or P2Y12 inhibitor. Cases are excluded if (1) Discharge Statin = “No, for medical reason” OR (2) Both Discharge ASA = “No, for medical reason” AND Discharge P2Y12 inhibitor = “No, for medical reason” OR (3) An in-hospital death occurred.

The table below gives the number of procedures meeting the inclusion criteria, and the percentage of those procedures where patients received discharge medications.

<table>
<thead>
<tr>
<th></th>
<th>Number of Procedures at Your Center</th>
<th>Antiplatelet+Statin</th>
<th>Antiplatelet Only</th>
<th>Statin Only</th>
<th>Neither</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EVAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INFRA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEAMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OAAA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUPRA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TEVAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your Center Overall</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your Region Overall</td>
<td>6182</td>
<td>89%</td>
<td>7%</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>VQI Overall</td>
<td>81735</td>
<td>85%</td>
<td>9%</td>
<td>4%</td>
<td>2%</td>
</tr>
</tbody>
</table>
Discharge Antiplatelet+Statin by Center in Your Region (Jan-Dec 2020)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

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

Discharge Antiplatelet+Statin by Region Across VQI (Jan-Dec 2020)

- New England
- Mid-America
- Midwest
- Michigan
- Mid America
- G. Lakes
- Carolinas
- MidSouth
- Nor.
- Cal.
- Others
- Pacific NW
- VQI
- Nort
- So.
- Cal.
- Virginia
- Canada
- Mid-Atlantic
- New York
- Rocky Mts.
- Southeast

Regions (regions with <3 centers with at least 10 cases not shown)

“Others” indicates centers that do not belong to a regional group.

*** Indicates region's rate differs significantly from the VQI rate.
TFEM CAS ASYMP: Stroke/Death

Procedures performed between January 1 and December 31, 2020

Includes asymptomatic admissions for Transfemoral Carotid Artery Stenting (TFEM CAS) only. Asymptomatic admissions are admissions where the patient had no ipsilateral or contralateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar TIA or stroke, prior ipsilateral CAS, CAS for intracranial treatment, or any procedure involving dissection, trauma, FMD, or “Other” lesion types. Procedures with an approach other than “Femoral” are also excluded.

The table below gives the number of TFEM CAS procedures (performed on asymptomatic admissions) meeting the inclusion criteria, and the observed and expected rates of in-hospital stroke or death for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of TFEM CAS procedures meeting inclusion criteria</td>
<td>73</td>
<td>1338</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>1.4%</td>
<td>1.4%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>66</td>
<td>1224</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>1.5%</td>
<td>1.5%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data</td>
<td>1.3%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.59</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
Stroke or Death after TFEM CAS for Asymptomatic Admissions by Year

Rates shown are observed rates among cases meeting inclusion criteria.
Stroke or Death after TFEM CAS for Asymptomatic Admissions in Your Region (Jan-Dec 2020)

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

Centers (centers with <10 complete cases not shown)

Rates shown are among complete cases. ** Indicates center’s observed rate differs significantly from its expected rate.

Stroke or Death after TFEM CAS for Asymptomatic Admissions by Region Across VQI (Jan-Dec 2020)

- Observed
- Expected

Regions (regions with <3 centers with at least 10 complete cases not shown)

Rates shown are among complete cases. ** Indicates region’s observed rate differs significantly from its expected rate.
TFEM CAS SYMP: Stroke/Death

Procedures performed between January 1 and December 31, 2020

Includes symptomatic admissions for Transfemoral Carotid Artery Stenting (TFEM CAS) only. Symptomatic admissions are admissions where the patient had an ipsilateral or contralateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar TIA or stroke, prior ipsilateral CAS, CAS for intracranial treatment, or any procedure involving dissection, trauma, FMD, or “Other” lesion types. Procedures with an approach other than “Femoral” are also excluded.

The table below gives the number of TFEM CAS procedures (performed on symptomatic admissions) meeting the inclusion criteria, and the observed and expected rates of in-hospital stroke or death for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of TFEM CAS procedures meeting inclusion criteria</td>
<td>184</td>
<td>1537</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>4.9%</td>
<td>4.8%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>166</td>
<td>1434</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>5.4%</td>
<td>4.9%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data</td>
<td>4.5%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.57</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
Stroke or Death after TFEM CAS for Symptomatic Admissions in Your Region (Jan-Dec 2020)

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

Centers (centers with <10 complete cases not shown)

Rates shown are among complete cases. "***" indicates center's observed rate differs significantly from its expected rate.

Stroke or Death after TFEM CAS for Symptomatic Admissions by Region Across VQI (Jan-Dec 2020)

- Observed
- Expected

Regions (regions with <3 centers with at least 10 complete cases not shown)

Rates shown are among complete cases. "***" indicates region's observed rate differs significantly from its expected rate.
TCAR ASYMP: Stroke/Death

Procedures performed between January 1 and December 31, 2020

Includes asymptomatic admissions for TransCarotid Artery Revascularization (TCAR) only. Asymptomatic admissions are admissions where the patient had no ipsilateral or contralateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar TIA or stroke, prior ipsilateral CAS, CAS for intracranial treatment, or any procedure involving dissection, trauma, FMD, or “Other” lesion types.

The table below gives the number of TCAR procedures (performed on asymptomatic admissions) meeting the inclusion criteria, and the observed and expected rates of in-hospital stroke or death for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of TCAR procedures meeting inclusion criteria</td>
<td>121</td>
<td>4068</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>2.5%</td>
<td>1.4%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>116</td>
<td>3864</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>2.6%</td>
<td>1.3%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data</td>
<td>0.8%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.07</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
Stroke or Death after TCAR for Asymptomatic Admissions by Year

Rates shown are observed rates among cases meeting inclusion criteria.
Stroke or Death after TCAR for Asymptomatic Admissions in Your Region (Jan-Dec 2020)

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

Centers (centers with <10 complete cases not shown)

Rates shown are among complete cases. ** Indicates center's observed rate differs significantly from its expected rate.

Stroke or Death after TCAR for Asymptomatic Admissions by Region Across VQI (Jan-Dec 2020)

- Observed
- Expected

Regions (regions with <3 centers with at least 10 complete cases not shown)

Rates shown are among complete cases. ** Indicates region's observed rate differs significantly from its expected rate.
TCAR SYMP: Stroke/Death

Procedures performed between January 1 and December 31, 2020

Includes symptomatic admissions for TransCarotid Artery Revascularization (TCAR) only. Symptomatic admissions are admissions where the patient had an ipsilateral or contralateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar TIA or stroke, prior ipsilateral CAS, CAS for intracranial treatment, or any procedure involving dissection, trauma, FMD, or “Other” lesion types.

The table below gives the number of TCAR procedures (performed on symptomatic admissions) meeting the inclusion criteria, and the observed and expected rates of in-hospital stroke or death for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of TCAR procedures meeting inclusion criteria</td>
<td>78</td>
<td>2138</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>1.3%</td>
<td>2.1%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>75</td>
<td>2039</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>1.3%</td>
<td>2.1%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data</td>
<td>2.3%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>1</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
Stroke or Death after TCAR for Symptomatic Admissions by Year

Rates shown are observed rates among cases meeting inclusion criteria.
Stroke or Death after TCAR for Symptomatic Admissions in Your Region (Jan-Dec 2020)

Centers (centers with <10 complete cases not shown)

Rates shown are among complete cases. *** indicates center's observed rate differs significantly from its expected rate.

