

# WELCOME

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## CANADIAN VASCULAR QUALITY INITIATIVE

September 7, 2023

9:00 AM – 12:00 PM ET

Ville de Québec, QC

Hybrid

# In-Person Regional Registration QR Code

REMOTE ATTENDEES - DO NOT USE THE QR CODE



# 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 look for “rename”. Select & sign in.
- 3 Can’t sign in? Email Leka Johnson at [ljohnson@svspso.org](mailto:ljohnson@svspso.org) & include identifier you were signed in under (ex –LM7832) or phone number.

**\*NOTE: Credit is NOT given to any attendee or speaker that does not have an ACTIVE PATHWAYS user account.**

# Appreciation and Thanks

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Thank you to everyone who helped make this event possible:

Dr. Yaasin Abdulrehman - Regional Medical Director

**Vacant Role** - Regional Associate Medical Director

Naomi Eisenberg - Regional Lead Data Manager

Kaity Sullivan – SVS PSO Analytics Team

Angela Churilla – SVS PSO Education & Quality Program Manager

Jennifer Correa – Marketing Manager

Melissa Latus - SVS PSO, Clinical Operations Project Manager

SVS PSO Staff

# Today's Agenda

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9:00 am

Welcome

Regional Data Review – Dr. Yaasin Abdulrehman, CVQI Medical Director

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.

CE Credit

10:00 am

Regional QI Proposal – Dr. Yaasin Abdulrehman, CVQI Medical Director

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.

CE Credit

# Today's Agenda - Continued

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11:00 am	<p>National VQI Update – Melissa Latus, RN, PSO Clinical Operations Project Manager</p> <p>Learning Objectives:</p> <ul style="list-style-type: none"><li>• Use the VQI regional reports to establish quality improvement goals for the vascular patients (outcomes) and for their center (process).</li><li>• 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.</li></ul>	CE Credit
11:40 pm	Council / Committee Updates	No CE Credit
12:00pm	Open Discussion/Next Meeting/Meeting Evaluation	No CE Credit

# Disclosures

None

# Welcome and Introductions

CHUM  
CISSSO Outaouais  
Covenant Health-Grey Nuns Hospital  
Halifax Infirmary Robie Street Entrance - QEII  
Peter Lougheed Centre  
Thunder Bay Regional Health Science Center  
Toronto General Hospital

**Total Centers = 7**  
**New = 0**



# Project Presentations



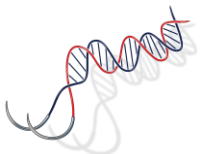
# Rural/urban and local/non-local health gap: disparities in perioperative and mid-term outcomes after elective infrarenal endovascular aneurysm repair

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Vi<sup>1,2</sup>, Gupta<sup>2</sup>, Eisenberg<sup>1</sup>, and Witheford<sup>1,2</sup>

1. Division of Vascular Surgery, Toronto General Hospital, University Health Network

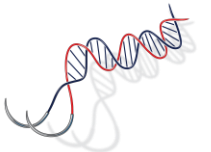
2. Temerty Faculty of Medicine, University of Toronto





# Background

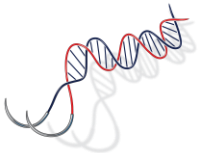
- 2/3 of elective repairs are conducted at teaching hospitals, often located in urban centres<sup>1</sup>
- Rural/non-local patients requiring EVAR must travel to such centers for operative intervention and postoperative follow-up
- Previous research done has focused on access to EVAR vs open procedures
  - No substantial differences in access<sup>2,3</sup>
- Paucity of studies assessing post-operative outcomes following EVAR in rural populations





# Methods

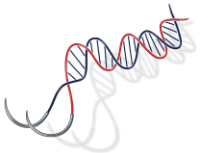
- Objective: Examine the influence of geographic distance to UHN, as well as rural or urban status, on perioperative and mid-term outcomes after elective infrarenal EVAR
- Retrospective cohort study identifying elective infrarenal EVARs between 2011-2021
- Data collected from VQI and supplemented with a chart review
- Patients stratified by postal code and classified as rural/urban or local/non-local (GTA/non-GTA)





# Conclusions

- Majority of patients treated were from the GTA and urban centres
- No differences in perioperative complications
- Individuals from rural communities or outside the GTA experience fewer follow-up appointments and imaging
- Despite differences in clinical and imaging surveillance between groups, there was no significant difference in mortality or reintervention rates



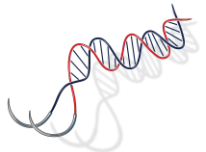


# Acknowledgements

- Rashi Gupta
- Naomi Eisenberg
- Dr. Miranda Witheford

Questions/Comments

[Lisa.vi@mail.utoronto.ca](mailto:Lisa.vi@mail.utoronto.ca)



# Blood transfusion is associated with poorer outcomes in thoracic or complex endovascular aortic aneurysm repair (TEVAR/cEVAR)

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Minji Jinny Kim<sup>1</sup>, Naomi Eisenberg<sup>2</sup>, Miranda Witheford<sup>2,3</sup>

1. Temerty Faculty of Medicine, University of Toronto, Toronto, ON, Canada
2. Division of Vascular Surgery, University Health Network, Toronto, Canada
3. Peter Munk Cardiac Centre, Toronto General Hospital, Toronto, Canada

*September, 2023*

## Background

- Perioperative transfusion of RBCs carries risks for adverse outcomes across surgical interventions.
- Few studies describe the timeline, perioperative instigators, and short- or long-term outcomes, associated with transfusions in patients undergoing TEVAR/cEVAR
- Compared to the full VQI cohort, the Toronto General Hospital (TGH) transfuses more pRBC units
  - Intraoperatively, 1.0 units at TGH vs. 0.8 units in VQI (mean)
  - Overall, 3.7 units at TGH vs. 1.7 units in VQI (mean)

## Aims

- 1) To identify **preoperative, intraoperative, and postoperative** variables associated with transfusion of pRBCs and blood products in TEVAR/cEVAR patients
- 2) Compare outcomes differences in transfused vs. non-transfused populations

## Methods

- The VQI was queried for all patients undergoing TEVAR and cEVAR at TGH between January 1, 2017 and December 31, 2021 ( $n=213$ )



# Results

	Full cohort (n = 213)	Transfused (n = 114)	Non-transfused (n = 99)	P value
<b>Preoperative</b>				
Sex				<.001**
Males	166 (77.9)	78 (68.4)	88 (88.9)	
Females	47 (22.1)	36 (31.6)	11 (11.1)	
Age (years)	71.8	72.6	70.9	.266
Weight (kg)	82.6	78.7	87.1	.005*
Preop Hb (g/L)	129.2	123	136.3	<.001**
<b>Intraoperative</b>				
Indication for surgery				.007*
Elective	153 (71.8)	73 (64.0)	80 (80.8)	
Emergent	60 (28.2)	41 (36.0)	19 (19.2)	
OR Time (min)	233.4	290.9	167.2	<.001**
Central venous catheter	146 (69.2)	92 (81.4)	54 (55.1)	<.001**
Spinal drain	39 (18.3)	32 (28.1)	7 (7.1)	<.001**
Total contrast (mL)	141.8	163.8	116.5	<.001**
Urine output (mL)	621.0	856.1	350.2	<.001**
Estimated blood loss (mL)	626.4	962.3	239.7	.003*

