

# Putting Prevention into Practice

*An Evidence-Based Approach*

## Peripheral Artery Disease Screening and Cardiovascular Disease Risk Assessment with the Ankle-Brachial Index in Adults

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► See related U.S. Preventive Services Task Force Recommendation Statement at <http://www.aafp.org/afp/2014/1215/od1.html>.

This PPIP quiz is based on the recommendations of the USPSTF. More information is available in the USPSTF Recommendation Statement on the USPSTF website (<http://www.uspreventiveservicestaskforce.org>). The practice recommendations in this activity are available at <http://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/peripheral-arterial-disease-pad-and-cvd-in-adults-risk-assessment-with-ankle-brachial-index>.

This series is coordinated by Sumi Sexton, MD, Associate Medical Editor.

A collection of Putting Prevention into Practice published in *AFP* is available at <http://www.aafp.org/afp/ppip>.

**CME** This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz Questions on page 830.

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### Case Study

J.P. is a 40-year-old man with a 15 pack-year smoking history. His father has type 2 diabetes mellitus. J.P.'s vital signs, weight, and lipid levels are within normal limits. At his office visit, he brings an advertisement for a health fair with information on screening for peripheral artery disease (PAD) with the ankle-brachial index (ABI), and asks if he should be screened.

### Case Study Questions

- Based on the recommendations of the U.S. Preventive Services Task Force (USPSTF), which one of the following approaches to screening is most appropriate for this patient?
  - ☐ A. Screen annually for PAD with ABI if the patient remains asymptomatic.
  - ☐ B. Screen annually for PAD with ABI because there is high certainty that the net benefit is moderate.
  - ☐ C. Do not screen for PAD with ABI because there is no clinical indication for screening.
  - ☐ D. Discuss the benefits and harms of screening for PAD with ABI with the patient, and let him know that the current evidence is unclear about the balance of benefits and harms in asymptomatic persons.
- Based on the USPSTF's findings, which one of the following statements on screening for PAD with ABI is correct?
  - ☐ A. ABI is not a reliable screening tool, and there is convincing evidence that it does not lead to clinically important benefits.
  - ☐ B. ABI is a reliable screening tool, but there is convincing evidence that it does not lead to clinically important benefits.
  - ☐ C. ABI is a reliable screening tool, but there is inadequate evidence that it leads to clinically important benefits.
  - ☐ D. ABI is not a reliable screening tool, and there is inadequate evidence that it leads to clinically important benefits.
- Which of the following statements about PAD are correct?
  - ☐ A. The prevalence of PAD in asymptomatic persons is 10%.
  - ☐ B. PAD is a manifestation of systemic atherosclerosis.
  - ☐ C. PAD is not typically considered to be a predictor for other types of cardiovascular disease.
  - ☐ D. The natural history of screen-detected PAD is not well established.

Answers appear on the following page.

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### Answers

**1. The correct answer is D.** The USPSTF concluded that there is insufficient evidence to assess the balance of benefits and harms of screening for PAD with ABI in asymptomatic adults. Because the USPSTF found insufficient evidence, it does not recommend for or against screening. If screening for PAD with ABI is offered to asymptomatic patients, they should understand the uncertainty about the balance of benefits and harms.

**2. The correct answer is C.** The USPSTF found evidence that ABI measurement is a reliable screening tool for detecting PAD. However, the USPSTF found no evidence on whether screening for and early treatment of PAD in asymptomatic persons directly leads to clinically important benefits. Furthermore, the number of patients with an abnormal ABI who also have other conditions indicating a need for treatment, and whether there is value to these patients knowing they have an abnormal ABI, is not clear. The USPSTF found no studies that addressed the harms of screening for PAD with ABI, and found inadequate evidence on the harms of early treatment of screen-detected PAD. Thus, although ABI may be a reliable screening tool, the USPSTF concluded that the evidence on screening for PAD with ABI

in asymptomatic adults was insufficient and that the balance of benefits and harms could not be determined.

**3. The correct answers are B and D.** The prevalence of PAD in asymptomatic persons is not known. The natural history of screen-detected PAD is not well established. PAD is known to be a systemic manifestation of atherosclerosis, and is widely considered to be a predictor for other types of cardiovascular disease, including coronary artery disease and cerebrovascular disease. However, there is insufficient evidence to assess the balance of benefits and harms of screening for PAD.

The views expressed in this work are those of the authors, and do not reflect the official policy or position of the Uniformed Services University of the Health Sciences, the Department of Defense, or the U.S. government.

### SOURCES

U.S. Preventive Services Task Force. Screening for peripheral artery disease and cardiovascular disease risk assessment with ankle-brachial index in adults: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med.* 2013;159(5):342-348.

Lin JS, Olson CM, Johnson ES, Whitlock EP. The ankle-brachial index for peripheral artery disease screening and cardiovascular disease prediction among asymptomatic adults: a systematic evidence review for the U.S. Preventive Services Task Force. *Ann Intern Med.* 2013;159(5):333-341. ■

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