Stroke or Death after TCAR for Symptomatic Admissions by Region Across VQI (Jan-Dec 2020)

Regions (regions with <3 centers with at least 10 complete cases not shown)

Rates shown are among complete cases. *** indicates region's observed rate differs significantly from its expected rate.
CEA ASYMP: Stroke/Death

Procedures performed between January 1 and December 31, 2020

Includes asymptomatic admissions for Carotid Endarterectomy (CEA) only. Asymptomatic admissions are admissions where the patient had no ipsilateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar or non-specific TIA or stroke, prior ipsilateral CEA or CAS, or any procedure with a concomitant CABG, proximal endovascular, distal endovascular, or “Other” arterial procedure.

The table below gives the number of CEA procedures (performed on asymptomatic admissions) meeting the inclusion criteria, and the observed and expected rates of in-hospital stroke or death for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of CEA procedures meeting inclusion criteria</td>
<td>741</td>
<td>8867</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>0.8%</td>
<td>0.9%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>714</td>
<td>8410</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>0.8%</td>
<td>0.9%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data</td>
<td>1%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.85</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
Stroke or Death after CEA for Asymptomatic Admissions by Year

Rates shown are observed rates among cases meeting inclusion criteria.
Stroke or Death after CEA for Asymptomatic Admissions in Your Region (Jan-Dec 2020)

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

Centers (centers with <10 complete cases not shown)

Rates shown are among complete cases. "***" Indicates center's observed rate differs significantly from its expected rate.

Stroke or Death after CEA for Asymptomatic Admissions by Region Across VQI (Jan-Dec 2020)

- Observed
- Expected

Regions (regions with <3 centers with at least 10 complete cases not shown)

Rates shown are among complete cases. "***" Indicates region's observed rate differs significantly from its expected rate.
CEA SYMP: Stroke/Death

Procedures performed between January 1 and December 31, 2020

Includes symptomatic admissions for Carotid Endarterectomy (CEA) only. Symptomatic admissions are admissions where the patient had an ipsilateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar or non-specific TIA or stroke, prior ipsilateral CEA or CAS, or any procedure with a concomitant CABG, proximal endovascular, distal endovascular, or “Other” arterial procedure.

The table below gives the number of CEA procedures (performed on symptomatic admissions) meeting the inclusion criteria, and the observed and expected rates of in-hospital stroke or death for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of CEA procedures meeting inclusion criteria</td>
<td>450</td>
<td>4593</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among procedures meeting inclusion criteria</td>
<td>0%</td>
<td>1.8%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>428</td>
<td>4416</td>
<td></td>
</tr>
<tr>
<td>Observed rate of stroke or death among cases with complete data</td>
<td>0%</td>
<td>1.8%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of stroke or death among cases with complete data</td>
<td>2%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
Stroke or Death after CEA for Symptomatic Admissions by Year

Rates shown are observed rates among cases meeting inclusion criteria.
CEA ASYMP: Postop LOS>1 Day

Procedures performed between January 1 and December 31, 2020

Includes asymptomatic admissions for Carotid Endarterectomy (CEA) only. Asymptomatic admissions are admissions where the patient had no ipsilateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar or non-specific TIA or stroke, prior ipsilateral CEA or CAS, or any procedure with a concomitant CABG, proximal endovascular, distal endovascular, or “Other” arterial procedure. Procedures where in-hospital death occurred with postoperative LOS<=1 day are also excluded. Postoperative LOS is based on the midnight rule used for hospital billing.

The table below gives the number of CEA procedures (performed on asymptomatic admissions) meeting the inclusion criteria, and the observed and expected rates of postoperative LOS>1 Day for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of CEA procedures meeting inclusion criteria</td>
<td></td>
<td>741</td>
<td>8867</td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 day among procedures meeting inclusion criteria</td>
<td></td>
<td>22.3%</td>
<td>22.7%</td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td></td>
<td>714</td>
<td>8427</td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 day among cases with complete data</td>
<td></td>
<td>21.7%</td>
<td>22.7%</td>
</tr>
<tr>
<td>Expected rate of LOS&gt;1 day among cases with complete data</td>
<td></td>
<td>22.7%</td>
<td>NA</td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td></td>
<td>0.56</td>
<td>NA</td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
Postop LOS>1 Day after CEA for Asymptomatic Admissions by Year

Rates shown are observed rates among cases meeting inclusion criteria.
Postop LOS>1 Day after CEA for Asymptomatic Admissions in Your Region (Jan-Dec 2020)

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

Rates shown are among complete cases. "***" indicates center’s observed rate differs significantly from its expected rate.

Postop LOS>1 Day after CEA for Asymptomatic Admissions by Region Across VQI (Jan-Dec 2020)

- Observed
- Expected

Regions (regions with <3 centers with at least 10 complete cases not shown)

Rates shown are among complete cases. "***" indicates region’s observed rate differs significantly from its expected rate.

48
CEA SYMP: Postop LOS>1 Day

Procedures performed between January 1 and December 31, 2020

Includes symptomatic admissions for Carotid Endarterectomy (CEA) only. Symptomatic admissions are admissions where the patient had an ipsilateral retinal or cortical TIA or stroke within 180 days prior to surgery. Excludes any patient with prior vertebrobasilar or non-specific TIA or stroke, prior ipsilateral CEA or CAS, or any procedure with a concomitant CABG, proximal endovascular, distal endovascular, or “Other” arterial procedure. Procedures where in-hospital death occurred with postoperative LOS<=1 day are also excluded. Postoperative LOS is based on the midnight rule used for hospital billing.

The table below gives the number of CEA procedures (performed on symptomatic admissions) meeting the inclusion criteria, and the observed and expected rates of postoperative LOS>1 Day for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of CEA procedures meeting inclusion criteria</td>
<td>450</td>
<td>4592</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 day among procedures meeting inclusion criteria</td>
<td>42.2%</td>
<td>42.4%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>430</td>
<td>4430</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;1 day among cases with complete data</td>
<td>42.1%</td>
<td>42.3%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of LOS&gt;1 day among cases with complete data</td>
<td>45.1%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.23</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
Postop LOS > 1 Day after CEA for Symptomatic Admissions by Year

Rates shown are observed rates among cases meeting inclusion criteria.
Postop LOS>1 Day after CEA for Symptomatic Admissions in Your Region (Jan-Dec 2020)

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

Centers (centers with <10 complete cases not shown)

Rates shown are among complete cases. *** Indicates center's observed rate differs significantly from its expected rate.