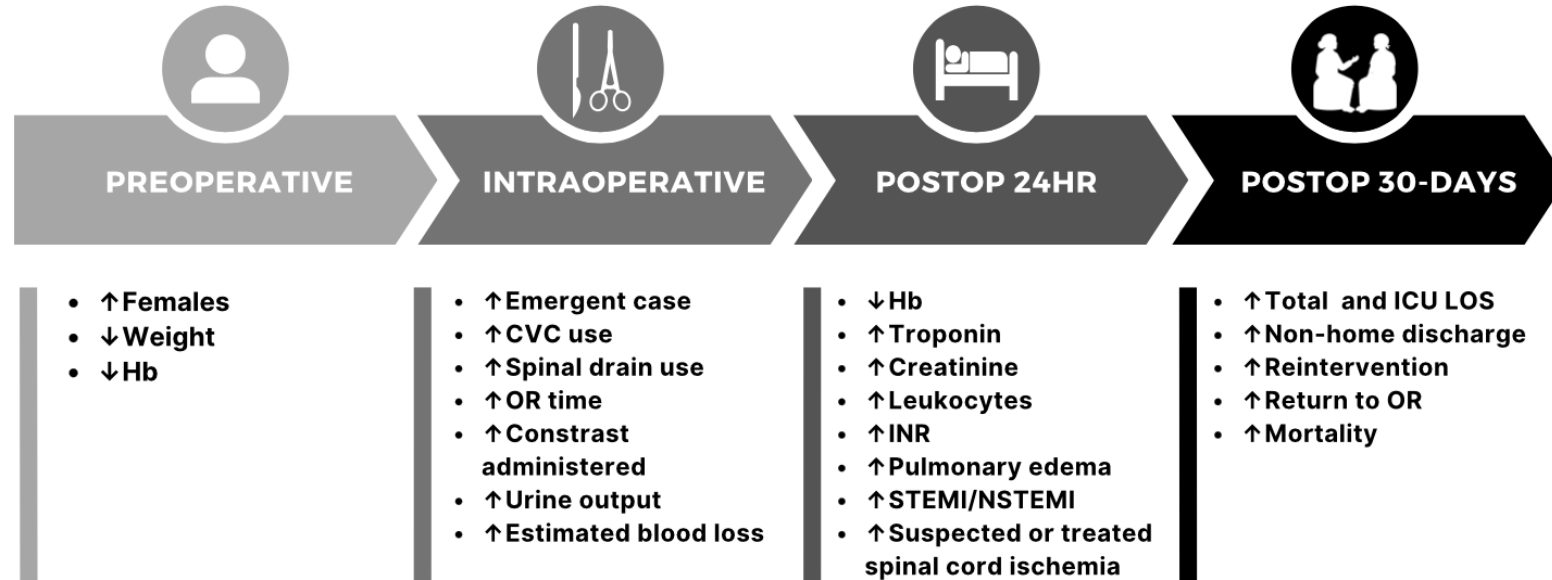
	Full cohort (n = 213)	Transfused (n = 114)	Non-transfused (n = 99)	P value
<b>Postoperative outcomes</b>				
Fever	12 (5.6)	7 (6.1)	5 (5.1)	.731
TACO	8 (3.8)	6 (5.3)	2 (2.0)	.214
TRALI	0	0	0	
Major hemolytic reaction	0	0	0	
Sepsis	1 (0.5)	1 (0.9)	0	.353
Anaphylaxis	0	0	0	
Pulmonary edema	10 (4.7)	9 (7.9)	1 (1.0)	.018*
Spinal cord ischemia	10 (4.7)	10 (8.8)	0	.003*
NSTEMI/STEMI	9 (4.2)	8 (7.0)	1 (1.0)	.030*
Reintervention	27 (12.7)	27 (23.7)	0	<.001**
Total length of stay	10.1	12.8	7	<.001**
ICU length of stay	4.2	5.3	2.8	<.001**
Non-home discharge <sup>a</sup>	36 (16.9)	30 (26.3)	6 (6.1)	<.001**
Readmission to ICU	8 (3.8)	3 (2.6)	5 (5.1)	.354
Return to OR	32 (15.0)	26 (22.8)	6 (6.1)	.001*
Readmission to hospital within 30 days	17 (8.0)	11 (9.6)	6 (6.1)	.335
30-day mortality	16 (7.5)	15 (13.2)	1 (1.0)	.001*

Values are reported as **n (%)** for categorical variables or **mean** for continuous variables, unless otherwise indicated.

\*p<0.05, \*\*p<0.001.

<sup>a</sup>Non-home discharge includes death, discharge to rehabilitation centre, and discharge to acute care inpatient institution.

## Summary of timeline of TEVAR/cEVAR admission with differences associated with transfusion



## Conclusions

- TEVAR and cEVAR patients at TGH had high transfusion rates (53.5%)
- Transfusions were associated with higher rates of postoperative adverse outcomes
- Blood optimization strategies may prove useful in abrogating the risk of transfusion
- Future work may include structural equation modeling to further elucidate the impact of transfusion *independently* from non-transfusion-specific adverse events and assess the effectiveness of interventions on patient outcomes across the different phases of care



# Publication Review

"The Association Between Device Instructions for Use Adherence and Outcomes After Elective Endovascular Abdominal Aortic Aneurysm Repair," authored by De Guerre LEVM, O'Donnell TFX, Varkevisser RRB, Swerdlow NJ, Li C, Dansey K, van Herwaarden JA, Schermerhorn ML, and Patel VI. You can access the article via the following link: <https://pubmed.ncbi.nlm.nih.gov/35276256/>

# Quality Grant

# Fall 2023 SVS VQI Regional Report Slides

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.

**Please note the following updates have been implemented to enhance and improve the report:**

- Ability to Download/Print Dashboard

The dashboard summary can now be downloaded as an Excel file or printed directly using buttons included above the dashboard table. Please note that printing allows you to save as PDF with the “Print to PDF” feature in your browser.

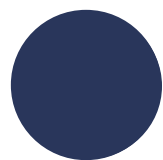
- Interactive Plots

All graphics are now interactive.

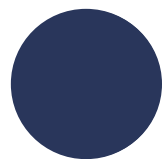
[https://www.vqi.org/wp-content/uploads/FALL\\_2023\\_REGIONAL\\_REPORT\\_SLIDES\\_REGION\\_CANADA.rev\\_.html](https://www.vqi.org/wp-content/uploads/FALL_2023_REGIONAL_REPORT_SLIDES_REGION_CANADA.rev_.html)

# CE/CME Meeting Attendance Credit

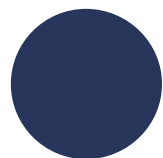
7 days to submit; No email reminder



**P**UT your FULL NAME in Zoom for remote attendees. Record of meeting attendance is required for CME/CE credit (no exceptions will be made)



**S**END an email to [ljohnson@svspso.org](mailto:ljohnson@svspso.org) with names of group members that are sharing 1 device



**O**FFICIALLY apply for CME/CE credit by clicking the URL or QR code provided



[https://dmu.co1.qualtrics.com/jfe/form/SV\\_cJaiRRNnW](https://dmu.co1.qualtrics.com/jfe/form/SV_cJaiRRNnW)

Johann-Christoph Licht<sup>1</sup> MSc, Naomi Eisenberg<sup>2</sup> PT, MEd, CCRP,  
Graham Roche-Nagle<sup>2</sup> MD, MBA, MEd, EBSQ-VASC, DFSVS

<sup>1</sup>University of Limerick Medical School, Limerick, Ireland

<sup>2</sup>Division of Vascular Surgery, Toronto General Hospital, University Health Network,  
Toronto, Ontario, Canada



- Rate of ACE inhibitor prescription is low among patients with peripheral vascular disease (PVD)
- Currently, the possibility of causing renal damage seems to cause hesitancy to prescription
- Mounting evidence shows that protective effects vastly outweigh potential damage
- We aimed to evaluate rates of prescription of ACE inhibitors and analyze barriers to prescription



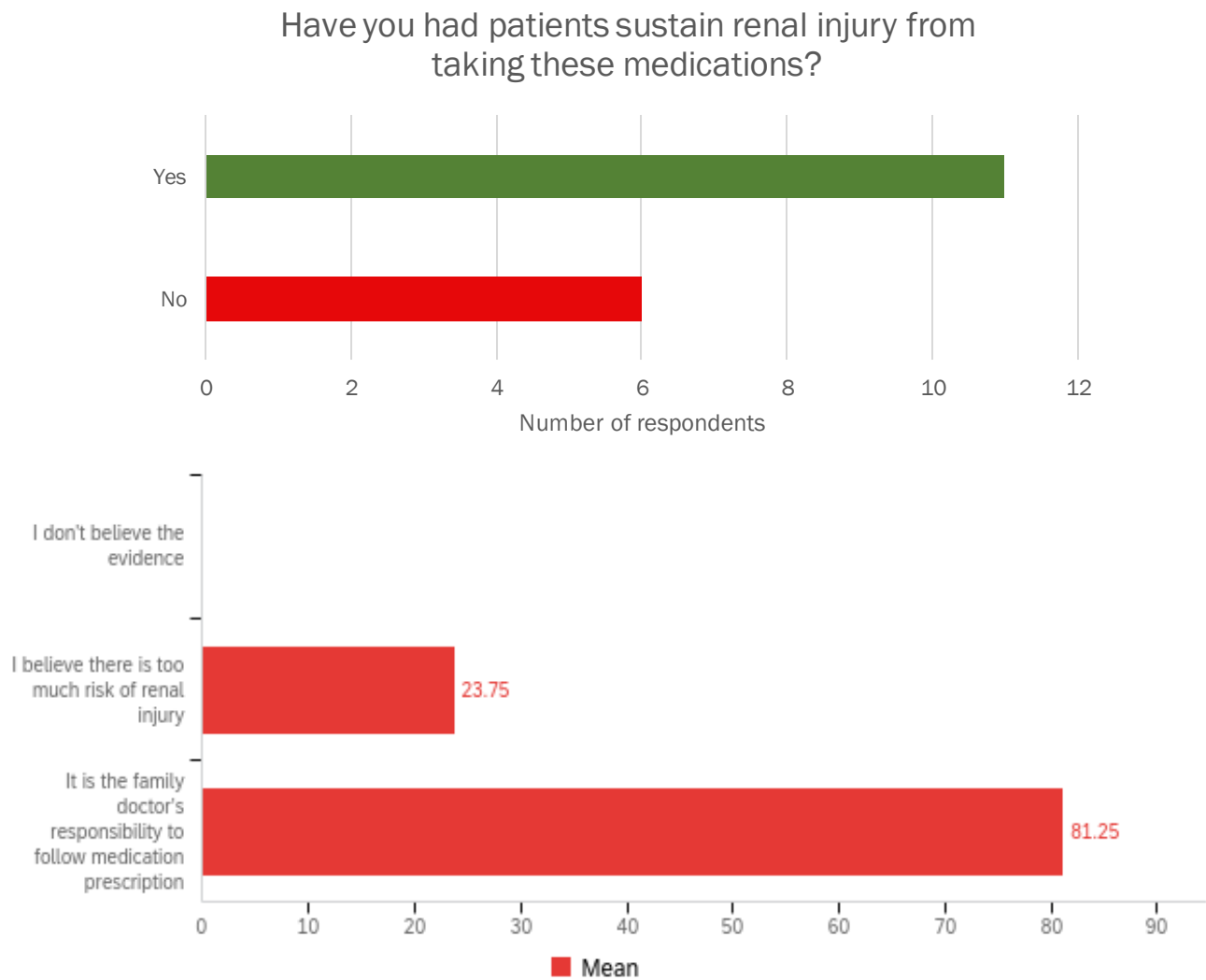
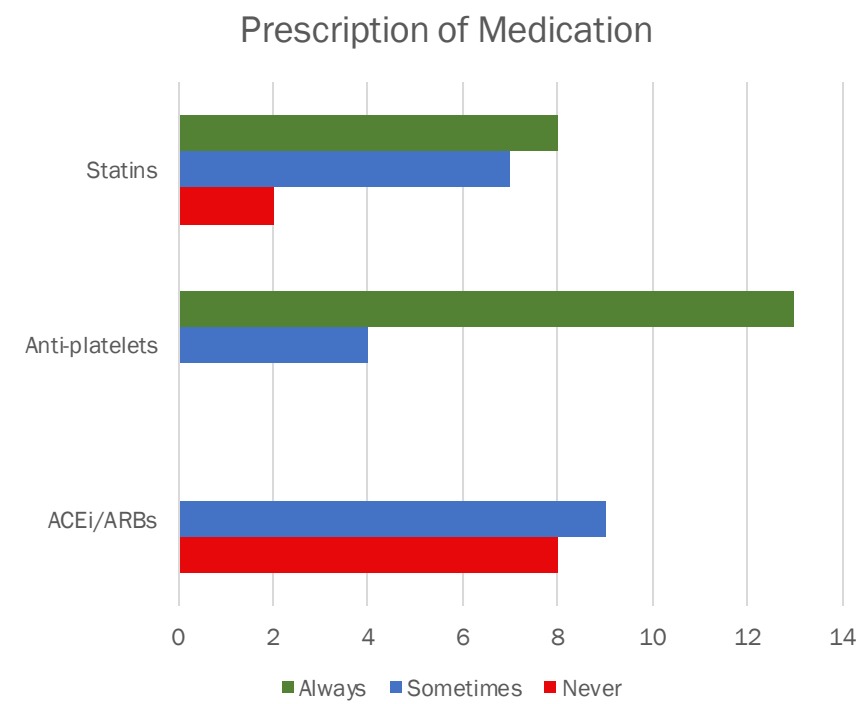
- Quantified and evaluated symptomatic PVD patients at UHN who underwent vascular procedure using SVS-VQI database
- Stratified patients into groups treated and not treated with prescribed therapy – medical reasons for non-prescription were recorded
- Composed 5-question survey targeted toward Canadian vascular surgeons to address reasons behind lack of prescription

