2024 – Veith Symposium
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Venous VQI: Ten Years Of Improving Venous Outcomes And Quality

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NO DISCLOSURES

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SVS PSO Venous Arm

Governing 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: Olamide Alabi

Varicose Vein Committee
Chair: Jennifer Ellis

Venous Stent Committee
Chair: Rabih Chaer

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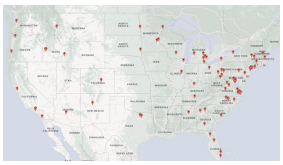
Venous VQI Registries

TOTAL PROCEDURES CAPTURED (as of 11/1/2024)	1,302,849
Peripheral Vascular Intervention	453,222
Carotid Endarterectomy	223,983
Infra-Inguinal Bypass	92,177
Endovascular AAA Repair	93,163
Hemodialysis Access	85,293
Carotid Artery Stent	142,041
Varicose Vein	70,097
Supra-Inguinal Bypass	28,956
Thoracic and Complex EVAR	36,809
Lower Extremity Amputations	34,840
IVC Filter	19,793
Open AAA Repair	19,825
Vascular Medicine Consult	2,345
Venous Stent	305



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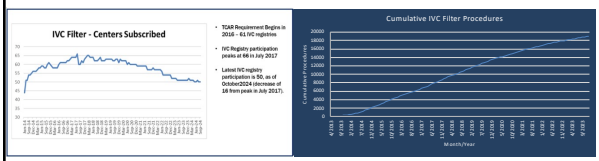
IVC Filter Registry - Since 2014



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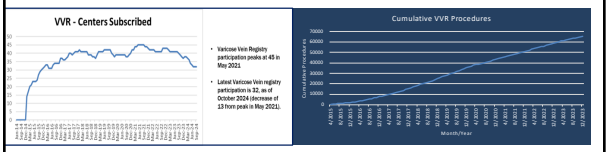
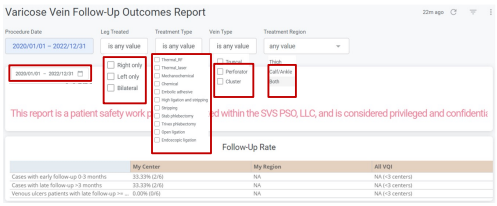
IVC Filter Registry - Reporting

Varicose Vein Registry – Since 2015



- Varicose Vein Registry participation peaks at 45 in May 2021
- Latest Varicose Vein registry participation is 32, as of October 2024 (decrease of 13 from peak in May 2021).

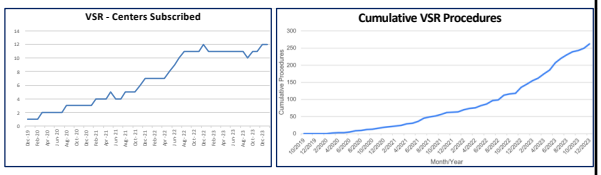
Varicose Vein Registry - Reporting



VQI based Varicose veins stats

Venous Stent Registry (since 2020)

Number of Centers Subscribed 10
Number of Procedures 305



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Venous Stent Update

- Revision of data fields - removal of less needed registry variables and decreasing registry data entry burden.
- Begin development of registry reporting measures
- Effort to increase site recruitment

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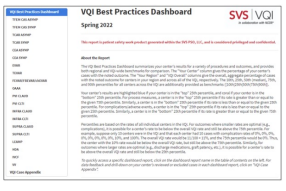
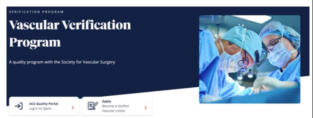
Venous Best Practices – Benchmarking

- Summarizes Results
- Regional and VQI Benchmarks
- Tailored for each Registry



VQI –Accreditation / Quality Improvement



Research – Venous VQI RAC

- RAC started 2020
- Submission of Venous RAC Proposals increasing.
- For centers not enrolled in a VQI venous registry interested in research projects, connect with a VQI Venous registry partner
- For any RAC questions please email:
  - Melissa Latus (mlatus@svspso.org)
  - RAC chair Nick Osborne MD (nichosbo@med.umich.edu)