Postop LOS>1 Day after CEA for Symptomatic Admissions by Region Across VQI (Jan-Dec 2020)

- Observed
- Expected

Regions (regions with <3 centers with at least 10 complete cases not shown)

Rates shown are among complete cases. *** Indicates region's observed rate differs significantly from its expected rate.
EVAR: Postop LOS>2 Days

Procedures performed between January 1 and December 31, 2020

Includes Endovascular AAA Repair (EVAR) procedures only. Excludes any procedure with ruptured aneurysm. Procedures where in-hospital death occurred with postoperative LOS≤2 are also excluded. Postoperative LOS is based on the midnight rule used for hospital billing.

The table below gives the number of EVAR procedures meeting the inclusion criteria, and the observed and expected rates of postoperative LOS>2 Days for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of EVAR procedures meeting inclusion criteria</td>
<td>433</td>
<td>6032</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;2 days among procedures meeting inclusion criteria</td>
<td>14.8%</td>
<td>16.6%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>393</td>
<td>5450</td>
<td></td>
</tr>
<tr>
<td>Observed rate of LOS&gt;2 days among cases with complete data</td>
<td>14.5%</td>
<td>16.7%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of LOS&gt;2 days among cases with complete data</td>
<td>15%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.83</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
Postop LOS>2 Days after EVAR by Year

Rates shown are observed rates among cases meeting inclusion criteria.
Postop LOS > 2 Days after EVAR in Your Region (Jan-Dec 2020)

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

Centers (centers with <10 complete cases not shown)

Rates shown are among complete cases. "***" indicates center's observed rate differs significantly from its expected rate.

Postop LOS > 2 Days after EVAR by Region Across VQI (Jan-Dec 2020)

- Observed
- Expected

Regions (regions with <3 centers with at least 10 complete cases not shown)

Rates shown are among complete cases. "***" indicates region's observed rate differs significantly from its expected rate.
EVAR: Sac Diameter Reporting

Procedures performed between January 1 and December 31, 2018

Includes Endovascular AAA Repair (EVAR) procedures only. Excludes patients who were converted to open or died within 21 months of surgery.

The table below gives the number of EVAR procedures meeting the inclusion criteria, and the percentage of those procedures where a sac diameter was reported between 9 and 21 months post-procedure.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of EVAR procedures meeting inclusion criteria</td>
<td>423</td>
<td>6782</td>
<td></td>
</tr>
<tr>
<td>Percentage with sac diameter reported between 9 and 21 months post-procedure</td>
<td>67.8%</td>
<td>59.3%</td>
<td></td>
</tr>
</tbody>
</table>
EVAR Sac Diameter Reporting Unblinding Legend for Your Region

<table>
<thead>
<tr>
<th>Index</th>
<th>Medical Center Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Waukesha Memorial Hospital</td>
</tr>
<tr>
<td>2</td>
<td>Fairview Southdale Hospital</td>
</tr>
<tr>
<td>3</td>
<td>Froedtert Health</td>
</tr>
<tr>
<td>4</td>
<td>Mayo Clinic Northwest Wisconsin</td>
</tr>
<tr>
<td>5</td>
<td>Aurora Medical Center, Grafton</td>
</tr>
<tr>
<td>6</td>
<td>Mayo Clinic Hospital - Rochester</td>
</tr>
<tr>
<td>7</td>
<td>Aurora BayCare Medical Center, Green Bay</td>
</tr>
<tr>
<td>8</td>
<td>Aurora St. Luke’s Medical Center, Milwaukee</td>
</tr>
<tr>
<td>9</td>
<td>United Hospital (Allina)</td>
</tr>
<tr>
<td>10</td>
<td>Mercy Hospital (Allina)</td>
</tr>
<tr>
<td>11</td>
<td>St. Luke’s Hospital - MN</td>
</tr>
<tr>
<td>12</td>
<td>Fairview St. Joseph’s Hospital</td>
</tr>
<tr>
<td>13</td>
<td>SSM Health St. Mary’s Hospital - Madison</td>
</tr>
</tbody>
</table>

* * * Indicates center’s rate differs significantly from the regional rate.
**EVAR Sac Diameter Reporting by Region Across VQI (Jan-Dec 2018)**

Regions (regions with <3 centers with at least 10 cases not shown)

"**" Indicates region's rate differs significantly from the VQI rate.
Moving The Needle

National Quality Initiative – EVAR Sac Diameter Report

• Wide Variation in Compliance – VQI Mean 58.6% (22-89%)
• Little improvement since inception in 2016

“It is the obligation of the operating surgeon to stress the need for lifelong surveillance and integrate discussions about LTFU into all stages of AAA EVAR care to ensure that their patients achieve optimal outcomes.” – Salvatore Scali, MD, Professor of Surgery, University of Florida.

Barriers to Reporting

• No LTFU; patient lost to evaluation
• Patient Factors
  ▪ No Need, “Feeling Well”
  ▪ Unaware of importance of LTFU and imaging
  ▪ Moved/phone disconnected
  ▪ Lost insurance
  ▪ Too far to travel/inconvenient parking
Moving The Needle

Other Barriers

• Dictated Patient Visit with “AAA sac unchanged” or “No endoleak or size increase”
• Imaging not available at time of visit
• Center not wanting to use Radiology report information

Discussion

Suggestions for improvement:

➢ Center unblinding at Regional meetings ➔ Peer competition
➢ Biannual Physician Report sent with PRIMPROCID information
➢ GC Update Report from each Regional Medical Director to maintain awareness
➢ “Best Practice” Webinar made available for low performing centers
➢ Make Sac Diameter size notation at every patient encounter
EVAR: SVS Sac Size Guideline

Procedures performed between January 1 and December 31, 2020

Includes Endovascular AAA Repair (EVAR) procedures only. Excludes any non-elective procedure. SVS sac size guideline is ≥5 cm for Women and ≥5.5cm for men. If the patient has any iliac aneurysm, the guideline is considered met regardless of AAA diameter.

The table below gives the number of EVAR procedures meeting the inclusion criteria, and the percentage of those procedures meeting the SVS sac size guideline.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of EVAR procedures meeting inclusion criteria</td>
<td>408</td>
<td></td>
<td>5357</td>
</tr>
<tr>
<td>Percentage meeting SVS sac size guideline</td>
<td>79.7%</td>
<td>74.2%</td>
<td></td>
</tr>
</tbody>
</table>
**EVAR Sac Size Guideline in Your Region (Jan-Dec 2020)**

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

**EVAR Sac Size Guideline by Region Across VQI (Jan-Dec 2020)**

Regions (regions with <3 centers with at least 10 cases not shown)

---

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

*** Indicates region’s rate differs significantly from the VQI rate.
TEVAR: Sac Diameter Reporting

Procedures performed between January 1 and December 31, 2018

Includes Thoracic Endovascular Aortic Repair (TEVAR) procedures for aneurysm or aneurysm from dissection only. Excludes cases where no aortic device was implanted or patients who were converted to open or died within 21 months of surgery.