## Patient Data

	N = 1239
<b>Demographics</b>	
Age (mean years $\pm$ SD)	69.9 ( $\pm$ 11.6)
Female, no. (%)	410 (33.1)
White, no. (%)	1112 (89.7)
<b>Comorbidities</b>	
Hypertension	1039 (83.8)
Diabetes mellitus	651 (52.5)
Dialysis	151 (12.2)
Coronary artery disease	351 (28.3)
History of smoking	966 (77.9)
<b>Medications</b>	
ACE Inhibitors	683 (55.1)
Aspirin	876 (70.7)
Statins	1024 (82.6)

	Infra	Supra	PVI
<b>Total patients</b>	91	58	1090
<b>Patients on ACE-I/ARBs</b>	44 (48%)	24 (41%)	615 (56%)
<b>Patients not on ACE-I/ARBs</b>	47 (52%)	34 (59%)	475 (43%)
<b>Patients not on ACE-I/ARBs, medical reason</b>	18 (20%) – 7 with high creatinine	9 (15%) – 3 with high creatinine	62 (6%)
<b>Patients not on ACE-I/ARBs, no medical reason</b>	29 (32%)	25 (43%)	413 (38%)
<b>Patients not on ACE-I/ARB &amp; not on dialysis</b>	23 (25%) – 4 with high creatinine	24 (41%) – 1 with high creatinine	322 (29%) – 149 (13%) with high creatinine

# Survey Data (n=17)



- Dr. Graham Roche-Nagle, UHN Toronto – Principal Investigator
- Naomi Eisenberg, UHN Toronto – Co-investigator





# Rural/urban and local/non-local health gap: disparities in perioperative and mid-term outcomes after elective infrarenal endovascular aneurysm repair

**Vi<sup>1,2</sup>, Gupta<sup>2</sup>, Eisenberg<sup>1</sup>, and Witheford<sup>1,2</sup>**

**1. Division of Vascular Surgery, Toronto General Hospital, University Health Network**

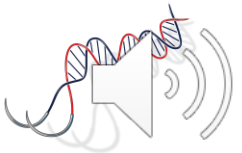
**2. Temerty Faculty of Medicine, University of Toronto**





# Background

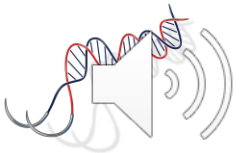
- 2/3 of elective repairs are conducted at teaching hospitals, often located in urban centres<sup>1</sup>
- Rural/non-local patients requiring EVAR must travel to such centers for operative intervention and postoperative follow-up
- Previous research has focused on access to EVAR vs open procedures for rural/urban patients
  - No substantial differences in access<sup>2,3</sup>
- Paucity of studies assessing post-operative outcomes following EVAR in rural populations





# Objective

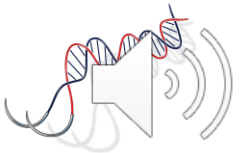
- Are there geographically-based disparities in outcomes after EVAR?
- Primary outcomes:
  - Survival
  - Reintervention-free survival
- Secondary outcomes:
  - Clinical follow-up
  - Radiologic surveillance





# Methods

- Retrospective cohort study identifying elective infrarenal EVARs between 2011-2021
- Data collected from VQI and supplemented with a chart review
- Patients stratified by postal code and classified as rural/urban or local/non-local (GTA/non-GTA)







# Results - postoperative

	Urban N=466	Rural N=25	p	Local n= 397	Non- Local N= 94	p
<b>POSTOPERATIVE IMAGING</b>						
Follow-up 0-2months	374 (80.2)	16 (64)	0.050	336 (84.6)	54 (57.4)	<0.001
Imaging 0-1 Month	155 (33.3)	7 (28)	0.586	129 (32.5)	33 (35.1)	0.628
Imaging 1-6months	312 (67.0)	17 (68)	0.914	276 (69.5)	53 (56.4)	0.015
Imaging 6-12months	307 (65.9)	10 (40)	0.008	276 (69.5)	41 (43.6)	<0.001
Transfer of care	21(4.5)	6 (24)	<0.001	13 (3.3)	14 (14.9)	<0.001
<b>COMPLICATIONS DURING FOLLOW-UP</b>						
Any Complication	200 (42.9)	8 (32)	0.282	179 (45.1)	29 (30.9)	0.012
Infected graft	4 (0.85)	0 (0)	0.517	4 (1.0)	0	0.191
Thrombosis/Embolization	29 (6.2)	1 (4)	0.632	26 (6.5)	4 (4.3)	0.404
SSI	11 (2.4)	1 (4)	0.634	9 (2.3)	3 (3.2)	0.614
Pseudoaneurysm	6 (1.3)	0 (0)	0.427	5 (1.3)	1 (1.1)	0.875
Endoleak I	32 (6.9)	2 (8)	0.832	30 (7.6)	4 (4.3)	0.257
Endoleak II	139 (29.8)	6 (24)	0.534	126(31.7)	19(20.2)	0.028
Endoleak III	7(1.5)	0 (0)	0.391	6 (1.5)	1 (1.1)	0.732

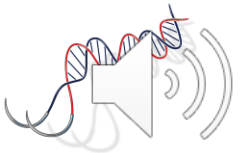
	Urban N=466	Rural N=25	p	Local n= 397	Non- Local N= 94	p
<b>REINTERVENTIONS DURING FOLLOW-UP</b>						
Any reintervention during follow-up	90 (19.3)	6 (24)	0.578	82 (20.7)	14 (14.9)	0.202
Open Reintervention	19 (4.1)	3 (12)	0.116	16 (4.0)	6 (6.4)	0.345
Endovascular intervention	71 (15.2)	4 (16)	0.647	66 (16.6)	8 (8.5)	0.047
<b>MORTALITY</b>						
Mortality during follow-up	143 (30.7)	4 (16)	0.118	125 (31.5)	22 (23.4)	0.124
Mean days alive post irEVAR	2229.86 (±54.50)	2399.28 (±250.22)	0.485	2241.01 (±58.66)	2227.83 (±126.94)	0.923





# Conclusions

- Majority of patients treated were from the GTA and urban centres
- No differences in perioperative complications
- Individuals from rural communities or outside the GTA experience fewer follow-up appointments and imaging
- Despite differences in clinical and imaging surveillance between groups, there was no significant difference in mortality or reintervention rates





