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By Beth Bales

The Society for Vascular Surgery (SVS) has launched three new mobile apps to help guide surgeons in the treatment and management of chronic limb-threatening ischemia (CLTI).

The apps help facilitate translating the Global Vascular Guidelines on managing CLTI. These guidelines highlight the importance of individualized clinical decision-making based on the assessment of patient risk, limb severity and anatomic pattern of disease (PLAN). PLAN provides an organized framework for provider-patient discussions as well as outcomes assessment and evidence-based practice.

The three new apps, available on its interactive practice guideline (iPG) mobile platform, allow for real-time estimation of patient risk (Vascular Quality Initiative [VQI] CLTI Mortality Prediction Model), severity of limb threat (SVS Threatened Limb Classification [WIfI] staging system), and anatomic complexity of disease (Global Limb Anatomic Staging System [GLASS]). The calculators are simple to use and meant for everyday practice settings.

The VQI CLTI Mortality Prediction Model was developed from a cohort of 38,470 unique patients who underwent infrainguinal revascularization (open or endovascular) for CLTI and had data available in the VQI registry.3 Using baseline patient demographics, comorbidity, ambulatory status and medication use, this model estimates both 30-day (peri-procedural) and twoyear patient survival. Risk groups are summarized as low (>97% 30-day and >70% two-year survival), medium (95–97% 30-day, 50–70% two-year survival), or high (<95% 30-day or <50% two-year survival).

The SVS Threatened Limb Classification [WIfI] calculator uses the consensus scheme for estimating risk of major amputation that has since been validated across multiple institutional studies and registries.

The target population for WIfI staging is any patient referred for possible CLTI, excluding those with purely venous or traumatic wounds, acute limb ischemia, embolic or non-atherosclerotic disease. Wound, ischemia and infection are each graded on a 0–3 scale.

The combination of grades is then grouped into four clinical stages based on estimated one-year risk for major amputation. WIfI staging is recommended for all patients at initial presentation and over time to monitor response to interventions or disease progression.

The Global Limb Anatomic Staging System [GLASS] calculator allows the treating vascular specialist to estimate the complexity of infrainguinal arterial disease from an angiogram. A high-quality study including the ankle and foot is required. The treating physician first decides on the preferred Target Artery Path (TAP), which is the primary

infrapopliteal artery selected for establishing inline flow for the case at hand. Grades are then defined for the femoropopliteal and infrapopliteal segments based on lesion location, length and severity.

These grades are then combined into three overall GLASS stages for the limb that correspond to low-, intermediate- and high-complexity disease. These disease patterns are expected to correlate with both immediate technical success and one-year limb-based patency for an endovascular approach.

“Broad dissemination and use of these calculators will increase the quality of patient and provider discussions about prognosis and treatment, provide opportunity for validation and future refinement of the tools, and promote evidence-based care for patients with this challenging disease,” said Michael Conte, MD, SVS editor for the global guidelines.

The apps are currently available at the App Store for those with Apple products.

References for this article may be found at vsweb.org/ CLTIAppReferences.

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