The table below gives the number of TEVAR procedures meeting the inclusion criteria, and the percentage of those procedures where a sac diameter was reported between 9 and 21 months post-procedure.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of TEVAR procedures meeting inclusion criteria</td>
<td></td>
<td>99</td>
<td>1454</td>
</tr>
<tr>
<td>Percentage with sac diameter reported between 9 and 21 months post-procedure</td>
<td></td>
<td>91.9%</td>
<td>59.8%</td>
</tr>
</tbody>
</table>
**TEVAR Sac Diameter Reporting in Your Region (Jan-Dec 2018)**

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

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

**TEVAR Sac Diameter Reporting by Region Across VQI (Jan-Dec 2018)**

- Southeast
- New England
- VQI
- New York
- SoVOnet
- Mid-America
- Rocky Mtn.
- Mid-Atlantic
- Carolinas

Regions (regions with <3 centers with at least 10 cases not shown)

*** Indicates region's rate differs significantly from the VQI rate.
OAAA: In-Hospital Mortality

Procedures performed between January 1 and December 31, 2020
Includes Open AAA (OAAA) procedures only. Excludes any patient with a ruptured aneurysm.

The table below gives the number of OAAA procedures meeting the inclusion criteria, and the observed and expected rates of in-hospital death for those cases.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of OAAA procedures meeting inclusion criteria</td>
<td>82</td>
<td>1044</td>
<td></td>
</tr>
<tr>
<td>Observed rate of In-Hospital Mortality among procedures meeting inclusion criteria</td>
<td>1.2%</td>
<td>4.6%</td>
<td></td>
</tr>
<tr>
<td>Number of procedures with complete data*</td>
<td>70</td>
<td>977</td>
<td></td>
</tr>
<tr>
<td>Observed rate of In-Hospital Mortality among cases with complete data</td>
<td>1.4%</td>
<td>4.4%</td>
<td></td>
</tr>
<tr>
<td>Expected rate of In-Hospital Mortality among cases with complete data</td>
<td>3.3%</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>P-value for comparison of observed and expected rates</td>
<td>0.73</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>

*“Expected rate” is the rate estimated by a statistical model that accounts for patient characteristics, including age, gender, race, BMI, comorbidities, medication and stroke and vascular history. “Cases with complete data” include patients who have data on all of those factors.
In-Hospital Death after OAAA by Year

Rates shown are observed rates among cases meeting inclusion criteria.
In-Hospital Death after OAAA in Your Region (Jan-Dec 2020)

Centers (centers with <10 complete cases not shown)

Rates shown are among complete cases; "***" indicates center’s observed rate differs significantly from its expected rate.

In-Hospital Death after OAAA by Region Across VQI (Jan-Dec 2020)

Regions (regions with <3 centers with at least 10 complete cases not shown)

Rates shown are among complete cases; "***" indicates region’s observed rate differs significantly from its expected rate.
OAAA: SVS Cell-Saver Guideline

Procedures performed between January 1 and December 31, 2020

Includes Open AAA (OAAA) procedures only. Excludes any patient with EBL≤500 ml. SVS cell-saver guideline is met if cell salvage or ultrafiltration device was used.

The table below gives the number of OAAA procedures meeting the inclusion criteria, and the percentage of those procedures meeting the SVS cell-saver guideline.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of OAAA procedures meeting inclusion criteria</td>
<td></td>
<td>88</td>
<td>1063</td>
</tr>
<tr>
<td>Percentage meeting SVS cell-saver guideline</td>
<td></td>
<td>95.5%</td>
<td>92.5%</td>
</tr>
</tbody>
</table>
OAAA Cell-Saver Guideline in Your Region (Jan-Dec 2020)

Centers (centers with <10 cases not shown)

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

OAAA Cell-Saver Guideline by Region Across VQI (Jan-Dec 2020)

Regions (regions with <3 centers with at least 10 cases not shown)

*** Indicates region's rate differs significantly from the VQI rate.
OAAA: SVS Iliac Inflow Guideline

Procedures performed between January 1 and December 31, 2020

Includes Open AAA (OAAA) procedures only. SVS iliac inflow guideline is met if preservation of flow was maintained to at least one internal iliac artery.

The table below gives the number of OAAA procedures meeting the inclusion criteria, and the percentage of those procedures meeting the SVS iliac inflow guideline.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of OAAA procedures meeting inclusion criteria</td>
<td></td>
<td>97</td>
<td>1176</td>
</tr>
<tr>
<td>Percentage meeting SVS iliac inflow guideline</td>
<td></td>
<td>99%</td>
<td>98.1%</td>
</tr>
</tbody>
</table>
**OAAA Iliac Inflow Guideline in Your Region (Jan-Dec 2020)**

![Chart showing percentages of other centers in your region and your center.]

- **Other centers in your region**
- **Your center**

Centers (centers with <10 cases not shown)

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

**OAAA Iliac Inflow Guideline by Region Across VQI (Jan-Dec 2020)**

- **Canada**
- **Up. Midwest**
- **New England**
- **G. Lakes**
- **VQI**
- **Southeast**

Regions (regions with <3 centers with at least 10 cases not shown)

*** Indicates region's rate differs significantly from the VQI rate.
PVI CLAUD: ABI/Toe Pressure

Procedures performed between January 1 and December 31, 2020

Includes Peripheral Vascular Intervention (PVI) procedures for mild, moderate, or severe claudication only. “ABI/Toe Pressure Assessment” indicates at least one ABI or toe pressure assessment was made prior to PVI for the side of the procedure, or on both sides for bilateral and aortic procedures.

The table below gives the number of PVI procedures meeting the inclusion criteria, and the percentage of those procedures in which an ABI or toe pressure was assessed prior to PVI.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of PVI procedures meeting inclusion criteria</td>
<td></td>
<td>873</td>
<td>12455</td>
</tr>
<tr>
<td>Percentage with ABI/toe pressure assessment</td>
<td></td>
<td>71.8%</td>
<td>74.5%</td>
</tr>
</tbody>
</table>
INFRA CLTI: Major Complications

Procedures performed between January 1 and December 31, 2020

Includes Intrainguinal Bypass (INFRA) procedures for rest pain, tissue loss, or acute ischemia. Major complications are defined as in-hospital death, ipsilateral BK or AK amputation, or graft occlusion.

The table below gives the number of INFRA procedures meeting the inclusion criteria, and the percentage of those procedures that resulted in in-hospital death, ipsilateral BK or AK amputation, or graft occlusion.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of INFRA procedures meeting inclusion criteria</td>
<td>363</td>
<td>5212</td>
<td></td>
</tr>
<tr>
<td>Percentage with major complications</td>
<td>4.4%</td>
<td>4.6%</td>
<td></td>
</tr>
</tbody>
</table>
SUPRA CLTI: Major Complications

Procedures performed between January 1 and December 31, 2020

Includes Suprainguinal Bypass (SUPRA) procedures for rest pain, tissue loss, or acute ischemia. Major complications are defined as in-hospital death, ipsilateral BK or AK amputation, or graft occlusion.