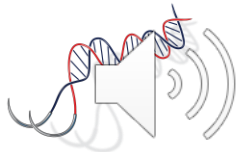
# Acknowledgements

- Rashi Gupta
- Naomi Eisenberg
- Dr. Miranda Witheford



Questions/Comments

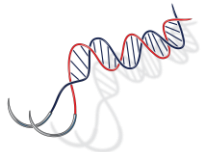
[Lisa.vi@mail.utoronto.ca](mailto:Lisa.vi@mail.utoronto.ca)





# References

1. Salata, K., Hussain, M. A., de Mestral, C., Greco, E., Aljabri, B. A., Sabongui, S., Mamdani, M., Forbes, T. L., Bhatt, D. L., Verma, S., & Al-Omran, M. (2019). Trends in elective and ruptured abdominal aortic aneurysm repair by practice setting in Ontario, Canada, from 2003 to 2016: A population-based time-series analysis. *CMAJ Open*, 7(2). <https://doi.org/10.9778/cmajo.20180173>
2. Faulds, J., Bell, N. J., Harrington, D. M., Novick, T. V., Harris, J. R., DeRose, G., & Forbes, T. L. (2013). Socioeconomic and geographic disparities in access to endovascular abdominal aortic aneurysm repair. *Annals of Vascular Surgery*, 27(8), 1061–1067. <https://doi.org/10.1016/j.avsg.2013.02.020>
3. Mell, M. W., Bartels, C., Kind, A., Leverson, G., & Smith, M. (2012). Superior outcomes for rural patients after abdominal AORTIC ANEURYSM REPAIR supports a systematic regional approach to abdominal aortic aneurysm care. *Journal of Vascular Surgery*, 56(3), 608–613. <https://doi.org/10.1016/j.jvs.2012.02.051>



# Blood transfusion is associated with poorer outcomes in thoracic or complex endovascular aortic aneurysm repair (TEVAR/cEVAR)

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Minji Jinny Kim<sup>1</sup>, Naomi Eisenberg<sup>2</sup>, Miranda Witheford<sup>2,3</sup>

1. Temerty Faculty of Medicine, University of Toronto, Toronto, ON, Canada
2. Division of Vascular Surgery, University Health Network, Toronto, Canada
3. Peter Munk Cardiac Centre, Toronto General Hospital, Toronto, Canada

*September, 2023*

## Background

- Perioperative transfusion of RBCs carries risks for adverse outcomes across surgical interventions.
- Few studies describe the timeline, perioperative instigators, and short- or long-term outcomes, associated with transfusions in patients undergoing TEVAR/cEVAR
- Compared to the full VQI cohort, the Toronto General Hospital (TGH) transfuses more pRBC units
  - Intraoperatively, 1.0 units at TGH vs. 0.8 units in VQI (mean)
  - Overall, 3.7 units at TGH vs. 1.7 units in VQI (mean)

## Aims

- 1) To identify **preoperative, intraoperative, and postoperative** variables associated with transfusion of pRBCs and blood products in TEVAR/cEVAR patients
- 2) Compare outcomes differences in transfused vs. non-transfused populations

## Methods

- The VQI was queried for all patients undergoing TEVAR and cEVAR at TGH between January 1, 2017 and December 31, 2021 ( $n=213$ )

# Results

	Full cohort (n = 213)	Transfused (n = 114)	Non-transfused (n = 99)	P value
<b>Preoperative</b>				
Sex				<.001**
Males	166 (77.9)	78 (68.4)	88 (88.9)	
Females	47 (22.1)	36 (31.6)	11 (11.1)	
Age (years)	71.8	72.6	70.9	.266
Weight (kg)	82.6	78.7	87.1	.005*
Preop Hb (g/L)	129.2	123	136.3	<.001**
<b>Intraoperative</b>				
Indication for surgery				.007*
Elective	153 (71.8)	73 (64.0)	80 (80.8)	
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Urine output (mL)	621.0	856.1	350.2	<.001**
Estimated blood loss (mL)	626.4	962.3	239.7	.003*

	Full cohort (n = 213)	Transfused (n = 114)	Non-transfused (n = 99)	P value
<b>Postoperative outcomes</b>				
Fever	12 (5.6)	7 (6.1)	5 (5.1)	.731
TACO	8 (3.8)	6 (5.3)	2 (2.0)	.214
TRALI	0	0	0	
Major hemolytic reaction	0	0	0	
Sepsis	1 (0.5)	1 (0.9)	0	.353
Anaphylaxis	0	0	0	
Pulmonary edema	10 (4.7)	9 (7.9)	1 (1.0)	.018*
Spinal cord ischemia	10 (4.7)	10 (8.8)	0	.003*
NSTEMI/STEMI	9 (4.2)	8 (7.0)	1 (1.0)	.030*
Reintervention	27 (12.7)	27 (23.7)	0	<.001**
Total length of stay	10.1	12.8	7	<.001**
ICU length of stay	4.2	5.3	2.8	<.001**
Non-home discharge <sup>a</sup>	36 (16.9)	30 (26.3)	6 (6.1)	<.001**
Readmission to ICU	8 (3.8)	3 (2.6)	5 (5.1)	.354
Return to OR	32 (15.0)	26 (22.8)	6 (6.1)	.001*
Readmission to hospital within 30 days	17 (8.0)	11 (9.6)	6 (6.1)	.335
30-day mortality	16 (7.5)	15 (13.2)	1 (1.0)	.001*

Values are reported as **n (%)** for categorical variables or **mean** for continuous variables, unless otherwise indicated.

\*p<0.05, \*\*p<0.001.

<sup>a</sup>Non-home discharge includes death, discharge to rehabilitation centre, and discharge to acute care inpatient institution.

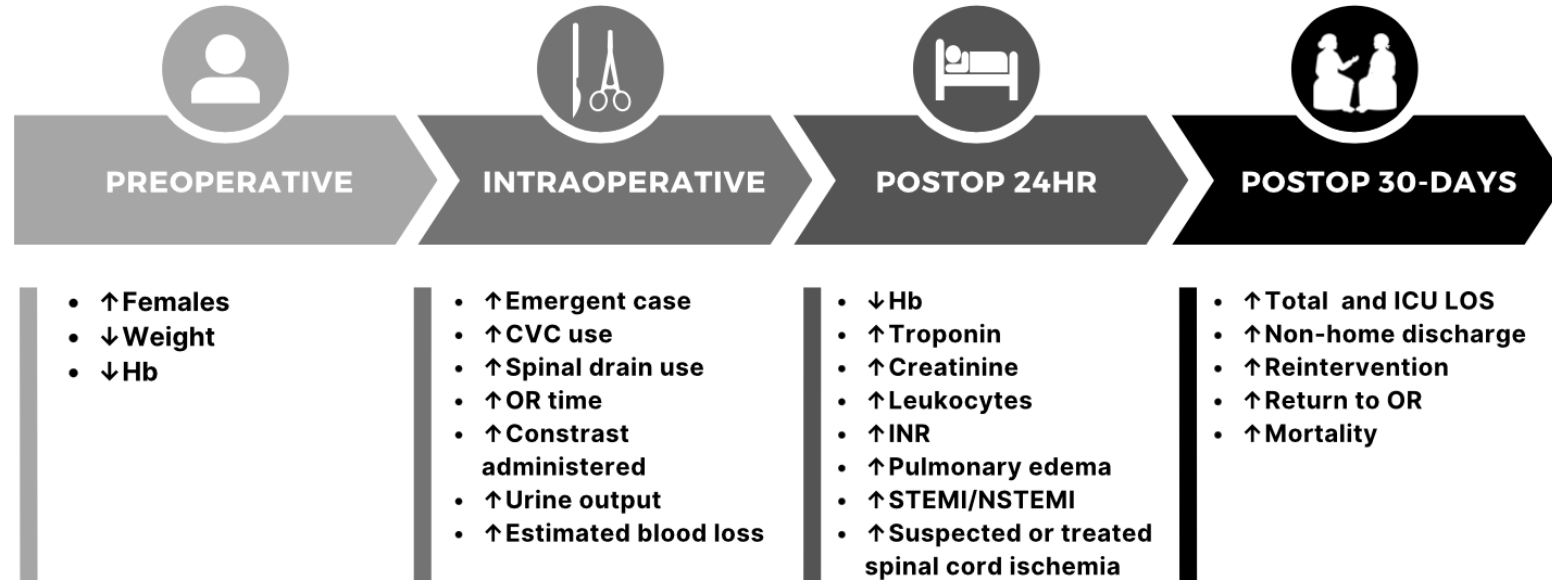


TEMERTY FACULTY OF MEDICINE  
UNIVERSITY OF TORONTO





## Summary of timeline of TEVAR/cEVAR admission with differences associated with transfusion



## Conclusions

- TEVAR and cEVAR patients at TGH had high transfusion rates (53.5%)
- Transfusions were associated with higher rates of postoperative adverse outcomes
- Blood optimization strategies may prove useful in abrogating the risk of transfusion
- Future work may include structural equation modeling to further elucidate the impact of transfusion *independently* from non-transfusion-specific adverse events and assess the effectiveness of interventions on patient outcomes across the different phases of care





