



Methodology of evidence Generation, Analysis, and Synthesis: *The American Venous Forum (AVF) perspective*

Medicare Evidence Development & Coverage Advisory Committee (MEDCAC)

Lower Extremity Chronic Venous Disease



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Conflicts of interest relevant to the topic:

- Financial:
 - Research support to the institution (no personal compensation): BSN/Jobst, Tactile Medical, Cook.
- Intellectual:
 - American Venous Forum Foundation – president
 - American Venous Forum – past president

Objectives

- Provide overview of the methodology of identification and prioritization of gaps in knowledge used by the AVF
- Describe infrastructure and processes developed by the AVF for evidence generation
- Describe methodology of evidence synthesis and development of the practice guidelines used by the AVF



Introduction: The AVF

Mission Statement

"The Mission of the American Venous Forum is to promote venous and lymphatic health through innovative research, education and technology."

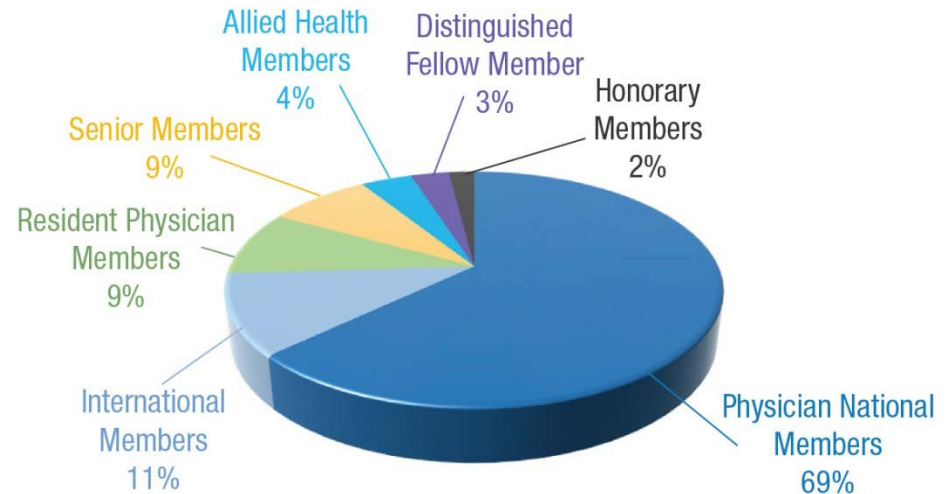
Sole focus on improving outcomes

Academic

Free from a specialty interest
(multi-specialty)

Inclusive to all stakeholders
(venous and lymphatic health)

Collaborative



- Vascular and General Surgeons
- Interventional Radiologists
- Interventional Cardiologists
- Phlebologists
- Plastic Surgeons
- Physician Assistants
- Vascular Technicians
- Nurse Practitioners

Identification and prioritization of gaps in knowledge

1. Expert panel

- a) Definition of “expert”

- b) Selection process

2. Inclusiveness to all stakeholders (Basic and clinical scientists, clinicians, industry, healthcare system administrators, regulators, payers)

3. Sophisticated process

Pacific Vascular Symposia

PVS 1

(November 1993)

“...The highest priority is to develop and implement a standard classification for CVD in order to be able to analyze and summarize scientific data ”

Journ Vasc Surg 1995;21:635-45

Journ Vasc Surg 2004;40:1248-52

Reporting standards in venous disease: An update

John M. Porter, MD,* Gregory L. Moneta, MD, and An International Consensus Committee on Chronic Venous Disease†

Venous severity scoring: An adjunct to venous outcome assessment

Robert B. Rutherford, MD, Frank T. Padberg, Jr, MD, Anthony J. Comerota, MD, Robert L. Kistner, MD, Mark H. Meissner, MD, and Gregory L. Moneta, MD

From the American Venous Forum

Revision of the CEAP classification for chronic venous disorders: Consensus statement