The table below gives the number of SUPRA procedures meeting the inclusion criteria, and the percentage of those procedures that resulted in in-hospital death, ipsilateral BK or AK amputation, or graft occlusion.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of SUPRA procedures meeting inclusion criteria</td>
<td></td>
<td>65</td>
<td>1177</td>
</tr>
<tr>
<td>Percentage with major complications</td>
<td></td>
<td>10.8%</td>
<td>7.4%</td>
</tr>
</tbody>
</table>
Major Complications after SUPRA for CLTI by Year

- Your Center
- Your Region
- VQI Overall

- 2017
- 2018
- 2019
- 2020

Percentage:
- 0%
- 5%
- 10%
- 15%
Major Complications after SUPRA for CLTI in Your Region (Jan-Dec 2020)

- Other centers in your region
- Your center

Centers (centers with <10 cases not shown)

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

Major Complications after SUPRA for CLTI by Region Across VQI (Jan-Dec 2020)

New England, Mid-Atlantic, VQI, G. Lakes, Carolina, Southeast, Up. Midwest

Regions (regions with <3 centers with at least 10 cases not shown)

*** Indicates region’s rate differs significantly from the VQI rate.
LEAMP: Postop Complications

Procedures performed between January 1 and December 31, 2020

Includes Lower-Extremity Amputation (LEAMP) procedures only. Postoperative complications are defined as myocardial infarction, dysrhythmia, congestive heart failure, surgical site infection, renal complication, or respiratory complication.

The table below gives the number of LEAMP procedures meeting the inclusion criteria, and the percentage of those procedures that resulted in a postoperative complication.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of LEAMP procedures meeting inclusion criteria</td>
<td>475</td>
<td>3184</td>
<td></td>
</tr>
<tr>
<td>Percentage with postoperative complications</td>
<td>10.3%</td>
<td>10.7%</td>
<td></td>
</tr>
</tbody>
</table>
Postop Complications after LEAMP by Year

- Your Center
- Your Region
- VQI Overall
Postop Complications after LEAMP in Your Region (Jan-Dec 2020)

Centers (centers with <10 cases not shown)

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

Postop Complications after LEAMP by Region Across VQI (Jan-Dec 2020)

Regions (regions with <3 centers with at least 10 cases not shown)

*** indicates region's rate differs significantly from the VQI rate.
HDA: Primary AVF vs. Graft

Procedures performed between January 1 and December 31, 2020

Includes Hemodialysis Access (HDA) procedures only. Excludes procedures where Access Type = Endo AVF or patients with a previous access procedure in the same arm.

The table below gives the number of HDA procedures meeting the inclusion criteria, and the percentage of those procedures that were primary AVF.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of HDA procedures meeting inclusion criteria</td>
<td></td>
<td>45</td>
<td>5069</td>
</tr>
<tr>
<td>Percentage with primary AVF</td>
<td></td>
<td>66.7%</td>
<td>81.7%</td>
</tr>
</tbody>
</table>
IVCF: Filter Retrieval Reporting

Procedures performed between January 1 and December 31, 2018

Includes Inferior Vena Cava Filter (IVCF) procedures only. Excludes filters with permanent planned duration, patients who have died since discharge, or patients where no follow-up was possible.

The table below gives the number of procedures meeting the inclusion criteria, and the percentage of those procedures in which the filter was reported as retrieved (or retrieval was attempted) at any time post-procedure. Because follow-up is critical for assessing filter retrieval, cases meeting the inclusion criteria are broken down into those with follow-up records (at least 1 follow-up record) and those without follow-up records.

<table>
<thead>
<tr>
<th></th>
<th>Your Center</th>
<th>Your Region</th>
<th>VQI Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of IVCF procedures meeting inclusion criteria</td>
<td>NA (&lt;3 centers)</td>
<td>1224</td>
<td></td>
</tr>
<tr>
<td>Number without follow-up records</td>
<td>145</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number with follow-up records</td>
<td>1079</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage with Filter Retrieval, or Attempt at Retrieval</td>
<td>59.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage not retrieved because No Follow-up Records Created</td>
<td>11.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage not retrieved because Not Clinically Indicated</td>
<td>18.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage not retrieved because Patient Declined</td>
<td>3.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage not retrieved because Lost to Follow-Up</td>
<td>2.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage not retrieved because Deemed Too Late for Removal</td>
<td>0.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage not retrieved because Planned Later Removal</td>
<td>3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage not retrieved because No Reason Given</td>
<td>1.1%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
IVC Filter Retrieval Reporting in Your Region (Jan-Dec 2019)

**Centers (centers with <10 cases not shown)**

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

IVC Filter Retrieval Reporting by Region Across VQI (Jan-Dec 2018)

Regions (regions with <3 centers with at least 10 cases not shown)

*** Indicates region’s rate differs significantly from the VQI rate.
Regional Improvement Projects

- Randall DeMartino, MD
- Peter Rossi, MD
- Fahad Shuja, MD
- Joseph Hart, MD
• Research Presentations / Fellow Participation
  – Univ of Minnesota, Dr. Amy Reed, MD
  – Mayo Clinic
    • rAAA Results with Medicare Matched Claims
TCAR Tips and Tricks

Abby Rothstein, MD, FACS
Division of Vascular and Endovascular Surgery
Medical College of Wisconsin
Disclosures

- No financial disclosures to report
Emerging Role for TCAR

Trans-Femoral Carotid Artery Stenting (TF-CAS)
- 15 years on Market
- 10% of procedures

Carotid Endarterectomy (CEA)
- 65 years: Gold standard
- 90% of procedures

HIGH (2x) peri-procedural stroke risk
CREST 30-day All Stroke: 2.3% CEA vs 4.1% TF CAS

Low stroke rates & Higher surgical morbidity
CREST CNI: 2.1% CNI unresolved at 6 months (80% motor)
CREST MI: 2.3% CEA vs 1.1% TF CAS

Transcarotid Artery Revascularization (TCAR)
Clinical Trials

1.3%  
Journal of Endovascular Therapy  
First-in-Man validation of concept. ITT=1.3%  
n=74

0.7%  
Journal of Vascular Surgery  
Pre-Market Approval of the ENROUTE Neuroprotection System. ITT=1.4%  
n=136

ROADSTER 2  
Stroke  
Post Approval registry validating the safety and efficacy of the ENROUTE Stent. ITT=1.9%  
n=632

1.3%  
Journal of the American Medical Association  
Validation of superior outcomes to TF-CAS  
n=3286

1.4%  
Annals of Surgery  
Real world population data validating CEA-like outcomes  
n=6384
TCAR Surveillance Project: Learning Curve

- Novice 1–5 cases (41%)
- Intermediate 6–20 cases
- Advanced 20–30 cases
- Expert >30 cases (4.3%)

- No difference in post-op stroke, MI, death
- Decreased operative, fluoro, and flow reversal times, decreased bleeding (15 cases)
**Patient Selection**

**Comorbid conditions:**
1. Age ≥75
2. Congestive Heart Failure
3. Left Ventricular Ejection Fraction ≤35%
4. Two or more diseased coronary arteries with ≥70% stenosis
5. Unstable angina
6. Myocardial infarction within 6 weeks
7. Abnormal stress test
8. Need for open heart surgery
9. Need for major surgery (including vascular)
10. Uncontrolled diabetes
11. Severe pulmonary disease
12. History of liver failure with elevated prothrombin time