# VQI National Update

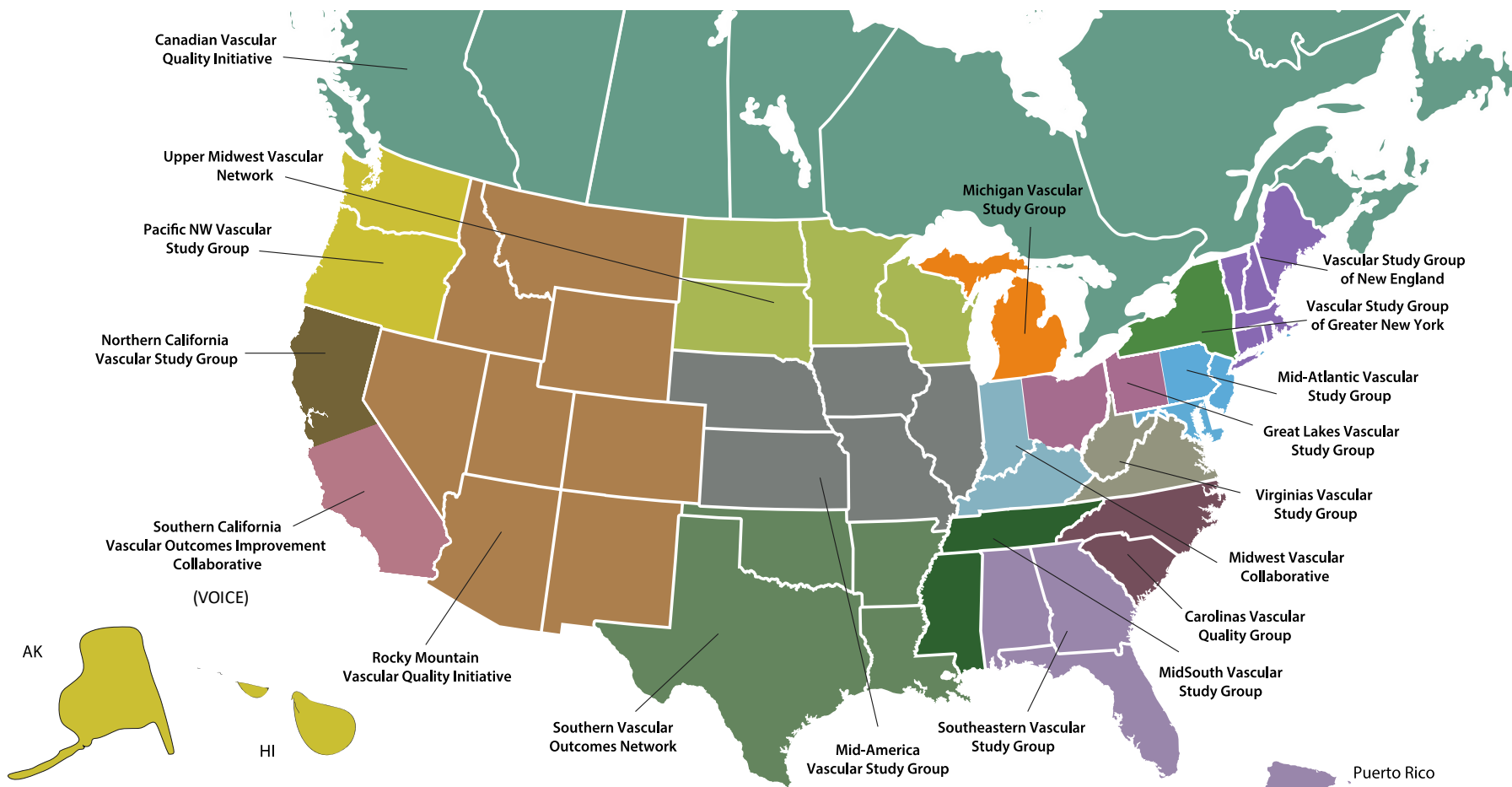
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Melissa Latus, BSN RN

# VQI Participation

## Regional Breakdown

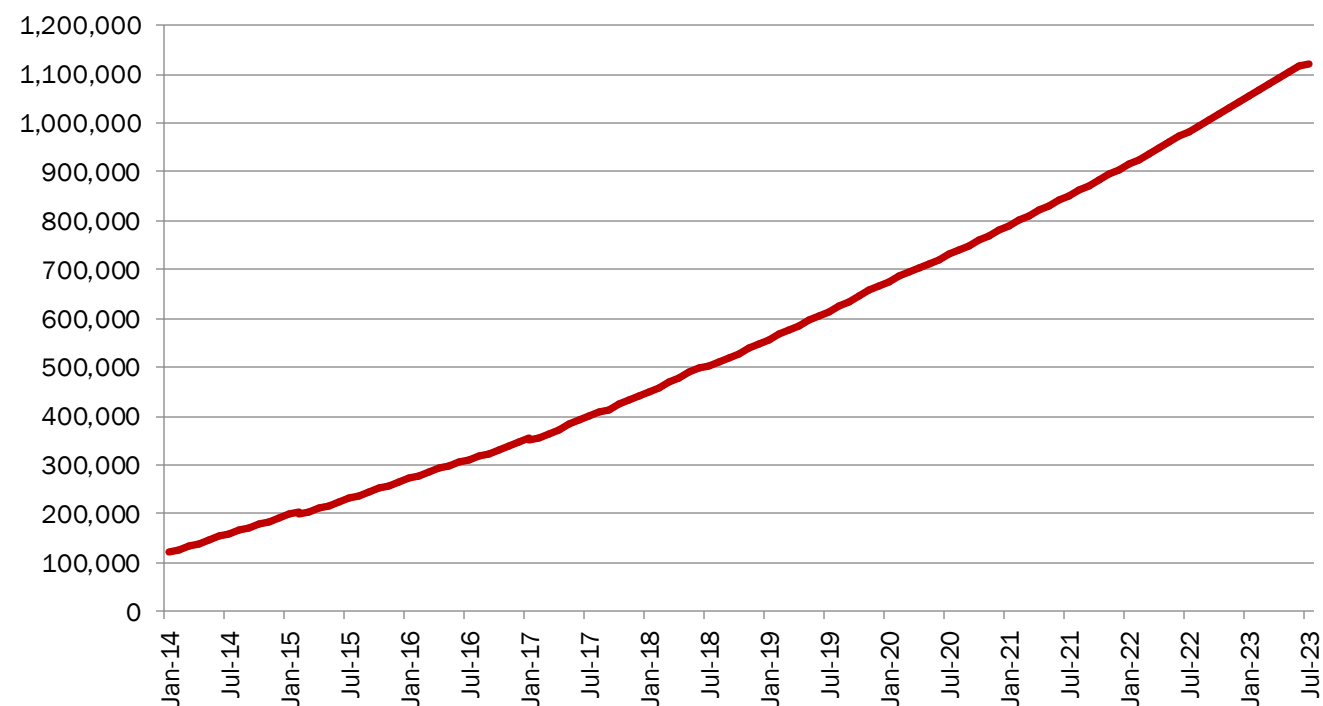
Canadian Vascular Quality Initiative | 7 Centers  
Carolinas Vascular Quality Group | 40 Centers  
Great Lakes Vascular Study Group | 63 Centers  
Michigan Vascular Study Group | 37 Centers  
Mid-America Vascular Study Group | 75 Centers  
Mid-Atlantic Vascular Study Group | 90 Centers  
MidSouth Vascular Study Group | 26 Centers  
Midwest Vascular Collaborative | 51 Centers  
Northern California Vascular Study Group | 27 Centers  
Pacific NW Vascular Study Group | 41 Centers  
Rocky Mountain Vascular Quality Initiative | 56 Centers  
Southeastern Vascular Study Group | 139 Centers  
Southern California VOICE | 43 Centers  
Southern Vascular Outcomes Network | 114 Centers  
Upper Midwest Vascular Network | 66 Centers  
Vascular Study Group of Greater New York | 46 Centers  
Vascular Study Group of New England | 50 Centers  
Virginias Vascular Study Group | 44 Centers  
Singapore | 1 Center  
**TOTAL CENTERS | 1,021 Centers**



# Procedures Captured

TOTAL PROCEDURES CAPTURED (as of 8/1/2023)		1,121,484
Peripheral Vascular Intervention		385,649
Carotid Endarterectomy		198,537
Infra-Inguinal Bypass		83,175
Endovascular AAA Repair		82,585
Hemodialysis Access		78,639
Carotid Artery Stent		105,006
Varicose Vein		63,229
Supra-Inguinal Bypass		26,445
Thoracic and Complex EVAR		30,162
Lower Extremity Amputations		29,693
IVC Filter		18,607
Open AAA Repair		18,169
Vascular Medicine Consult		1,367
Venous Stent		221

## VQI Total Procedure Volume



Total Procedure Volume reflects net procedures added to the registry for the month

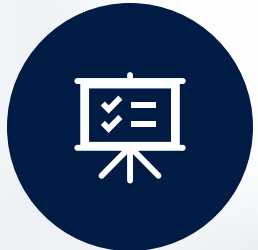
# Regional Meeting CME/CE Credit



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!