Bo Eklöf, MD,^a Robert B. Rutherford, MD,^b John J. Bergan, MD,^c Patrick H. Carpentier, MD,^d Peter Gloviczki, MD,^e Robert L. Kistner, MD,^f Mark H. Meissner, MD,^g Gregory L. Moneta, MD,^h Kenneth Myers, MD,ⁱ Frank T. Padberg, MD,^j Michel Perrin, MD,^k C. Vaughan Ruckley, MD,^l Philip Coleridge Smith, MD,^m and Thomas W. Wakefield, MD,ⁿ for the American Venous Forum International Ad Hoc Committee for Revision of the CEAP Classification, *Helsingborg, Sweden*

Pacific Vascular Symposia

PVS 5 (January, 2006)

Mapping the future: Organizational, clinical, and research priorities in venous disease

Mark H. Meissner, MD,^a Bo Eklof, MD,^b Peter Gloviczki, MD,^c Joann M. Lohr, MD,^d Fedor Lurie, MD,^e Robert Kistner, MD,^e Gregory Moneta, MD,^f and Thomas W. Wakefield, MD,^g
Seattle, Wash; Helsingborg, Sweden; Rochester, Minn; Cincinnati, Ohio; Honolulu, Hawaii; Portland, Ore; and Ann Arbor, Mich

“...was charged with reviewing the current state of knowledge, and developing a roadmap for advancing the field over the next decade”

The highest priority – organizational change

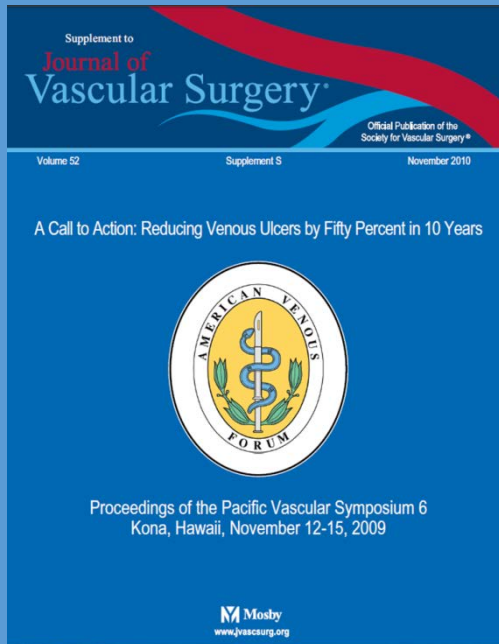
Table I. Organizational initiatives of the Pacific Vascular Symposium

| <i>Initiative</i> | <i>Goals</i> |
|--|---|
| Joint Venous Council | To form a new organization with the goals of <ul style="list-style-type: none">● Increasing awareness about venous disorders among physicians and the public● Foster relationships with industry, government and national/ international societies |
| Redefinition of the American Venous Forum as a broad-based, inclusive organization | <ul style="list-style-type: none">● The achieve influence through critical mass and clinical/ scientific excellence● To act as a project/grant clearinghouse● To create evidence-based practice guidelines |

Pacific Vascular Symposia

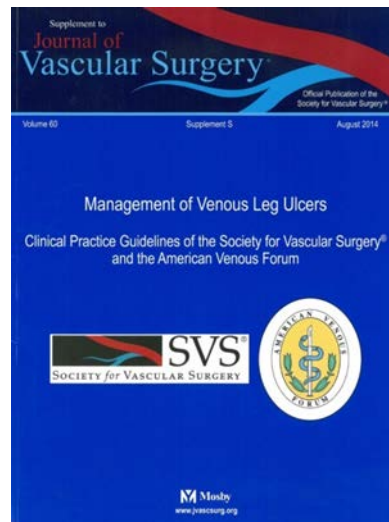
PVS 6

(November 2009)