**Contraindications**
- Antiplatelet therapy/anticoagulation contraindicated
- Unresolved bleeding disorders

**Anatomic conditions**
1. Prior head/neck surgery or irradiation
2. Spinal immobility
3. At risk for wound infection
4. Restenosis post CEA
5. Tracheostomy or tracheostoma
6. Surgically inaccessible lesion
7. Laryngeal palsy; Laryngectomy; Permanent contralateral cranial nerve injury
8. Contralateral occlusion
9. Severe tandem lesions
10. Bilateral stenosis requiring treatment
11. Dissection
Lesion Selection

- **Indications**
  - Common carotid diameter > 6mm
  - Carotid bifurcation > 5cm above clavicle
  - Planned CCA access site < 4cm from skin

- **Contraindications**
  - Significant ipsilateral CCA disease
  - Significant bulky/circumferential ICA calcification
  - Tortuous ICA
Lesion Selection

- Good Lesions
Lesion Selection

- Bad Lesions
Pre–Op Management

- Dual Antiplatelet Therapy (ASA and Plavix)
  - At least 7 days pre procedure
  - Can use loading doses (ASA 650mg, Plavix 450mg given 4 hours pre–op)

- Statin Therapy
  - At least 5 days pre procedure
  - Can use loading dose (ex – Lipitor 80 mg given 12 hours pre–op)
Positioning similar to CEA
Incision between sternal and clavicular heads of SCM (longitudinal or transverse)
Dissect 3cm segment of common carotid
  ◦ Only dissect middle 1cm circumferentially
  ◦ Identify the vagus!
Venous access (8F Sheath)
  ◦ Contralateral groin
Systemic heparinization and give 0.2mg glycopyrrolate
  ◦ Glyco decreases risk of bradycardia and hypotension during baroreceptor manipulation
Place pre–closure stitch at planned access site
  ◦ 5–0 Prolene
  ◦ Not full–thickness, adventitia only
Intra–Op Management

- Pull up on umbilical tape/vessel loop
  - Secure to drape (or have assistant hold until sheath secured)
- CCA access
  - Be mindful of change in carotid shape
  - Shallow angle
- Advance microwire to mark and pre-marked microsheath 2–3cm
- Initial angiography
  - Avoid high pressure injections
  - De-bubble syringes
- Engage ECA or stop short with J–wire?
  - Engage ECA if at all possible
  - If CCA >7cm or ECA with >50% stenosis, stop short
- Advance 8Fr TCAR arterial sheath and secure in place (now can relax on CCA loop)
- Confirm appropriate sheath placement in 2 views
  - Pick your working view
- Prep circuit and connect to venous sheath
Intra–Op Management

- TCAR Timeout
  - Hemodynamic goals
    - SBP 140–160 mmHg
    - HR >70 bpm
  - Confirm ACT>250 and Glycopyrrolate given
  - Anesthesia has Atropine and pressors ready
  - Balloon and Stent prepped and ready
Intra-Op Management

Table II. Step-wise management of neurological intolerance

<table>
<thead>
<tr>
<th>Order of successive suggested step</th>
<th>Suggested management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ensure balloons and stents are prepared in advance to limit time on flow reversal</td>
</tr>
<tr>
<td>2</td>
<td>Provide supplemental oxygen and elevate systolic blood pressure &gt;160 mm Hg (plus avoidance of conscious sedation)</td>
</tr>
<tr>
<td>3</td>
<td>Switching the flow controller to “Low” with continued monitoring of the patient and, if tolerated, alternating to high flow during key interventional steps (alternatively, the procedure can be completed on “Low” flow)</td>
</tr>
<tr>
<td>4</td>
<td>Ischemic preconditioning: temporarily halting the procedure and re-establishing antegrade flow by releasing control of the CCA inflow for 5 minutes and then reclamping</td>
</tr>
<tr>
<td>5</td>
<td>Expeditious completion of the procedure on “High” flow (if there is no focal neurological deficit)</td>
</tr>
<tr>
<td>6</td>
<td>Convert to GA (lower cerebral metabolic demand) and complete expeditiously</td>
</tr>
<tr>
<td>7</td>
<td>If all above fails, the operator should consider abandoning flow reversal and employing a distal embolic protection filter.</td>
</tr>
</tbody>
</table>

GA, General anesthesia; CCA, common carotid artery.
Post–Op Management

- Close BP monitoring (100–140mmHg)
  - Avoid hyper/hypotension
- Continue DAPT for at least 30 days
  - Indefinitely for patients with neck radiation
- Continue Statin therapy indefinitely

- Our group tends to keep patients on DAPT and Statin indefinitely unless patients develops significant bleeding/bruising.

- Follow up carotid duplex at 1 month
  - Then 3, 6, 12 months
Questions?
Break
National VQI Update: Caroline Morgan
Clinical Associate, SVS PSO
Number of Participating Centers

Location of VQI Participating Centers

- 793 VQI Centers
- 792 centers in North America
- 1 center in Singapore
VQI Regional Quality Groups

18 Regional Quality Groups

Canadian Vascular Quality Initiative

Michigan Vascular Study Group

Vascular Study Group of Greater New York

Great Lakes Vascular Study Group

Puerto Rico

SVS | VQI
In collaboration with NCDR®
Total Procedures Captured (as of 4/1/2021) 811,165

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Count</th>
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<tbody>
<tr>
<td>Peripheral Vascular Intervention</td>
<td>268,305</td>
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<tr>
<td>Carotid Endarterectomy</td>
<td>155,339</td>
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<tr>
<td>Infra-Inguinal Bypass</td>
<td>67,658</td>
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<tr>
<td>Endovascular AAA Repair</td>
<td>63,014</td>
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<td>Hemodialysis Access</td>
<td>62,927</td>
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<td>Carotid Artery Stent</td>
<td>54,025</td>
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<td>Varicose Vein</td>
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<tr>
<td>Supra-Inguinal Bypass</td>
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<tr>
<td>Thoracic and Complex EVAR</td>
<td>20,978</td>
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<td>Lower Extremity Amputations</td>
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<td>IVC Filter</td>
<td>15,710</td>
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<tr>
<td>Open AAA Repair</td>
<td>14,883</td>
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<tr>
<td>Vascular Medicine Consult</td>
<td>56</td>
</tr>
<tr>
<td>Venous Stent</td>
<td>29</td>
</tr>
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Trainee engagement:

- VQI wants to help medical students, residents and fellows learn about quality improvement
Trainee engagement:

- Plans –
  - Invite students and trainees to regional and national meetings
  - Engage students and trainees in quality improvement projects
  - Participate in presentations and publications
  - VQI intern program (in development)
VQI Members call for volunteers early 2021:

• 19 Applicants
• VQI Representatives
  – Dr. Leila Mureebe – Chair
  – Dr. Carla Moreiro – Vice-Chair
  – Dr. Samantha Minc
  – Dr. Patricia Fernandez
  – Dr. Mina Boutros
  – Dr. Rafael Malgor
Update on PSO Diversity Committee

• Awaiting appointments from
  ➢ SVS DEI Committee
  ➢ AVF
  ➢ ACC

• Broad representation
  ➢ Years in practice
  ➢ Region
  ➢ Gender
  ➢ Race
FDA Safety Notifications

• As a Patient Safety Organization, we feel compelled to share Safety Notifications with VQI Members
• FDA will contact the SVS PSO with Safety Notifications it wants us to communicate
• Safety Notifications will appear in both the PSO and SVS newsletters
• All Safety Notifications are posted to the VQI and SVS Websites

https://www.vqi.org/resources/fda-communication/
The 2021 VQI Annual Meeting has been moved to August!