# 2023 VQI@VAM Wrap Up

- Recordings & slides available on the VQI@VAM Planner
  - Log into the Planner <https://2023svsvam.eventscribe.net/>
  - Select Full Schedule
  - Select your preferred day
  - Select your session



Tuesday, June 14, 2022

12:00 PM – 5:00 PM EDT      VQI Annual Meeting  


Location:312

VQI Annual Meeting



**PSO Reporting and Analytics: Drilling into Quarterly Dashboards**



 Tuesday, June 14, 2022     12:15 PM – 12:45 PM EDT

**Presenter(s)**



**Leila Mureebe, MD**  
Duke University Medical Center  
Durham

 Video 

 Slides 

**SVS** | **VQI**  
In collaboration with NCDR®

# Have you checked out the new VQI Website?

If not, here's just a peek at what you're missing!

- 1 Registry specific pages – deeper dive into each of the SVS VQI's 14 registries
- 2 The ability to view the VQI.org website in your preferred language! Don't see your preferred language, reach out to see about getting it added to the site
- 3 New webinars & presentations added regularly – either on the main events page, or in Members Only

For more information about the VQI website, contact Jen Correa, SVS PSO Marketing Manager at [jcorrea@svspsso.org](mailto:jcorrea@svspsso.org).

“Participation in the Vascular Quality Initiative is the best way to study our outcomes, and make sure we provide the highest quality care possible to our patients with vascular disease.”

Dr. Phillip Goodney – Dartmouth Health

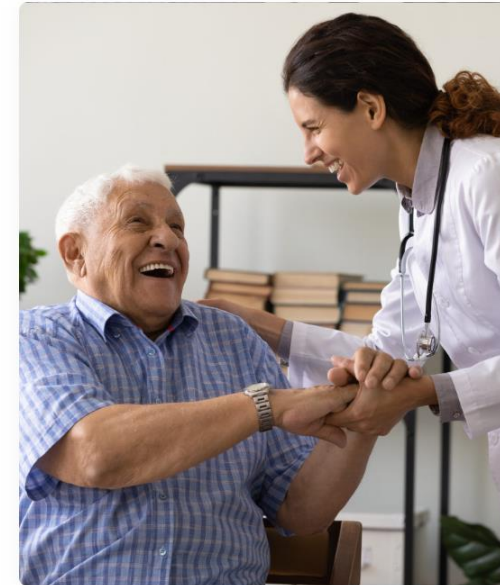
## IMPORTANCE OF REGIONAL GROUPS

Through regional quality group meetings, participants share and analyze collected data to initiate quality improvement projects to reduce complications, readmissions, and length of stay. Quality improvements projects can translate directly to hospital cost reduction. With continued expansion of the SVS VQI and regional quality groups, data will more rapidly accumulate and can be leveraged for benchmarking and quality improvement initiatives.

Benefits of regional quality group participation include:

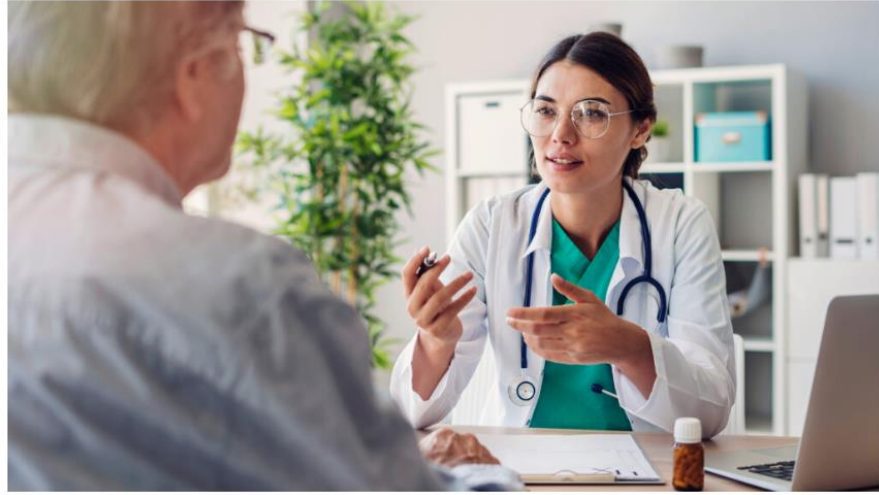
- Anonymous, benchmarked reports for comparison
- Increasing power and ability to detect root causes of outcomes
- Facilitating & initiating quality improvement projects
- Access to blinded datasets for data analysis at regional and national level
- Improving long-term patient surveillance

**FIND YOUR REGIONAL GROUP →**





## QUALITY IMPROVEMENT – MEMBERS ONLY



# VQI Members Only

**Access to information exclusively available to members of the SVS VQI**

- Find information that is not publicly shared on the VQI Website (ex: Quality Guide, Specific Registry Webinars, etc...)
- Find links and other information for upcoming Regional Group meetings
- Remember, access to the Members Only area of the VQI Website requires a different login than your PATHWAYS user account
- For account access email Jen Correa at: [jcorrea@svspsso.org](mailto:jcorrea@svspsso.org) to receive your username and temporary password

# FDA Communications

<https://www.vqi.org/resources/fda-communication/>

## FDA COMMUNICATIONS

### NEWS/UPDATES FROM THE U.S. FOOD AND DRUG ADMINISTRATION

September 12, 2022

**FDA Advisory Panel Recommendations on Lifelong Surveillance and Long-Term Postmarket Data Collection for Patients with AAA Endovascular Aortic Repair – Letter to Health Care Providers**

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March 9, 2022

**Medtronic Recalls TurboHawk Plus Directional Atherectomy System Due to Risk of Tip Damage During Use**



# Readmission Study University of Rochester

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- 30d Readmission rates
  - Review of readmission cost
  - Frequency of readmissions
  - Frequency of reoperations & cost
- Univ Rochester piloting 30D readmission project
- To join the pilot or for questions contact Stacey Esposito at:

[Stacey\\_Esposito@URMC.Rochester.edu](mailto:Stacey_Esposito@URMC.Rochester.edu)

Benefits determined by the study include:

- More accurate capture of complications after discharge/use of LTFU form for complications prior to 9 mos.
- Track & trend unplanned readmissions
- Identify the reason for unplanned readmissions
- Evidence based data to identify at risk patient populations
- Benchmark against Region and All VQI

- Smoking Cessation launched as a new NQI June 2023 w/ variables added to all Arterial Registries – Early Q3 2023
- Help Text Enhancement Tool – May 2023
- Interactive plots for the Biannual Center and Regional Level Reports
- Retirement of most COVID Variables
- Retirement of >500 Opioid variables
- Collection of Exercise Program variables in Lower Extremity Registries
- In Development:
  - Open Aorta Registry
  - Infrainguinal/Suprainguinal Registry Follow-up reports
  - Continued efforts for harmonization across registries
  - Enhanced reporting measure for biannual reports
  - EPIC integration into VQI. *Looking for Center volunteers*

what's next?

# Cardiac Risk Index

**SVS | VQI**  
In collaboration with NCDR®

[Home](#) [Calculators](#) [About](#) [FAQ](#)

### Suprainguinal Bypass (SUPRA)

Applicable to any primary, non-emergent suprainguinal bypass for aneurysmal or occlusive disease for indications of claudication, rest pain, tissue loss, or acute ischemia

[Generate report](#)

Age ⓘ  

Under 60

Graft Origin ⓘ  

Axillary

ASA Class ⓘ  

1, 2, or 3

History of Coronary Artery Disease ⓘ  

None

Results of Stress Test within Past 2 Years ⓘ  

Not Done

Indication for Surgery ⓘ  

Claudication

#### Risk of In-Hospital Postoperative Myocardial Infarction:

## 1.1 %

**Your Risk: 1.1%    Average Risk: 2%**

Your risk value falls within the 1st quartile (0-25th percentile) of risk.

#### How to interpret figure:

Black bar represents your risk value based on input variables

Black vertical line represents median risk of patients undergoing SUPRA procedure

**Your Risk: 4.4%    Average Risk: 2%**

Maximum possible risk based on highest risk category of all input variables

Background shaded by risk quartile:  
First Quartile (0 – 25<sup>th</sup> percentile)  
Second Quartile (25<sup>th</sup> – 50<sup>th</sup> percentile)  
Third Quartile (50<sup>th</sup> – 75<sup>th</sup> percentile)  
Fourth Quartile (75<sup>th</sup> – 100<sup>th</sup> percentile)

<https://www.vqi.org/risk-calculators/>

# The VQI-CRI is also available in a mobile-friendly format

## Welcome to the VQI Cardiac Risk Index

Last updated: February 2023

This calculator estimates a patient's risk of in-hospital postoperative myocardial infarction for five primary vascular procedures based on the input of preoperative patient characteristics and planned procedure details.

**Disclaimer:**

The VQI Cardiac Risk Index (VQI-CRI) estimates the chance of an adverse outcome based on preoperative patient and procedure information entered into the calculator. These estimates are calculated using VQI data collected from a large number of patients who had a procedure similar to the one for which the patient may be a candidate.

It is important to note that VQI-CRI risk estimates only take certain information into account. There may be other factors that are not used in the estimate which may increase or decrease the risk of an adverse outcome. Estimates obtained are not a guarantee of results. An adverse outcome may occur even if the risk is low. Similarly, an adverse outcome may not occur even if the risk is high.

