



# CLINICAL INQUIRIES

Evidence Based Answers  
from the Family Physicians  
Inquiries Network

## How should you evaluate an asymptomatic patient with a femoral or iliac artery bruit?

### Evidence-based answer

Perform an ankle-arm index (AAI, or ankle-brachial index) test to evaluate for peripheral artery disease (PAD) (strength of recommendation [SOR]: **B**, cohort studies). If the test detects PAD, recommend steps to modify cardiovascular risk factors (SOR: **B**, extrapolation from randomized clinical trials [RCTs]).

Additional vascular diagnostic evaluation is not indicated, because no evidence suggests that proceeding with limb revascularization will improve outcomes in limb pain or function (SOR: **C**, expert opinion). Not enough evidence exists to recommend routine screening for iliac and femoral arterial bruits.

### Evidence summary

PAD affects 7 million to 13 million Americans, or 3% to 18% of the population. Major risk factors include smoking, older age, hyperlipidemia, diabetes mellitus, obesity, cerebrovascular disease, coronary artery disease, hyperhomocysteinemia, and elevated C-reactive protein.<sup>1</sup> PAD may cause claudication, ulcers, impotence, or leg or thigh pain, although 20% to 50% of patients are asymptomatic.<sup>2</sup>

### Femoral artery bruit is better predictor of PAD

Further evaluation of an incidental iliac or femoral artery bruit helps assess the patient's risk of arterial disease. Auscultation of the femoral arteries for a bruit in asymptomatic patients is a moderately good predictor of PAD (likelihood ratio [LR]=4.80; 95% confidence interval [CI], 2.40-9.50). The absence of a bruit doesn't exclude disease, however (LR=0.83; 95% CI, 0.73-0.95).<sup>3</sup> Auscultation of an iliac artery bruit is a more

modest predictor of disease (LR=2.2, no CI provided).<sup>4</sup>

One study of 78 patients showed that a femoral or iliac artery bruit accompanied by either thigh claudication or an abnormal femoral pulse predicted PAD. Patients with 2 out of 3 of these clinical findings had an 83% incidence of aortoiliac disease; the incidence was 100% in patients with all 3 findings.<sup>5</sup>

Another study showed that bruits between the epigastrium and popliteal fossa were found in 63% of 309 patients with arterial disease, but only 7% of 149 patients without PAD diagnosed by AAI or angiogram.<sup>6</sup>

### Follow up a bruit with AAI testing

Patients with femoral or iliac artery bruits should undergo AAI testing to assess the severity of disease. The AAI has 95% sensitivity and almost 100% specificity in identifying PAD, compared with angiography.<sup>3</sup> An AAI >0.90 is considered normal. An AAI of 0.71 to 0.90 indicates mild dis-

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### FAST TRACK

**A femoral or iliac artery bruit in an asymptomatic patient warrants evaluation for peripheral artery disease with the ankle-arm index test.**

ease, 0.41 to 0.70 indicates moderate disease, and  $\leq 0.40$  indicates severe disease.

### Manage risk factors aggressively

Although no studies show specifically that modifying risk factors in a patient with asymptomatic PAD affects long-term outcomes, aggressive risk factor management is recommended because PAD is highly associated with cerebrovascular and coronary artery disease.<sup>1</sup> No data suggest that treating asymptomatic PAD improves future limb pain or function.

### Recommendations

The American College of Cardiology/American Heart Association 2005 Guidelines for the Management of Patients With Peripheral Arterial Disease<sup>2</sup> make the following recommendations for patients with asymptomatic lower extremity PAD:

- Identify patients with asymptomatic lower extremity PAD by examination or by measuring the ankle-brachial index so therapeutic interventions known to reduce the risk of myocardial infarction, stroke, and death can be offered (level of evidence [LOE]: B).
- Address smoking cessation, lipid lowering, and diabetes and hypertension

treatment according to national guidelines (LOE: B).

- Consider antiplatelet therapy to reduce the risk of adverse cardiovascular ischemic events (LOE: C).

The United States Preventive Services Task Force recommends against routine screening for PAD (D recommendation).<sup>7</sup> ■

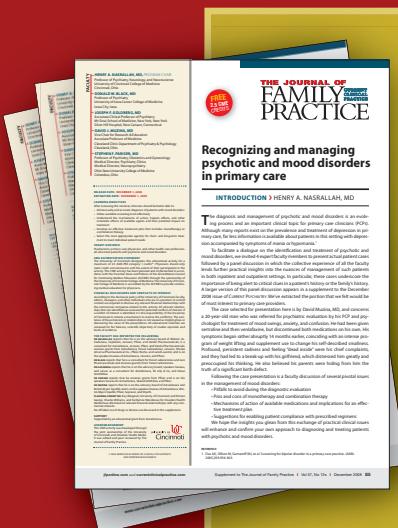
### Acknowledgments

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