Important Dates and Times for the 2021 VQI Annual Meeting at VAM

August 17, 2021 12PM – 6:30PM* Pacific Time
August 18, 2021 8AM – 5PM Pacific Time
*Poster Presentation and Networking Reception – Tuesday, August 17th at 5:00PM to 6:30PM

We are hopeful that we will be able to have an in-person meeting at the San Diego Convention Center. In the event we are unable to meet live, we will transition to on-line presentation.
Partners and Endorsing Organizations
ACC and SVS began 2021 with a united vascular registry - creating a single resource focused on improving care and outcomes of patients with vascular disease.

ACC PVI registry participants who have not yet joined the SVS VQI, may contact the SVS VQI account team by emailing vqi@m2s.com, or by calling 603-298-6717, to begin enrollment.
Ongoing Collaboration

• ACC NCDR will have **representation** on all VQI Councils and Committees
COVID-19 Update

- COVID-19 Variable insertion into registries (Sept. 2020)
- Two JVS Publications (JVS & JVSVL) on registry volumes
- AHRQ PSO Presentation on VQI Response
- International Registry submission for June issue Seminars in Vascular Surgery
- Initial Outcomes Review of COVID-19 effect in registries
- Collaboration with Vascular Surgery COVID-19 Collaborative (VASCC) on LTFU in participating centers
My Peripheral Arterial Disease: a VQI Pilot of Patient Reported Outcomes for PAD

• The Society for Vascular Surgery Vascular Quality Initiative is seeking practices to participate in My PAD, a pilot program for the collection of patient reported outcomes (PRO) on patients undergoing endovascular treatment for peripheral arterial disease (PAD).

• The VQI recognizes that traditional outcomes such as patency and reintervention may not fully capture the quality of care or the experience of PAD patients. There is a long overdue need to learn and measure the patient’s perspective.

• **Must be in the PVI registry and have greater than 70% follow up! Not too late to join the Pilot!!**
PAD Patient Reported Outcomes (PROs)

**Highlights**

- Outpatient peripheral vascular interventions (PVI) for claudication or chronic limb threatening ischemia
- Collect VascuQoL-6 and EuroQoL 5D-5L (estimated completion time 10-15 minutes)
- Collection at three time points: pre-procedure, one month and one year postoperatively
- PRO data entry options include paper forms, computer, tablet and smart phone
- Educational materials for direct from patient data entry
- PRO feedback to participating physicians
Reporting Highlights and Questions:

• New On-line Follow-up reports
  – EVAR Released - Jan 2021
  – CEA/CAS/PVI/TEVAR – To Be Released in 2021

• New Dashboard and Regional Report Drilldown

• Suggestions for “other” reports
CME/CE CREDIT FOR REGIONAL MEETINGS

SPRING 2021
Regional Meeting CME/CE Credit

Des Moines University is the continuing education provider for this activity.

The attendance roster will be cross-referenced with those applying for CME/CE. Sign in correctly.

Each participant MUST COMPLETE BOTH the attendance attestation and the meeting evaluation from the URL site – one form.

You will have 7 days from the date of the meeting to complete the forms and SUBMIT.

Approximately 14 days from the meeting, Des Moines University will email you instructions on how to access your certificate.

PSO leadership is providing continuing education credit to you at no charge!

If you do not complete and submit the online forms within 7 days, continuing education credit cannot be awarded.
Meeting Attendance Credit

**REMEMBER TO PSO:**

- **P**ut your FULL NAME in RingCentral to get credit for attendance and CME/CE credit (no exceptions will be made)
- **S**end an email to **ljohnson@svspso.org** with names of group members that are sharing 1 device
- **O**fficially apply for CME/CE credit by clicking this link: [https://dmu.co1.qualtrics.com/jfe/form/SV_1LfksdgmWVKJ1ps](https://dmu.co1.qualtrics.com/jfe/form/SV_1LfksdgmWVKJ1ps)

You only have **7 days** to complete forms for CME/CE Credit.

NO EMAIL WILL BE SENT AS A REMINDER OR WITH THE CME/CE LINK
Quality Improvement Update

Spring 2021
Quality Improvement Resources:

- 2021 Quarterly Webinars
  - March 2021
  - June 2021
  - September 2021
  - November/December 2021
    - Participation Award Information
- The VQI News
  - Provides updates on regulatory issues, technical updates, and crossover news from the SVS and SVN
- VQI Quality Improvement Newsletter
  - Focusing on QI processes, tools, and definitions
- VQI.org Members only pages
Update on Charters 2020 and 2021

- Fifty-eight (58) charters submitted in 2020!
  - LTFU – 14
  - D/C Medications – 17
  - Clinical – 3
  - *Documentation – 24
- *Multi-regional AAA size compliance project – 19 charter participants. 33 overall participants.
- 2021 – Twenty charters already!
- Focused phone calls are well attended – now on a quarterly schedule (Jan, April, July, Oct).
National QI project details

• Submit Project Charters and supporting documentation for presentations and posters to QI@SVSPSO.ORG or cjackson@svspso.org.

• Visit the VQI Members Only Website for sample charters, webinars, and presentations on VQI Quality Improvement Projects. www.vqi.org
2020 Participation Award Changes
MAJOR CHANGE

• Long Term Follow-Up 2018 cases
  – COVID-19 affect
  – Remove LFTU from the 2020 Participation Award – BUT...
  – Acknowledge centers that maintained, improved LTFU with a certificate
    • Centers in top 25% for 2018 LTFU rates
    • Statistically significant increase in LTFU rate from 2017 to 2018
Scoring 2020 (During COVID-19)

- Three categories scored, each on a 0-6 point scale:
  - LTFU – REMOVED. Separate recognition.
  - Meeting attendance (*weighted 50%*)
  - QI project involvement (*weighted 40%*)
  - Number of registry subscriptions (*weighted 10%*)

- The final score is calculated as follows:
  Total points = 5 x Attendance score + 4 x QIP score + 1 x Registry score
Participation Awards Program

- 2020 Participation Award results to be announced soon.
- 3 Star recipients are presented at the in-person Annual VQI meeting
- Participation Awards began in 2016 to encourage active participation in the registries program and recognize the importance of participation.
- Participating centers can earn up to three stars based on actions that lead to better patient care – more details available at [https://www.vqi.org/quality-improvement/participation-awards/](https://www.vqi.org/quality-improvement/participation-awards/).
Participation Award Results - UMVN

Mayo Clinic Hospital – Rochester
University of Minnesota Medical Center (UMMC)
Froedtert Health

United Hospital (Allina)
Fairview Southdale Hospital
Mayo Clinic Northwest Wisconsin
University of Wisconsin Hospitals and Clinics Authority

Aurora St. Luke's Medical Center, Milwaukee
Aurora West Allis Medical Center, West Allis
Aurora Medical Center, Hartford (Washington County)
Aurora Memorial Hospital, Burlington
Aurora Medical Center, Kenosha
Aurora BayCare Medical Center, Green Bay
Aurora Medical Center, Oshkosh
Aurora Sheboygan Memorial Medical Center, Sheboygan
Aurora Medical Center, Grafton
Aurora Medical Center, Summit
Aspirus Wausau Hospital, Inc.