The information presented by the VQI-CRI is not meant to replace the advice of a physician or healthcare provider regarding diagnosis, treatment, or potential

AA

svs-vqi.shinyapps.io

## Suprainguinal Bypass (SUPRA)

Applicable to any primary, non-emergent suprainguinal bypass for aneurysmal or occlusive disease for indications of claudication, rest pain, tissue loss, or acute ischemia

Age ⓘ

Under 60

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Axillary

ASA Class ⓘ

1, 2, or 3

History of Coronary Artery Disease ⓘ

None

Results of Stress Test within Past 2 Years ⓘ

Not Done

AA

svs-vqi.shinyapps.io

Results of Stress Test within Past 2 Years ⓘ

Not Done

Indication for Surgery ⓘ

Claudication

## Risk of In-Hospital Postoperative Myocardial Infarction:

# 1.1 %

Your risk value falls within the 1st quartile (0-25th percentile) of risk.

[GENERATE REPORT](#)

AA

svs-vqi.shinyapps.io

# Physician Snapshot Reports

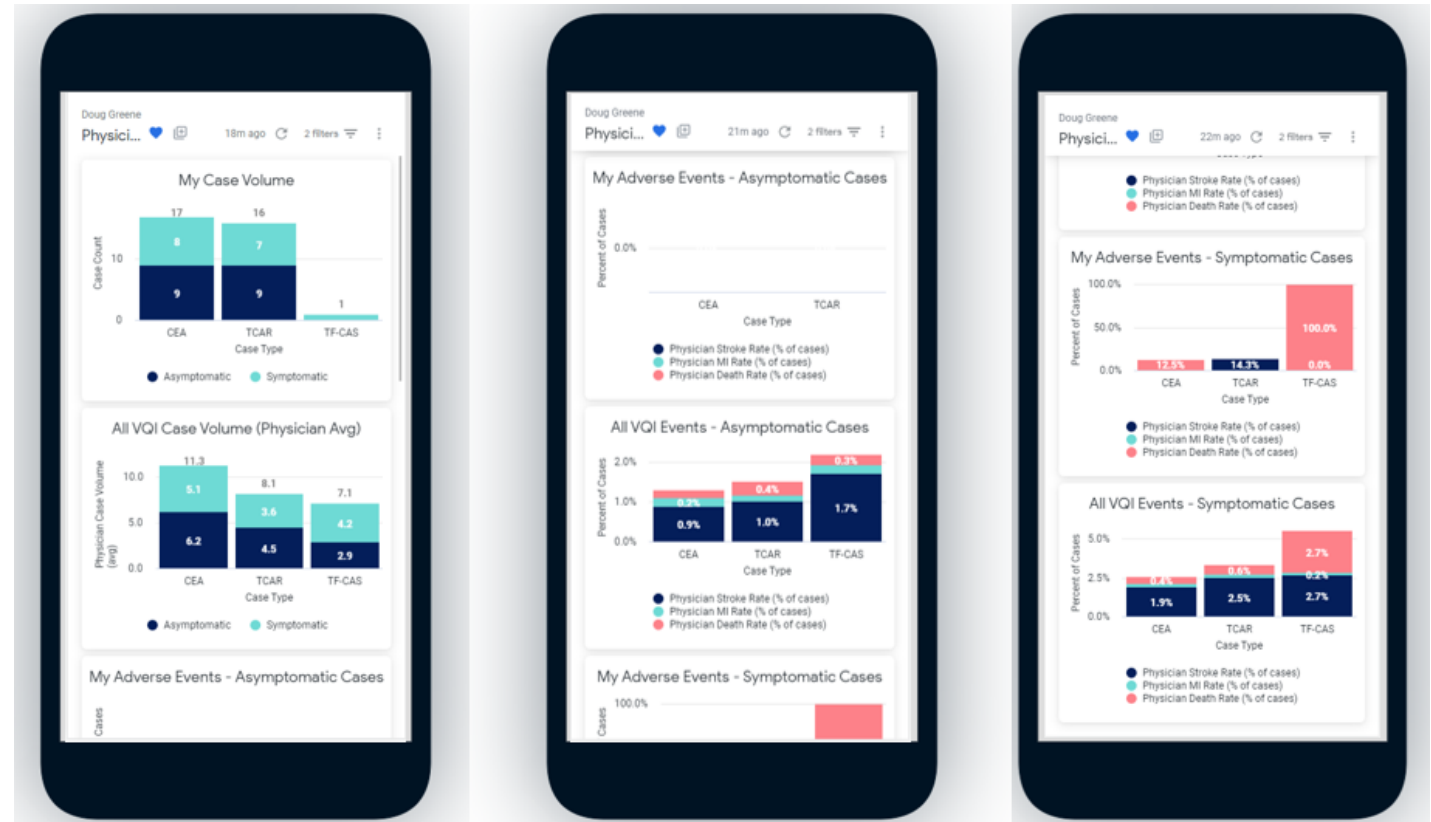
- Reports for individual physicians focused on key outcomes
- Push reports via email to physicians
  - Link to report directly from the email
  - Use same password as Pathways system
- First report for carotid treatment now available
  - Can also access via Pathways Reporting Tab
  - Can set time interval for reporting (defaults to last year)
  - Updated each day

For more information email [pathwayssupport@fivoshealth.com](mailto:pathwayssupport@fivoshealth.com)



# Compare Physician with VQI Average Annual Case Volume and Key Outcomes

CEA vs TCAR vs TF-  
CAS, Asymptomatic  
vs Symptomatic  
Cases, Stroke, Death,  
MI



[pathwayssupport@fivoshealth.com](mailto:pathwayssupport@fivoshealth.com)

# General RAC Submission Guidelines

- Active Pathways Account w/ 'Share a File' privileges
- Center Registry Subscription
- Regional RAC approval required for all regional proposals

# General RAC Submission Guidelines Cont.

- Check email for approval status from Melissa Latus  
[mlatus@svspso.org](mailto:mlatus@svspso.org)
- Check email notification from FIVOS health that data set is available in 'Share A File'
- Data in 'Share A File' will expire after 30 days of receipt



# 2022 CVQI Participation Award Winners



Toronto General Hospital  
Thunder Bay Regional Health  
Science Center  
Covenant Health-Grey Nuns Hospital  
CISSSO Outaouais



CHUM



Halifax Infirmary Robie Street  
Entrance - QEII

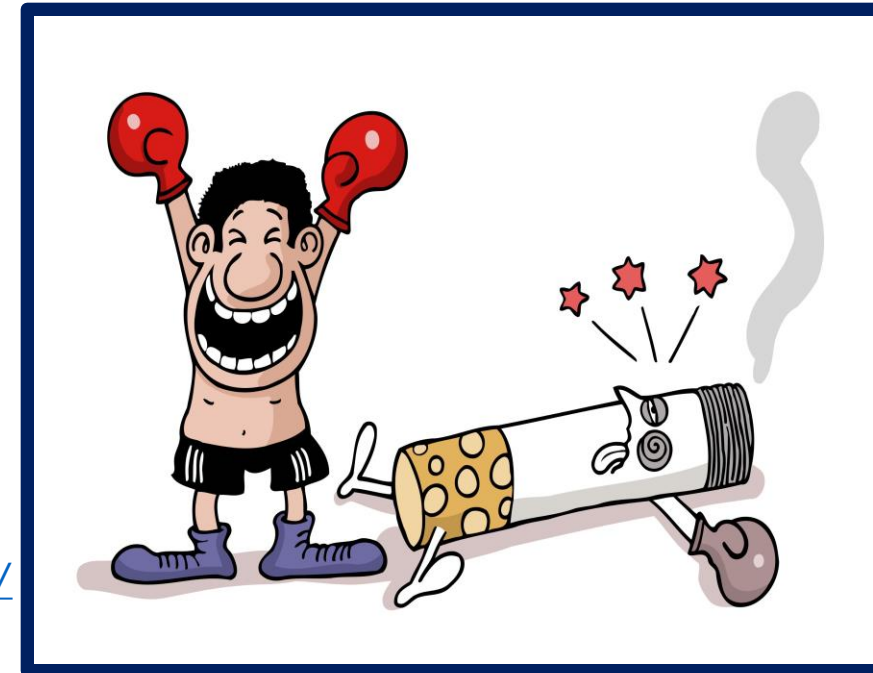
**Congratulations!**

# Quality Improvement Updates

Betsy Wymer, DNP, RN, CV-BC  
Director of Quality, SVS PSO

# Quality Improvement: National Quality Initiative - Smoking Cessation

- Introduced at VQI@VAM 2023
- CAN-DO Program
  - Choosing Against combustible Nicotine Despite Obstacles
- Arterial registries only
- Reporting measures added Spring 2023
  - Preop Smoking – Elective procedures
  - Smoking Cessation – Elective, Urgent, Emergent procedures
- Currently have smoking variables
  - Minimal addition of variables
  - Go LIVE August 2023
- Webinars
  - July and August (register at [www.vqi.org](http://www.vqi.org))
- Education <https://www.vqi.org/quality-improvement/national-qi-initiatives/>
  - Physician and Patient
  - Toolkits
  - Billable codes and sample dictation
  - Resources




# Active Regional Charters

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# Quality Improvement – Participation Points

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The following is a list of the four domains for the 2023 Participation Awards criteria:

- **Domain 1 – LTFU – 40% weighted**
- **Domain 2 – Regional Meeting Attendance – 30% weighted**
- **Domain 3 – QI Project – 25% weighted** 
- **Domain 4 – Registry Subscriptions – 5% weighted**

# Quality Improvement – Participation Points

## QI Project Domain

### Domain – Quality Improvement Project – 25% weighted

Scoring on 0 – 6-point scale to keep consistent with other measures. This gives centers options for getting **6 maximum QI points**.