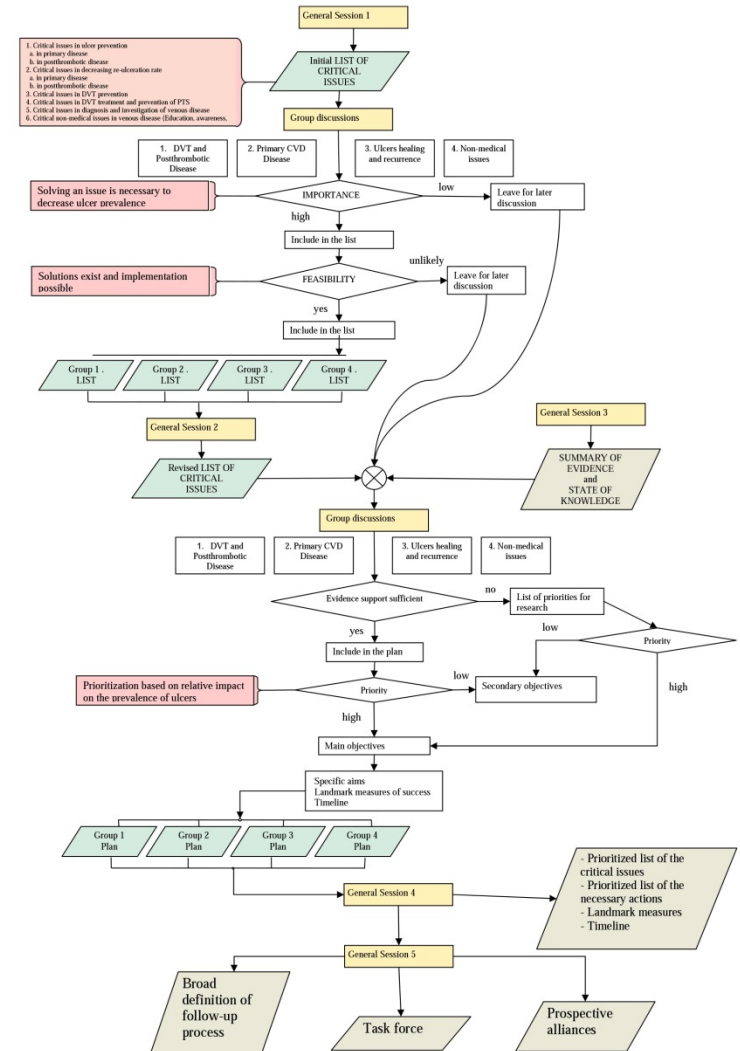
The highest priorities:

- Epidemiological data on VU in the US
 - Evidence-based guidelines for VU
- Gloviczki ML, Kalsi H, Gloviczki P, Gibson M, Cha S, Heit JA. J Vasc Surg Venous Lymphat Disord. 2014 Oct;2(4):362-7
 - Random population sample representative of the US population
 - VU incidence – 85 per 100,000 person-years
 - VU prevalence - 210 per 100,000 person-years



Identification and prioritization of knowledge gaps: methodology

- Sophisticated process to minimize bias
- Issue-focus synthesis
- Evidence rating based on reproducibility and practicality (in addition to methodological strength)
- Prioritization based on highest possible impact



Knowledge gaps and priority:

American Venous Forum Day of Innovation and Science

February 23, 2016

Buena Vista Palace Hotel • Orlando, FL

Identification of at risk patients, and nd systemic factors that should be addressed to prevent CVD progression. **HIGHEST**

Lack of algorithm for sequencing and timing of superficial venous intervention for C2-3 and for C4-6. **HIGH**

Role of deep venous treatment options (obstruction vs reflux) in setting of combined superficial venous disease. **HIGH**

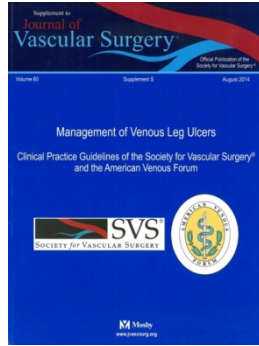
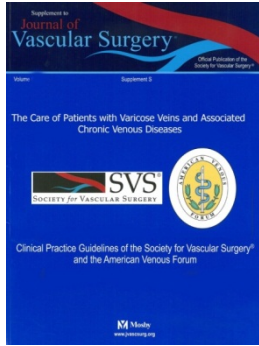
What is needed to best assess saphenous reflux to determine who with C2-3 disease should be treated **MEDIUM**

