Point - Counterpoint Nonsense – Reflux Testing in the Semi-recumbent Position is Accurate

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DISCLOSURE

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Point - Counterpoint Reflux Testing Can Be Performed in the Semi-recumbent Position

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From the American Venous Forum

"I enjoyed your talk, but. . .": Evidence-based medicine and the scientific foundation of the American Venous Forum

Mark H. Meissner, MD, *Seattle, Wash*

Meissner M. J Vasc Surg 2009;49:244-8

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From the American Venous Forum

"I enjoyed your talk, but. . .": Evidence-based medicine and the scientific foundation of the American Venous Forum

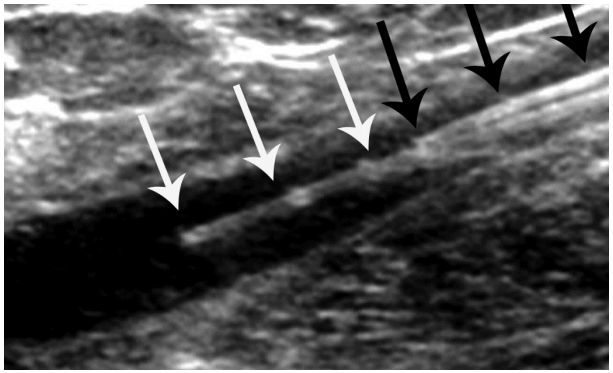
Mark H. Meissner, MD, *Seattle, Wash*

- Excellent article
- Advocates for evidence-based medical practice

Meissner M. J Vasc Surg 2009;49:244-8

Imaging of Venous Insufficiency

- Duplex ultrasonography is the primary diagnostic tool
- Inexpensive, portable and reproducible
- Assess anatomy and physiology
- Integral to endovenous treatments

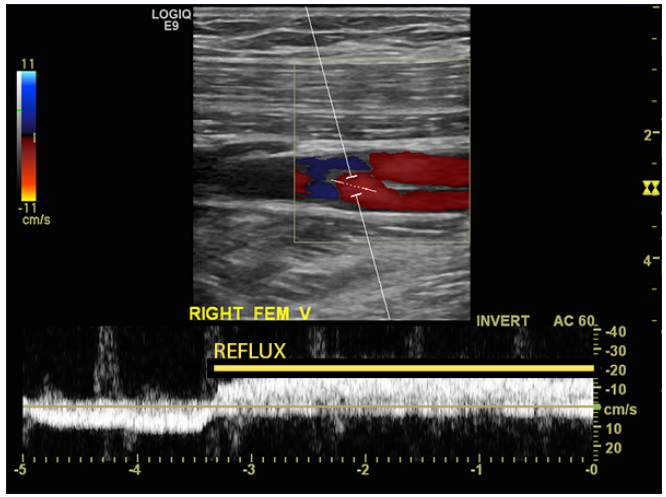


Ultrasound in the Evaluation for Chronic Venous Disease

- Localization and extent of venous obstruction and valvular incompetence
- Identification and quantification of venous reflux
- Detection of venous varicosities
- Focus on the superficial veins, major tributaries and perforating veins

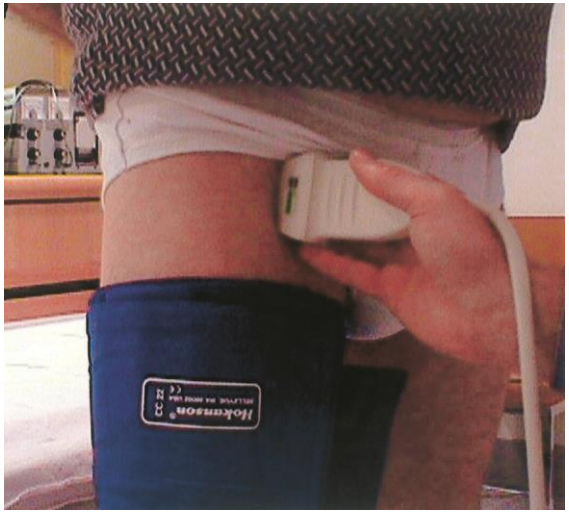
Duplex Sonography

- Patency of the vein lumen
- Documentation of thrombus
- Morphology of the vein walls and valves
- Direction of blood flow
- Presence of collateral veins
- Duration of venous reflux



Patient Positioning

- Standing position supported by railing to allow non-weight-bearing on the leg being examined
- Diagnostic criteria developed for upright position



Patient Positioning

- Supine in reverse Trendelenberg position for patients unable to stand
- Although standing preferred for evaluation

Standing Protocol

- 22 of 37 vein segments with reflux in supine position were normal when standing
- Of 38 vein segments with reflux > 500 ms in standing, 6 < 500 ms when supine
- Both increased sensitivity and specificity for reflux in standing position

Labropoulos N, et al. J Vasc Surg 2003; 38:793-8.

Multicenter Assessment of Venous Reflux By Venous US

- Prospective, multicenter study from the American Venous Forum
- Reflux times in deep veins did not differ with time of day, patient position or provocative maneuver
- Reflux times in superficial veins were more repeatable in morning and with standing
- Reflux time was shorter at 0.59 when standing vs 0.82 when supine

Lurie F, et al. J Vasc Surg 2012;55:437-45

Multicenter Assessment of Venous Reflux By Venous US

- Multiple factors influenced reliability of results
  - Position of patient
  - Standardized protocol
  - Uniform cut point of 0.5 second vs 1.0 second
  - Reflux provoking maneuvers
  - Training intervention

Lurie F, et al. J Vasc Surg 2012;55:437-45

Multicenter Assessment of Venous Reflux By Venous US

- Education, standard protocol, uniform cut point and time of day all influence exam quality and reproducibility
- Repeatability not solely based on patient position

Lurie F, et al. J Vasc Surg 2012;55:437-45

Semi Recumbent Positioning

- Reverse Trendelenberg's position
- Not the same as supine examination
- More closely resembles standing position
- May be the only option in some patients

DVT and Superficial Venous Reflux

- 133 extremities in 66 patients
- Reflux demonstrated in 35 limbs (26.9%)
- All patients studied in reverse Trendelenberg's position

Meissner M, et al. J Vasc Surg 2000;32:48-56

Conclusions

- Standing is preferred position for reflux testing
- Reflux times in superficial veins were more reproducible with standing
- Not always possible in our patient population
- Other factors including standardized protocol, uniform cut point of 0.5 second vs 1.0 second, reflux provoking maneuvers and appropriate training are important for optimal results