- Initiation of a QI Project, evidenced by submitting a Project Charter to [QI@SVSPSO.ORG](mailto:QI@SVSPSO.ORG) or [bwymmer@svspso.org](mailto:bwymmer@svspso.org) (2 points). **One charter per year.**
- Presenting a QI Project (presentation or poster) at a Regional VQI, \*Regional Society Meeting, or \***Hospital Board and/or C Suite** meeting (2 points) *When presenting at succinct regional meetings, project slides must reflect a change or update in status.*
- Presenting a QI Project (presentation or poster) at the National VQI or \*Vascular Annual Meeting (2 points)
- \*Publish a **VQI quality improvement** article in a Peer Reviewed Journal (2 points)
- Centers with significant improvement or excellent performance rates on National QI Initiatives will receive one additional point (per initiative), for a maximum of 6 QI points

\* Please send attestation (proof) to [bwymmer@svspso.org](mailto:bwymmer@svspso.org) on or before December 31, 2023.

# Quality Improvement – QI Project Domain Requirements

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- Present VQI data to C-Suite (leadership, CNO, COO, Chief Vascular Surgeon, etc.)
- Contact Betsy at [bwymmer@svspso.org](mailto:bwymmer@svspso.org)
- Provide the following
  - Agenda/Meeting Minutes (date, your name and presentation, attendees)
  - Copy of presentation (feel free to cover center data)
  - Maximum of 2 presentations per year – slides must present a change or an update in status
- You will receive an email confirmation from Betsy which verifies participation points

# Fellows in Training (FIT) Program 2022-2023

## Jack Cronenwett Scholarship Winners

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### Quality

Dr. Christine Kariya

FIT Mentor Dr. Danny Bertges

University of Vermont Medical Center

Dr. Hanna Dakour Aridi

FIT Mentor Dr. Michael Murphy

Indiana University Health – Methodist

### Research

Dr. Ben Li

FIT Mentor Dr. Graham Roche-Nagle

Toronto General Hospital

Dr. Brianna Krafcik

FIT Mentor Dr. Phil Goodney

Dartmouth Hitchcock Medical Center

Dr. Caronae Howell

FIT Mentor Dr. Benjamin Brooks

University of Utah Hospital and Clinics/The University of Arizona





# Quality – Fellows in Training (FIT) Program

## 2023-2024 FIT Mentor, FIT Fellow, and Center

<b>FIT Mentor</b>	<b>FIT Fellow</b>	<b>Center</b>
Michael Costanza	Deena Chihade	University Hospital
Samantha Minc	Paul Rothenberg	WVU
Nikolaos Zacharias	Mitri Khoury	Massachusetts General Hospital
Nikolaos Zacharias	Tiffany Bellomo	Massachusetts General Hospital
Arash Bornack	Christopher Chow	University of Miami
Mohammed Eslami	Mikayla Lowenkamp	UPMC
Thomas Brothers	Saranya Sundaram	Medical University in South Carolina
Sal Scali	Michael Fassler	University of Florida
Adam Beck	Amanda Filiberto	University of Alabama Birmingham
Brian DeRubertis	Nakia Sarad	Weill Cornell Medical Center
Dan Newton	Syeda Ayesha Farooq	Virginia Commonwealth University

# Improve Your Quality of Care in Vascular Surgery and Interventional Care

Introducing a new quality program developed by the American College of Surgeons and the Society for Vascular Surgery: a standards-based framework designed to meet the unique needs of vascular programs



*facs.org/vascular*

Email [vascular@facs.org](mailto:vascular@facs.org) for information

# Committee Updates

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# AQC Update

## Open Position

Nominations Pending

- Committee meets every other month
  - Jan, March, May.....
- Re-engagement of registry committees
  - New reporting measures for ea. registry
  - Review of variables for possible retirement
  - One committee each Mtg. will give progress update
- Review & discussion of proposed registry revisions
  - LE/VMC SET variables to align w/guidelines
  - Pilot ERAS Variables
  - Initial discussion of required vs non-required procedure variables

# VQC Update

## Open Position

- Committee meets quarterly
- Re-engagement of registry committees
  - New reporting measures for each registry
  - Review of variables for possible retirement
  - Each committee will give updates during the VQC meetings
- Active review of Venous Stent to decrease registry burden
- Discussion on how to increase venous registry presence w/in the venous community
- Next Meeting VEITH (hybrid)
  - November 12-17, 2023

# Arterial RAC Update

- When requesting a Data Set, the investigator must have an ACTIVE PATHWAYS account.
- Once approved, the Data Set will be transferred through the “SHARE a FILE” function in PATHWAYS.



- The Data Set will be available through “Share a File” for 30 days

# Arterial RAC

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- Components of a VQI proposal.
- For more information:
  - Podcast: Requesting Data presented by Dr. Leila Mureebe, MD  
[https://drive.google.com/file/d/1tBsYrzhOPu-Oz5gu\\_eHhMmrVvyEtk5i2/view](https://drive.google.com/file/d/1tBsYrzhOPu-Oz5gu_eHhMmrVvyEtk5i2/view)

- Abstract
- Research question/Hypothesis
- Background/significance
- Approach
- Analytic plan
- Mock Tables
- Potential problems/solutions
- IRB approval/exemptions.

# RAC Data Use Agreement

The Data Use Agreement needs to be signed by the Attending Physician when submitting in Abstract 123

<https://abstracts123.com/svs1/>

## Data Use Agreement

### Data Use Agreement

Below are the terms of the Data Use Agreement for the Society for Vascular acknowledging the terms below.

1. The Recipient shall not use or further disclose the data set other than as required to complete T
2. The Recipient shall allow access to the data only to individuals directly accountable to the Recipient
3. The Recipient shall use appropriate safeguards to prevent use or disclosure of the data set other than as required to complete T
4. The recipient agrees that this study must be approved by the IRB of the institution that takes responsibility for the study
5. Upon completion of the project, or should this Agreement be terminated for any reason, including non-compliance with the terms of this Agreement, the Recipient shall delete all data and destroy all copies of the data
6. The Recipient agrees to present or publish approved project within 24 months with one refresh

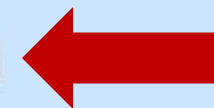
☐ I acknowledge I have read and understood the Data Use Agreement.

☐ I have received approval from my regional RAC, only applicable for those regions that

(required answer)

Signature:

Select Today's Date:





# Venous RAC Update

- The July Venous RAC had 4 venous proposals submitted
- Podcast: Requesting Data presented by Dr. Leila Mureebe, MD. Follow link below
  - [https://drive.google.com/file/d/1tBsYrzhOPu-Oz5gu\\_eHhMmrVvyEtk5i2/view](https://drive.google.com/file/d/1tBsYrzhOPu-Oz5gu_eHhMmrVvyEtk5i2/view)
- The current venous registries with blinded data sets
  - Varicose Vein
  - IVC Filter
- Types of information available:
  - Demographics
  - Comorbidities
  - Operative characteristics
  - Post-operative characteristics
  - Follow-up

# Governing Council Update

- Meets twice a year
- Last meeting: June 16, 2023
- Committee designation:
  - Each region represented by the Regional Lead Medical Directors
- Adam Beck – newly appointed GC Chair; Grace Wang – newly appointed Vice Chair
- All Regional RAC requests must have regional RAC approval; committee highly recommends that the Regional RAC also approve national requests
- Next meeting VEITH; November 2023

# Spring 2024 Regional Meeting

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- Spring 2024?



# Fall Report Reminder

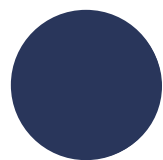
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## Reminder:

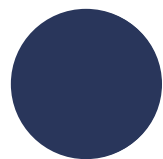
Spring 2024 Report Cut Date = **February 1, 2024**, for  
procedures CY 2023

# CE/CME Meeting Attendance Credit

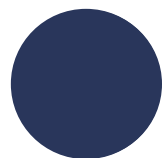
7 days to submit; No email reminder



**P**UT your FULL NAME in Zoom for remote attendees. Record of meeting attendance is required for CME/CE credit (no exceptions will be made)



**S**END an email to [ljohnson@svspso.org](mailto:ljohnson@svspso.org) with names of group members that are sharing 1 device



**O**FFICIALLY apply for CME/CE credit by clicking the URL or QR code provided



[https://dmu.co1.qualtrics.com/jfe/form/SV\\_cJaiRRNnW](https://dmu.co1.qualtrics.com/jfe/form/SV_cJaiRRNnW)

- Thank you to our members for your continued participation and support of VQI

- Thank you to COOK and GORE for your contributions and making these meetings possible
- Thank you to Des Moines University for providing CE/CME credit for today's meeting

# Thank You

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