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Pitfalls of Direct-to-Consumer Vascular Screening Tests

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In this issue of *American Family Physician*, Drs. Keisler and Carter review screening, diagnostic criteria, and treatments for abdominal aortic aneurysms (AAAs).¹ Because clinically significant AAAs are most prevalent in older men and because the mortality rate from a ruptured AAA is high, the U.S. Preventive Services Task Force (USPSTF) recommends one-time screening with ultrasonography in men 65 to 75 years of age who have ever smoked (B recommendation), and selective screening in men 65 to 75 years of age who have never smoked (C recommendation).² AAA screening is the only vascular screening test recommended by the USPSTF and only in the population defined here. The USPSTF recommends against routine screening for cardiac, carotid, or peripheral arterial disease in the general population or in specific patient subsets based on current evidence.³⁻⁵ In addition, echocardiographic screening provides neither mortality benefit nor risk reduction for myocardial infarction or stroke in the general population.^{6,7}

Despite the lack of evidence to support vascular screening in the general population, direct-to-consumer screening companies have sold packages of vascular screening tests to millions in the general population in recent years.⁸ When patients receive their test results, they are encouraged to discuss these results with their physician. Thus, family physicians and other primary care clinicians are often recipients of patients' anxiety and questions about the tests they purchased that may not have been indicated in the first place. For patients who have yet to purchase these tests but have been intrigued by advertisements such as

"Stay Stroke Free," they may ask if we recommend purchasing the tests or ask us to order the tests so that insurance will pay for them. Although insurance will cover one-time AAA screening in men 65 to 75 years of age who have smoked, insurance is unlikely to cover any additional vascular screenings offered by direct-to-consumer screening companies because there is no evidence and no reputable guidelines to support these screenings in the general population.

Many patients are particularly vulnerable to newspaper and direct mail advertisements offering bargain prices for several vascular tests that "could save your life." With websites full of patient testimonials, these direct-to-consumer screening companies prey on the misinformed public by offering testing that is not indicated, without informing their customers for whom and under what circumstances prevailing medical evidence suggests screening is most appropriate.⁹ Patients wonder what to do after tests show noncritical AAAs or mild carotid stenosis. Rather than provide reassurance, these tests may open a Pandora's box of anxiety and follow-up testing that would most likely have been avoided if the patient had been properly risk-stratified to undergo screening—something that commercial screening companies diligently avoid. Their business model of nonstratified screening of the general population may be why public awareness of the potential harms of screening is growing.¹⁰

We recommend that family physicians and other primary care clinicians use discussions of commercial screening tests as teachable moments to raise awareness about when screening is or is not appropriate. Such discussions could easily be steered toward the Choosing Wisely campaign, which offers scores of tests and treatments to avoid based on scientific evidence of nonbenefit or outright harm.¹¹ Furthermore, because commercial screening companies see fit to refer all patients to primary care (absolving themselves of ongoing responsibility), this presents an important opportunity to enhance the ►

trust of the doctor-patient relationship and reclaim our commitment to patient advocacy.

As concerned primary care physicians, we should take a more active role in educating the public and our patients about the risks of nonindicated screening tests before those purchases are made. Harms of downstream testing or treatment for a positive test result are real and significant. These risks and complications are clearly described in a man who received an appropriate AAA screening ultrasonography and subsequently had major complications following his surgery.¹² Discussions of the risks and benefits of any testing should be our responsibility before testing is ordered, and not after patients have been lured through powerful advertising to purchase testing with a false sense of benefit.

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REFERENCES

1. Keisler B, Carter C. Abdominal aortic aneurysm. *Am Fam Physician*. 2015;91(8):538-543.
2. LeFevre ML; U.S. Preventive Services Task Force. Screening for abdominal aortic aneurysm: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med*. 2014;161(4):281-290.
3. LeFevre ML; U.S. Preventive Services Task Force. Screening for asymptomatic carotid artery stenosis: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med*. 2014;161(5):356-362.
4. Moyer VA; U.S. Preventive Services Task Force. Screening for coronary heart disease with electrocardiography: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med*. 2012;157(7):512-518.
5. U.S. Preventive Services Task Force. Screening for peripheral arterial disease: a recommendation statement. *Am Fam Physician*. 2006;73(3):497-500.
6. Lindekleiv H, Løchen ML, Mathiesen EB, Njølstad I, Wilsgaard T, Schirmer H. Echocardiographic screening of the general population and long-term survival: a randomized clinical trial. *JAMA Intern Med*. 2013;173(17):1592-1598.
7. Michos ED, Abraham TP. Echoing the appropriate use criteria: the role of echocardiography for cardiovascular risk assessment of the asymptomatic individual. *JAMA Intern Med*. 2013;173(17):1598-1599.
8. Kent KC, Zwolak RM, Egorova NN, et al. Analysis of risk factors for abdominal aortic aneurysm in a cohort of more than 3 million individuals. *J Vasc Surg*. 2010;52(3):539-548.
9. Wallace EA, Schumann JH, Weinberger SE. Ethics of commercial screening tests. *Ann Intern Med*. 2012;157(10):747-748.
10. Welch HG, Schwartz L, Woloshin S. *Overdiagnosed: Making People Sick in the Pursuit of Health*. Boston, Mass.: Beacon Press; 2011.
11. Choosing Wisely. <http://www.choosingwisely.org/wp-content/uploads/2013/02/Choosing-Wisely-Master-List.pdf>. Accessed November 13, 2014.
12. Prasad V. An unmeasured harm of screening. *Arch Intern Med*. 2012;172(19):1442-1443. ■

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