Screening for Abdominal Aortic Aneurysm

The US Preventive Services Task Force (USPSTF) recently published recommendations on screening for abdominal aortic aneurysm (AAA).

What Is an Abdominal Aortic Aneurysm?
The aorta is a very large blood vessel that carries blood from the heart to the rest of the body. The abdominal aorta is the part of the aorta that travels through the abdomen (belly). An aneurysm is an abnormal enlargement of part of a blood vessel. In an adult, the abdominal aorta is normally about 2 cm in diameter; an AAA is defined as a part of the abdominal aorta that is more than 3 cm in diameter.

Risk factors for AAA include being male, older, or a smoker or former smoker; having high blood pressure; or having a family history of AAA. The biggest concern with an AAA is that it can rupture and cause major internal bleeding, which can be fatal. A ruptured AAA is a surgical emergency. Most AAAs do not cause symptoms until they rupture, which is why they are so dangerous. The larger an AAA is, the higher chance it has of rupturing. Therefore, large AAAs should be surgically repaired before they rupture.

What Test Is Used to Screen for AAA?
The primary way of screening for AAA is with ultrasound of the abdomen. This test is noninvasive, does not involve radiation, and is highly accurate in detecting AAA.

What Is the Patient Population Under Consideration for Screening for AAA?
This USPSTF recommendation applies to adults aged 50 years or older who do not have any signs or symptoms of AAA.

What Are the Potential Benefits and Harms of Screening for AAA?
The potential benefit of screening for AAA is detecting and repairing it before rupture, which requires emergency surgery and has a high mortality rate. AAAs are most common in men aged 65 to 75 years who have ever smoked, occurring in approximately 7% of this population. The definition of having ever smoked varies, but most studies use 100 cigarettes as a cutoff. For this group in particular, there is moderate evidence that screening reduces AAA-related mortality, rupture, and emergency surgery. Potential harms of screening include harms of surgical repair, such as bleeding complications or death. For unclear reasons, these surgical complications are more common in women than in men.

How Strong Is the Recommendation to Screen for AAA?
Based on current evidence, the USPSTF concludes with moderate certainty that screening for AAA in men aged 65 to 75 years who have ever smoked is of moderate net benefit. For men aged 65 to 75 years who have never smoked, the USPSTF concludes with moderate certainty that screening is of small net benefit. For women who have never smoked and have no family history of AAA, there is adequate evidence that there is no net benefit of screening. For women aged 65 to 75 years who have ever smoked or have a family history, there is not enough evidence to assess the balance of benefits and harms of screening.

Screening for Abdominal Aortic Aneurysm (AAA)

- **Population**
  - Adults aged 50 years or older who do not have any signs or symptoms of AAA

- **USPSTF recommendation**
  - The USPSTF recommends one-time screening for AAA with ultrasound in men aged 65 to 75 years who have ever smoked.
  - For men aged 65 to 75 years who have never smoked, the USPSTF recommends that clinicians selectively offer screening, considering the balance of benefits and harms based on medical history, family history, and personal values, rather than routinely screening all men in this group.
  - The USPSTF recommends against routine screening for AAA in women who have never smoked and have no family history.

- **For women aged 65 to 75 years who have ever smoked or have a family history**, current evidence is insufficient to assess the balance of benefits and harms of screening for AAA.

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