

Putting Prevention into Practice

An Evidence-Based Approach

Screening for Prostate Cancer

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Case Study

A.E., a 57-year-old black man, comes to your office for an annual visit. He has a history of diabetes mellitus, has never smoked, and has no family history of prostate cancer. He is current with preventive services, including screening for colorectal cancer and counseling for a healthy diet and physical activity, his diabetes is well controlled, and he has no concerning signs or symptoms. His best friend, who is 60 years of age, was recently diagnosed with prostate cancer after being screened with the prostate-specific antigen (PSA) test. A.E. has never been screened for prostate cancer and would like to discuss the PSA test.

Case Study Questions

1. According to the U.S. Preventive Services Task Force (USPSTF) recommendation on screening for prostate cancer, how should you proceed with this patient?
 - A. You should request a PSA test and then discuss other concerns.
 - B. He should be screened with a baseline PSA test because of his higher risk of prostate cancer.
 - C. You should discuss the benefits and harms of screening, his values, and other health needs and then order a PSA test if he expresses a preference for screening.
 - D. He should not be screened because harms outweigh benefits.
 - E. He should be screened because the harms are minimal.
2. Which of the following statements about the benefits and harms of screening for prostate cancer are correct?
 - A. An estimated 20% to 50% of screen-detected prostate cancer cases result in overdiagnosis.
 - B. Screening for prostate cancer has been shown to reduce all-cause mortality.
 - C. There is adequate evidence that screening for prostate cancer with digital rectal examination is beneficial.
 - D. The harms of screening for prostate cancer include false-positive results and possible subsequent prostate biopsy, overdiagnosis, and harms of treatment, such as urinary incontinence and erectile dysfunction.

See related editorial on page 478 and U.S. Preventive Services Task Force Recommendation Statement at <https://www.aafp.org/afp/2018/1015/od1.html>.

This PPIP quiz is based on the recommendations of the USPSTF. More information is available in the USPSTF Recommendation Statement and supporting documents on the USPSTF website (<https://www.uspreventiveservicestaskforce.org>). The practice recommendations in this activity are available at <https://screeningforprostatecancer.org/>.

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CME This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz on page 484.

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3. After discussion, A.E. decides not to undergo screening at this time; he returns to your office at 75 years of age. There are no changes in his history or physical examination findings, and he asks whether he should now be screened for prostate cancer. Which one of the following recommendations is appropriate?

- A. He should be screened because the benefits of screening for prostate cancer in men 70 years and older outweigh the harms.
- B. He should be screened because the harms of screening in men 70 years and older have a similar magnitude as those of screening in younger men and therefore a similar net benefit.
- C. He should be screened because new evidence shows that one-time screening in men 70 years and older is beneficial.
- D. He should be screened until 79 years of age because he is a black man who is at higher risk.
- E. He should not be screened because PSA-based prostate cancer screening has no net benefit for prostate cancer mortality in men 70 years and older.

Answers

1. The correct answer is C. For men 55 to 69 years of age, the decision to undergo periodic PSA-based screening for prostate cancer should be an individual one (C recommendation). There is adequate evidence that PSA-based screening provides benefit for some men. Screening programs in men 55 to 69 years of age may prevent about 1.3 deaths from prostate cancer per 1,000 men screened over about 13 years and prevent about three cases of metastatic prostate cancer per 1,000 men screened. However, there are harms from screening and treatment; about one in five men who undergo radical prostatectomy will develop long-term urinary incontinence, which requires the use of incontinence pads, and two in three men will experience long-term erectile dysfunction. Before deciding whether to be screened, men should have an opportunity to discuss the potential benefits and harms of screening with their physician and to incorporate their values and preferences in the decision. In determining whether screening is appropriate in individual cases, patients and physicians should consider the balance of benefits and harms on the basis of family history, race/ethnicity, comorbidities, patient values about

the benefits and harms of screening and treatment-specific outcomes, and other health needs.¹ Black men have an increased lifetime risk of prostate cancer death compared with men of other races/ethnicities, but there is no evidence that routine screening in this population leads to greater benefits than harms.

2. The correct answers are A and D. An estimated 20.7% to 50.4% of screen-detected cancer cases result in overdiagnosis.² Screening offers a small potential benefit of reducing the risk of death from prostate cancer in some men (but not all-cause mortality). The use of digital rectal examination as a screening modality is not recommended because there is a lack of adequate evidence on the benefits; digital rectal examination was eliminated from or not included in major screening trials.¹ Many men will experience harm from screening, including false-positive results that require additional testing and possible prostate biopsy; overdiagnosis and overtreatment; and treatment complications, such as incontinence and erectile dysfunction.²

3. The correct answer is E. Older age, black race, and family history are known risk factors for prostate cancer. However, adequate evidence from randomized clinical trials is consistent with no benefit of PSA-based prostate cancer screening on prostate cancer mortality in men 70 years and older. The newest screening trial evaluated one-time screening with the PSA test and did not enroll men older than 69 years. The harms of screening in men 70 years and older are greater than in younger men because of increased risk of false-positive results, harms from diagnostic biopsy, and harms from treatment. Therefore, the USPSTF recommends against routine screening for prostate cancer in men who are 70 years and older, including black men.¹

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.

References

1. US Preventive Services Task Force. Screening for prostate cancer: US Preventive Services Task Force recommendation statement [published correction appears in *JAMA*. 2018;319(23):2443]. *JAMA*. 2018;319(18):1901-1913.
2. Fenton JJ, Weyrich MS, Durbin S, Liu Y, Bang H, Melnikow J. Prostate-specific antigen-based screening for prostate cancer: evidence report and systematic review for the US Preventive Services Task Force. *JAMA*. 2018;319(18):1914-1931. ■