Partnership for HEALTH

Heart and Circulation Clinician Fact Sheet

Screening for Abdominal Aortic Aneurysm

Your patients rely on you for accurate, up-to-date preventive health information. This fact sheet for clinicians provides information about screening for abdominal aortic aneurysm and is designed to complement the patient brochure:

- *Talk With Your Health Care Provider About Screening for Abdominal Aortic Aneurysm*

Who should be screened for Abdominal Aortic Aneurysm?

The US Preventive Services Task Force recommends one-time screening for abdominal aortic aneurysm (AAA) for men aged 65–75 who have smoked at least 100 cigarettes in their lifetime.

Screening should be routinely recommended only when a positive *net benefit* (benefits outweigh harms) exists. There is good evidence that screening and surgical repair of large aneurysms (5.5 cm or greater) in men 65–75 years of age who have ever smoked leads to decreased AAA-related deaths.

- Only men aged 65–75 who have ever smoked have a *net benefit* from screening for AAA. This group stands to benefit the most from early detection and reparative surgical treatment due to a relatively higher prevalence of larger AAAs compared to other patient groups.
- Men aged 65–75 who have never smoked and men age <65 are at lower risk for AAAs, particularly AAAs of a size likely to rupture.
- Men age >75 are at higher risk for AAAs, but the increased presence of comorbidities and limited life expectancy decreases the likelihood that they will benefit from screening.
- Women are at lower risk for AAAs. Thus, the net benefit from screening is small and routine screening is NOT RECOMMENDED.

What should I know about AAA?

AAA is expansion of the aorta below the renal arteries to a diameter of 3.0 cm or larger.

The prevalence of aneurysms detected through screening among VA patients age 50–79 is as follows:

AAA Size (cm)	Prevalence
3.0–3.9	2.9%
4.0–5.4	1.0%
≥5.5	0.3%

Source: Lederle et al. The Aneurysm Detection and Management Study Screening Program. Validation Cohort and Final Results. Arch Intern Med. *2000; 160:1425-1430.*

The main risk of an aneurysm is rupture. Most (75–90%) individuals with ruptured AAAs do not survive to hospital discharge. The risk of rupture is proportional to aneurysm size. Larger aneurysms are more likely to rupture than smaller aneurysms. Studies have documented benefit from surgical repair of aneurysms 5.5 cm and larger.

What are the benefits and harms from screening for AAA?

Randomized controlled trials that evaluated the benefit of screening found a AAA-related mortality rate of 0.33% in an unscreened population versus 0.19% in a screened population. Therefore, the absolute reduction in mortality due to screening is 0.14% (a relative decrease of 43%). Screening for AAA does not reduce all-cause mortality. Harms from screening include the morbidity and mortality from surgical repair for those with aneurysms needing treatment. Among men aged 65–75 who have ever smoked, the number needed to screen to prevent one AAA-related death within the next 5 years is 500.

Source: U.S. Preventive Services Task Force. Screening for abdominal aortic aneurysm: recommendation and rationale statement. Ann Intern Med. *2005 Feb 1; 142(3):198-202.*

What is the screening test for AAA?

- Ultrasound has good accuracy and is the preferred screening modality (sensitivity ~95%, specificity ~100%).
- Abdominal palpation has poor accuracy and is not recommended for screening.
- CT or MRI ordered for other indications can be used for AAA screening as long as the infrarenal aorta was visualized and measured.
- Men aged 60-65 who have had an abdominal imaging test for other indications do not need to be rescreened between age 65–75 if the aortic diameter was adequately evaluated and found to be normal.

How do I talk with patients about getting screened for AAA?

- Help men aged 65–75 who have ever smoked work through the decision to be screened by presenting the risks and benefits of AAA screening and treatment with surgery.
- Patients who are not in the target population for screening may inquire about getting screened for AAA. Assess whether the patient has any factors that would warrant AAA screening.
- Finally, if the patient is currently smoking, offer assistance with quitting. See the following website for tools and resources to help you assist your patients with quitting: http://www.publichealth.va.gov/smoking/publications.asp. You can also refer patients to the national quitline at 1-800-QUIT-NOW (1-800-784-8669).

What should I do with AAA screening test results?

Normal screening exam (< 3.0 cm)

If the exam is normal (i.e., maximal aortic diameter < 3 cm), no further screenings are ever required.

Small to medium-sized aneurysm detected (3.0–5.4 cm)

These aneurysms will need surveillance since they are at risk of becoming larger. The typical expansion rate is ~ 0.3–0.4 cm per year, on average. Larger aneurysms expand faster than smaller ones so surveillance intervals depend on size.

AAA Size	Surveillance interval
3.0–3.9 cm	2–3 years
4.0–5.4 cm	6 months

Source: Lederle et al. Ultrasonographic Screening for Abdominal Aortic Aneurysms. Ann Intern Med. *2003 1396:516-522.*

Two randomized trials have shown no mortality benefit from immediate surgical repair of aneurysms 4.0–5.4 cm in size, compared to periodic surveillance. Providers and patients should engage in shared decision-making about management of these medium-sized aneurysms.

A patient's health status may change during the surveillance period. Continued AAA surveillance should occur only if the patient remains a good surgical candidate and has a reasonable life expectancy.

Large aneurysm detected (≥ 5.5 cm)

Patients with these aneurysms should be referred for surgical evaluation. Surgical mortality from elective, open AAA repair is 4–5% and about one-third of patients experience major complications including cardiac, pulmonary, and GU (impotence) problems. Endovascular aneurysm repair (EVAR) is also an option, but short-term benefits of EVAR should be balanced against its long-term complications, increased risk for reintervention, and requirement for periodic lifetime CT surveillance.

U.S. Department of Veterans Affairs
Veterans Health Administration, Office of Patient Care Services
National Center for Health Promotion and Disease Prevention
www.prevention.va.gov

U.S. Department of Health and Human Services
Agency for Healthcare Research and Quality
US Preventive Services Task Force
www.preventiveservices.ahrq.gov

April 2009