Executive Summary:

- The AHA/ACC Guidelines from 2011 (updated in 2016) make it clear that the Doppler method, which performs dual ankle pressures, is required to perform an ABI test that meets the Medicare requirement for reimbursement eligibility using CPT Codes 93922-93924.
- Regardless of method used, CPT 93922-93924 requires dual ankle pressures and waveforms.
- It is not commonly understood that CPT 93922-93924 requires two separate systolic arterial pressures (dorsalis pedis and posterior tibial) at each ankle.

Methods:

The most common frontline test to assess for the presence of PAD is the ankle brachial index (ABI). One obtains the ABI by measuring the systolic pressures at the brachial arteries and comparing these to the systolic pressures at the dorsalis pedis (anterior tibial) and posterior tibial arteries. For many patients, the ABI exam is a reliable and accurate PAD indicator. While the United States Preventive Services Task Force has never endorsed ABI for use as a screening tool for PAD or cardiovascular disease, all professional societies endorse the use of ABI in patients who are positive for risk indicators and signs/symptoms.

The PVR test requires the use of pressure cuffs that one can place at various levels. With each cardiac cycle, blood pumps throughout arteries. The PVR test uses a partially inflated pressure cuff to apply slight pressure to the limb. The impact of blood passing through the limb transfers to the pressure cuff where the cuff measures the impact as small changes in cuff pressure. The changes display as a PVR waveform. The amplitude and shape (pulse contour) of these waves provide an indication of blood volume in the limb arteries. The normal pulse volume recording is composed of a systolic upstroke with a sharp systolic peak followed by a downstroke that contains a prominent dicrotic notch. Changes in the pulse volume contour such as disappearance of the dicrotic notch and loss of a sharp systolic peak indicate proximal arterial obstruction and are due to the dissipated energy that occurs due to arterial narrowing. These changes can be a sign of PAD. One must perform bilateral PVRs in order to compare them to each other since disease can be different in both legs.
Myth: ‘An ABI Is An ABI’

In October 2012, the American Heart Association (AHA) published a scientific statement regarding the measurement and interpretation of ABI. The AHA Writing Committee’s review of the literature found multiple variations in technique for measuring and interpreting ABI, including different positions for the patient during measurement, different sizes of the arm and leg cuffs, different locations of the cuff on the extremity, and different methods of pulse detection.

Also, the committee found that not all physicians use the same ABI thresholds to diagnose peripheral disease. The Writing Committee disclosed that it is not commonly understood that ABI requires one to measure two separate systolic arterial (dorsalis pedis and posterior tibial) pressures at each ankle and the systolic brachial arterial pressures in both arms in order to compare the pressures in what becomes a comparative ratio. Specifically, the committee reviewed two methods used to report ABI and the literature showing that these methods had more significant clinical implications than are generally realized.

The Doppler method to calculate the ABI requires the use of continuous-wave Doppler probe for the detection of arterial flow. The clinician puts the probe into position over the artery of interest (brachial, dorsalis pedis (DP), posterior tibial (PT)). One then applies a pneumatic pressure cuff to the upper arm for the brachial assessment or to the ankle for the dorsalis pedis and posterior tibial assessment. Inflate the cuff to 20 mmHg above the pressure wherein blood flow stops and then deflate it slowly until there is reappearance of the Doppler flow signal (visual and/or audio). The corresponding cuff pressure is the systolic blood pressure. One records each of the three pressures bilaterally and uses them to calculate the ABI. The calculation for ABI requires the clinician to divide the higher of the posterior tibial or dorsalis pedis pressure by the higher of the arm systolic blood pressure, and report this ratio separately for each leg in patients with symptoms of PAD.

The Writing Committee also addressed other methods of performing ABI tests and these methods included the use of plethysmography, photoplethysmography, auscultation, and pulse palpation. The committee concluded that none were acceptable alternatives to Doppler ABI in terms of reproducibility, specificity and/or sensitivity, and that clinicians should not use them for clinical decision-making.
What You Should Know About The Medicare Requirements

As of January 1, 2011, Medicare issued the CPT code language for non-invasive physiologic peripheral artery tests (CPT code 93922/93923). The code underwent a significant change from previous language. These changes were intended to reflect the considerable clinical evidence relative to best practice when using ABI as part of the diagnostic array that is required to detect and manage PAD. To that end, the 2011 language identifies the specific methods, levels and arterial assessment locations required to generate a reimbursable ABI as part of an overall lower extremity arterial assessment. With the 2012 AHA Scientific Statement, these changes are fully explained and validated in terms of published evidence.

The CPT 2011 code makes it clear that the Doppler method is required to perform an ABI test that meets the Medicare requirement for reimbursement eligibility using CPT Codes 93922-93924. In addition to the CPT 2011 language change, several regional Medicare carriers revised the language in their local coverage determinations to specifically identify non-covered methods such as oscillometry or photoplethysmography.

Clinicians would use CPT code 93922 when performing a “limited” arterial study involving bilateral assessments on one to two levels on the lower extremity. One would employ CPT code 93923 when performing “complete” arterial study involving bilateral assessments on three or more levels on the lower extremity. The CPT code 93923 is also appropriate for a single level study with provocative functional maneuvers (i.e. reactive hyperemia).

For more information on the Medicare requirements for non-invasive physiologic arterial testing, you should contact your regional Medicare provider.

Reference: CPT 93922

Limited bilateral noninvasive physiologic studies of upper or lower extremity arteries, (eg, for lower extremity: ankle/ brachial indices at distal posterior tibial and anterior tibial/ dorsalis pedis arteries plus bidirectional, doppler waveform recording and analysis at 1-2 levels, or ankle/brachial indices at distal posterior tibial and anterior tibial/dorsalis pedis arteries plus volume plethysmography at 1-2 levels, or ankle/brachial indices at distal posterior tibial and anterior tibial/ dorsalis pedis arteries with transcutaneous oxygen tension measurements at 1-2 levels)