Define venous disease phenotype at high risk for CVD **MEDIUM**

Mechanisms and infrastructure supporting evidence generation

- Calls for action
- Multispecialty task force(s) to address priority issues
- Grant support for research in priority areas
- Registry
- Dedicated scientific meeting with competitive peer-reviewed selection process.
- Dedicated peer-reviewed Journal

Evidence analysis and synthesis



- Expert selection
 - Definition of expert
- The size of the group
 - Identification and selection process
- Review process
 - Initial review
 - Secondary review
 - Grading of evidence
- Meta-analysis process
- Writing process

Gloviczki P, et al. The care of patients with varicose veins and associated chronic venous diseases: clinical practice guidelines of the Society for Vascular Surgery and the American Venous Forum. J Vasc Surg. 2011 May;53(5 Suppl):2S-48S

O'Donnell TF Jr, et al. Management of venous leg ulcers: clinical practice guidelines of the Society for Vascular Surgery and the American Venous Forum. J Vasc Surg. 2014 Aug;60(2 Suppl):3S-59S.

Table I. GRADE recommendations based on level of evidence

| <i>Grade</i> | <i>Description of recommendation</i> | <i>Benefit vs risk</i> | <i>Methodologic quality of supporting evidence</i> | <i>Implications</i> |
|--------------|---|--|--|--|
| 1A | Strong recommendation, high-quality evidence | Benefits clearly outweigh risk and burdens, or vice versa | RCTs without important limitations or overwhelming evidence from observational studies | Strong recommendation, can apply to most patients in most circumstances without reservation |
| 1B | Strong recommendation, moderate-quality evidence | Benefits clearly outweigh risk and burdens, or vice versa | RCTs with important limitations (inconsistent results, methodologic flaws, indirect, or imprecise) or exceptionally strong evidence from observational studies | Strong recommendation, can apply to most patients in most circumstances without reservation |
| 1C | Strong recommendation, low-quality or very-low-quality evidence | Benefits clearly outweigh risk and burdens, or vice versa | Observational studies or case series | Strong recommendation but may change when higher quality evidence becomes available |
| 2A | Weak recommendation, high-quality evidence | Benefits closely balanced with risks and burdens | RCTs without important limitations or overwhelming evidence from observational studies | Weak recommendation, best action may differ depending on circumstances or patients' or societal values |
| 2B | Weak recommendation, moderate-quality evidence | Benefits closely balanced with risks and burdens | RCTs with important limitations (inconsistent results, methodologic flaws, indirect, or imprecise) or exceptionally strong evidence from observational studies | Weak recommendation, best action may differ depending on circumstances or patients' or societal values |
| 2C | Weak recommendation, low-quality or very-low-quality evidence | Uncertainty in the estimates of benefits and risk, and burdens; Risk, benefit, and burdens may be closely balanced | Observational studies or case series | Very weak recommendations; Other alternatives may be reasonable |

Evidence analysis and synthesis

Guideline 3.12: Venous Disease Classification

We recommend that all patients with venous leg ulcer be classified on the basis of venous disease classification assessment, including clinical CEAP, revised Venous Clinical Severity Score, and venous disease—specific quality of life assessment. [BEST PRACTICE]

Guideline 3.13: Venous Procedural Outcome Assessment

We recommend venous procedural outcome assessment including reporting of anatomic success, venous hemodynamic success, procedure-related minor and major complications, and impact on venous leg ulcer healing. [BEST PRACTICE]

Guideline 8.4: Primary Prevention—Education Measures

In patients with C1-4 disease, we suggest patient and family education, regular exercise, leg elevation when at rest, careful skin care, weight control, and appropriately fitting foot wear. [BEST PRACTICE]

Additional category of recommendations
Minimizing bias by considering consistency and reproducibility



Conclusions:

- 29-year history of:
 - Identification of knowledge gaps related to CVD
 - Generation of evidence related to CVD
 - Analysis and synthesis of evidence related to CVD
- Mechanisms and methodology for objective, specialty-neutral, collaborative work
- Should be considered as a collaborator for policy development