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INTERVIEW

Standardizing the Workup: Best Practices for Comprehensive Noninvasive Evaluation in Chronic Limb-Threatening Ischemia

An Interview With Srini Tummala, MD

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Key Summary

- An expert session from ISET 2026 outlined best practices for comprehensive noninvasive evaluation of chronic limb-threatening ischemia (CLTI) and emphasized standardized algorithms, registered vascular technologists, and appropriate equipment (ultrasound, pulse volume recordings, transcutaneous oxygen pressure) to ensure consistency and quality in office-based assessment.
- In patients with CLTI, often with heavy calcification/medial arterial calcinosis, ankle-brachial index (ABI) and toe-brachial index (TBI) are required in all cases; $TcPO_2$ and other modalities are supplemental if ABI/TBI are artifactual or erroneous.
- Noninvasive testing confirms peripheral arterial disease, correlates symptoms, and informs medical vs revascularization (endovascular vs surgical) decisions. Guidelines support this algorithm; misinterpretation can occur, particularly with calcified vessels. Standardized adherence may improve consistency across specialties.

Srini Tummala, MD
Florida Vascular Specialists. Pembroke Pines, Florida

At ISET 2026, Srini Tummala, MD, from Florida Vascular Specialists in Pembroke Pines, presented a practical session titled “Best Practices for Comprehensive Noninvasive Evaluation for Chronic Limb-Threatening Ischemia (CLTI)”, focusing on the critical role of standardized diagnostic algorithms in the care of patients with CLTI. In this interview with *Vascular Disease Management,* Dr. Tummala outlines the essential components of a high-quality noninvasive vascular assessment, emphasizing the importance of registered vascular technologists, appropriate equipment, and adherence to evidence-based guidelines.

In your view, what are the key components of a comprehensive noninvasive evaluation for CLTI?

There are a couple. One is you have to have a registered vascular technologist. If you have someone who can actually do the scans from a technical standpoint, then you will at least get some consistency from patient to patient and from study to study. In my experience, those with a registered vascular technologist background do well and have high-quality studies.

Number two, obviously, is you need the right equipment. You need the ultrasound machine and other equipment for pulse volume recordings. If you're going to do perfusion testing like transcutaneous oxygen pressure ($TcPO_2$), you would need all that equipment as well.

Which noninvasive modalities are most commonly misinterpreted in patients with CLTI, and how do you recommend avoiding those errors?

I don't know if they are misinterpreted. In today's world of end-stage arterial disease or CLTI, we have a lot of patients who have heavy calcification and medial arterial calcinosis. Those patients typically will have either an abnormal or inaccurate ankle-brachial index (ABI), and less commonly, a toe-brachial index (TBI). So at the very minimum, you need the ability to do an ABI and TBI, as well as $TcPO_2$, in my opinion.

These tests are standardized, and they can be misinterpreted sometimes. People can miss subtle findings, but it's not unique to noninvasive testing. As far as the basic testing needed in the office, they need ABI and TBI, then the other testing is all considered supplemental. ABI includes ankle pressure and brachial systolic pressure oftentimes with an exercise ABI, pulse volume recordings, and segmental pressures. The TBI includes toe pressure and oftentimes toe photoplethysmography. ABI and TBI alone gives the vascular physician much needed and important information. Everything beyond these 2 tests is considered supplemental or adjunctive based on the vascular guidelines and best practice.

How does a noninvasive assessment change your revascularization strategy, particularly when deciding between endovascular vs surgical approaches?

First, it helps us determine if the patient has peripheral arterial disease (PAD) and if their symptoms are related to PAD. Second, the entire clinical evaluation along with this testing can help to determine if medical management alone is needed or if intervention is needed. As far as whether it's an endovascular treatment or surgical treatment, that can be determined as well.

Is there anything else your presentation at ISET covered that we didn't talk about?

We tried to cover what the American College of Cardiology and the global vascular guidelines tell us in terms of what our algorithm should be when working up a patient with CLTI. The guidelines are overall specific. We know that there are core tests that should be done in every patient with CLTI. You should always do an ABI and TBI. Beyond these two tests, the guidelines tell us that if the ABI and TBI are artifactual/erroneous, then next-level testing with supplemental noninvasive imaging ($TcPO_2$, etc.) is needed. There is data to support this.

What's the main takeaway that you wanted attendees to get from your presentation?

The main thing is that there are data and guidelines that tell us how to evaluate and work up a patient with CLTI in terms of all the noninvasive testing. If all vascular physicians read and understand these published guidelines and incorporate them into their daily practice, then regardless of specialty, there will be consistency in evaluation, workup, and treatment. ■