Research – Venous VQI RAC - Publications

- **IVC Filter:**
- Impact of COVID-19 on the Society for Vascular Surgery Vascular Quality Initiative Venous Procedure Registries (varicose vein and inferior vena cava filter) Mahenthiran AK, Natarajan JP, Bertges DJ, Huffman KM, Eldrup-Jorgensen J, Lemmon GW. J Vasc Surg Venous Lymphat Disord. 2021 Sep;9(5):1093-1098. doi: 10.1016/j.jvsv.2021.01.002. Epub 2021 Jan 20. Extreme obesity is associated with angulation during inferior vena cava filter placement
- Goldman DT, Conway AM, Tran NN, Stoffels G, Vismer M, Giangola G, Carroccio A. J Vasc Surg Venous Lymphat Disord. 2020 Jul;8(4):594-600. doi: 10.1016/j.jvsv.2019.10.022. Epub 2020 Jan 9.
- Effect of access site choice on inferior vena cava filter angulation and outcomes Grullon J, Qato K, Bahroloomi D, Nguyen N, Conway A, Leung TM, Pamoukian V, Giangola G, Carroccio A. J Vasc Surg Venous Lymphat Disord. 2023 Mar;11(2):326-330. doi: 10.1016/j.jvsv.2022.05.020. Epub 2022 Sep 29.
- Trends in inferior vena cava filter placement and retrieval at a tertiary care institution. Belkin N, Jackson BM, Foley PJ, Damrauer SM, Kalapatapu V, Golden MA, Fairman RM, Wang GJ. J Vasc Surg Venous Lymphat Disord. 2019 May;7(3):405-412. doi: 10.1016/j.jvsv.2018.11.007. Epub 2019 Mar 15.
- Predicting inferior vena cava filter complications using machine learning Li B, Eisenberg N, Beaton D, Lee DS, Al-Omran L, Wijeysundera DN, Hussain MA, Rotstein OD, de Mestral C, Mamdani M, Roche-Nagle G, Al-Omran M.J Vasc Surg Venous Lymphat Disord. 2024 Nov;12(6):101943. doi: 10.1016/j.jvsv.2024.101943. Epub 2024 Jul 29.
- Immediate and delayed complications of inferior vena cava filters. Ramakrishnan G, Willie-Permor D, Yei K, Nejim B, Enumah Z, Gasparis AP, Malas MB. J Vasc Surg Venous Lymphat Disord. 2023 May;11(3):587-594.e3. doi: 10.1016/j.jvsv.2022.08.011. Epub 2022 Oct 4.
- Contemporary rates of inferior vena cava filter thrombosis and risk factorsKing RW, Wooster MD, Veeraswamy RK, Genovese EA. J Vasc Surg Venous Lymphat Disord. 2022 Mar;10(2):313-324. doi:

- **Varicose Vein:**
- First 10-month results of the Vascular Quality Initiative Varicose Vein Registry Obi AT, Sutzko DC, Almeida JI, Kabnick L, Cronenwett JL, Osborne NH, Lal BK, Wakefield TW. J Vasc Surg Venous Lymphat Disord. 2017 May;5(3):312-320.e2. doi: 10.1016/j.jvsv.2016.12.007. Obi AT
- Impact of COVID-19 on the Society for Vascular Surgery Vascular Quality Initiative Venous Procedure Registries (varicose vein and inferior vena cava filter) Mahenthiran AK, Natarajan JP, Bertges DJ, Huffman KM, Eldrup-Jorgensen J, Lemmon GW. J Vasc Surg Venous Lymphat Disord. 2021 Sep;9(5):1093-1098. doi: 10.1016/j.jvsv.2021.01.002. Epub 2021 Jan 20.
- Women benefit from endovenous ablation with fewer complications: Analysis of the Vascular Quality Initiative Varicose Vein Registry Cher BAY, Brown CS, Obi AT, Wakefield TW, Henke PK, Osborne NH. J Vasc Surg Venous Lymphat Disord. 2022 Nov;10(6):1229-1237.e2. doi:
- Clinical outcomes after varicose vein procedures in octogenarians within the Vascular Quality Initiative Varicose Vein Registry Sutzko DC, Obi AT, Kimball AS, Smith ME, Wakefield TW, Osborne NH. J Vasc Surg Venous Lymphat Disord. 2018 Jul;6(4):464-470. doi: 10.1016/j.jvsv.2018.02.008. Epub 2018 May 8.
- A comparison of below-knee vs above-knee endovenous ablation of varicose veins Bai H, Gokani V, Storch JB, Kibrik P, Aziz F, Sachdev U, Fukaya E, Ochoa Chaar CI, Obi AT, Ting W.J Vasc Surg Venous Lymphat Disord. 2024 Mar;12(2):101679. doi: 10.1016/j.jvsv.2023.08.018. Epub 2023 Sep 12.
- Age is not a barrier to good outcomes after varicose vein procedures Sutzko DC, Andraska EA, Obi AT, Sadek M, Kabnick LS, Wakefield TW, Osborne NH. J Vasc Surg Venous Lymphat Disord. 2017 Sep;5(5):647-657.e1. doi: 10.1016/j.jvsv.2017.04.013.
- Outcomes after truncal ablation with or without concomitant phlebectomy for isolated symptomatic varicose veins (C2 disease) Brown CS, Obi AT, Cronenwett JL, Kabnick L, Wakefield TW, Osborne NH. J Vasc Surg Venous Lymphat Disord. 2021 Mar;9(2):369-376. doi: 10.1016/j.jvsv.2020.05.016. Epub 2020 Jun 2.
- Comparison of virtual visit versus traditional clinic for management of varicose veins Lin JC, Mclaughlin D, Zurawski D, Kennedy N, Kabbani L. J Telemed Telecare. 2020 Jan-Feb;26(1-2):100-104. doi: 10.1177/1357633X18797181. Epub 2018 Sep 20.
- Early clinical experience using telemedicine for the management of patients with varicose vein disease Kavousi Y, Al-Adas Z, Crutchfield JM, Karamanos E, Swanson C, Lin JC. J Telemed Telecare. 2019 Jan;25(1):54-58. doi: 10.1177/1357633X17734580. Epub 2017 Oct 2.

Conclusion - VQI The Last 10 Years

- Improve long-term outcomes through standardization
- Provide evidence-based outcomes analysis
- Help to define best clinical practices
- Site / Regional / National benchmarks - QA and QI efforts
- Monitor safety and efficacy using benchmarks
- Provide comparative effectiveness research

Conclusion - VQI The Next 10 Years….

- Development of additional venous procedural registries
- Better integration/coordination between venous modules
- Expansion AI initiatives
- EMR Data extraction
- Cross Module - Interactive data analysis
  - Better Benchmarking
  - Expanded research opportunities