Congratulations!
LTFU Recognition

- Aurora St. Luke's Medical Center, Milwaukee
- Aurora St. Luke's South Shore, Cudahy
- Aurora Sinai Medical Center, Milwaukee
- Aurora West Allis Medical Center, West Allis
- Aurora Medical Center, Hartford (Washington County)
- Aurora Memorial Hospital, Burlington
- Aurora Medical Center, Kenosha
- Aurora BayCare Medical Center, Green Bay
- Aurora Medical Center, Oshkosh
- Aurora Sheboygan Memorial Medical Center, Sheboygan
- Aurora Medical Center, Grafton
- Aurora Medical Center, Summit
- Sanford Vascular Associates
- Abbott Northwestern Hospital (Allina)
- Mercy Hospital (Allina)
- United Hospital (Allina)
- Mayo Clinic Hospital - Rochester
- Fairview Southdale Hospital
- Aurora Medical Center, Manitowoc County
- Froedtert Health
- Mayo Clinic Northwest Wisconsin
- Altru Health System
Arterial Quality Council:
Peter Rossi, MD
AQC Update:

Chair: Randy DeMartino, MD (Mayo)
Vice Chair: Jessica Simons, MD (UMASS)
Kelly Byrnes & Marguerite Marlow,
Vascular Ultrasound representatives
ACC to make 2 appointments mid 2021
AQC Update:

Preliminary Development priorities for 2021:

1. Infra/Supra - Jess Simons
2. OAAA - Rumi Faizer
3. Amputation - Ahmed Abou-Zamzam

Always looking for Volunteers to Join Registry Committees! Contact Carrie Bosela
C.Bosela@svspso.org if interested!!
AQC Update:

• Clinical Appropriateness Performance Indicators (CAPI reports)
  ➢ Aligning with SVS Guidelines
• Registry Specific Quality Improvement Initiatives
• PAD PRO’s
• COVID Interest Group and Response (CIGAR)
  ➢ VASCC Collaboration
The Society for Vascular Surgery Patient Safety Organization® (SVS PSO) and the Society for Vascular Medicine (SVM), in collaboration with the American Heart Association® (AHA), are excited to introduce the SVS Vascular Quality Initiative’s Vascular Medicine Consult (VMC) Registry.

This Registry will target the management of NEW Outpatient Consults who are being treated medically for:

- Atherosclerotic carotid artery occlusive disease
- Abdominal Aortic aneurysm
- Peripheral lower extremity arterial disease due to atherosclerosis or true aneurysm

The Vascular Medicine Consult Registry provides a unique opportunity to look at the natural history of a disease and what factors impact the progression. The emphasis of this Registry will be medication details and dosages, risk factor and lifestyle modifications such as exercise and diet, and non-operative treatments and counseling. The value of this Registry centers on the comparative effectiveness of surgery vs. medically managing these vascular diseases.

Learn more: The Vascular Quality Initiative | Vascular Medicine Consult Registry (New) (vqi.org)
Venous Quality Council:
Fahad Shuja, MD
Venous SVS PSO Organization

SVS PSO Venous Arm

**Governning Council**
- 4 SVS Representatives
- 2 AVF Representatives
- 18 Regional Group Representatives

**Research Advisory Council (venous RAC)**
- Chair: Nicholas Osborne

**Venous Quality Council (VQC)**
- Chair: Marc Passman
- 3 AVF + 2 SVS Representatives
- 18 Regional Group Representatives

**IVC Filter Committee**
- Chair: Tony Gasparis

**Varicose Vein Committee**
- Chair: Nick Osborne

**Venous Stent Committee**
- Chair: William Marston
Three Year Goals for VQC:

- Dedicated podium time for VQI at AVF
- Update Varicose Vein and IVC quarterly interoperative dashboards
- Create Venous Stent dashboard
- Work on LTFU dashboards for all 3 venous procedures
- Continue work C2 disease and appropriateness of care
- Continue work with United Healthcare
- Create COPI (Center Opportunity for Process Improvement) reports
- Create CAPI (Clinical Appropriateness Performance Indicators) reports
Venous Stent Inclusion/Exclusion Criteria

**Inclusion Criteria:**
Percutaneous (closed) and/or cut-down (open) procedures to treat patients with symptomatic venous obstructions due to chronic thrombosis and/or some venous compression disorders. Vessels included: Inferior Vena Cava, Common iliac vein, External iliac vein, Common Femoral Vein, Deep Femoral Vein, Femoral Vein, Popliteal Vein.

- Acute obstruction of the Vein;
- Chronic thrombotic obstruction= Chronic Stenosis/Obstruction of the Vein;
- Non-thrombotic stenosis/compression such as May Thurner (iliac vein compression syndrome)

**Exclusion Criteria:**
- Venous Stent of the Internal Iliac (hypogastric), Great Saphenous Vein, Superior vena cava, Renal Veins, Subclavian vein, Jugular vein, Innominate vein and any upper extremity veins
- Vein Diameters that are not treatable per stent sizing recommendations
- Venous Inflow or Outflow issues precluding stent placement
Join Today!!!

• **VQI@M2S.com**

• Lots of research potential
  – Submit ideas to Venous RAC

[The Vascular Quality Initiative | National Arterial and Venous RAC Schedules](vqi.org)
Research Advisory Council:

Joseph Hart, MD
Proposal Process:

1. Review list of projects approved to avoid duplication
https://www.vqi.org/data-analysis/rac-approved-project-search/

2. Submit proposal online:
http://abstracts123.com/svs1/meetinglogin
2020 Top 10 Publications


4. Mortality After Paclitaxel Coated Balloon Angioplasty and Stenting of Superficial Femoral and Popliteal Artery in the Vascular Quality Initiative. Circ Cardiovasc Interv, 13(2), e008528. [https://doi.org/10.1161/circinterventions.119.008528](https://doi.org/10.1161/circinterventions.119.008528)


GC Update: Randall DeMartino, MD

- Last GC Meeting – April 12, 2021
- Dr. Mureebe discussed the formation of the SVS PSO’s new Diversity, Equity and Inclusion Committee
- Drs. Lemmon and Jorgensen presented the GC a proposal on a new PSO Trainee Scholarship Program
- Dr. Weaver provided an update on progress against strategic priorities, including an update on our collaboration with ACC
Conclusion
Meeting Evaluation/Roundtable

- What did you like about this meeting?
- What can we do better?
- Next meeting location?
Meeting Attendance Credit

**REMEMBER TO PSO:**

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