

# Putting Prevention into Practice

*An Evidence-Based Approach*

## Screening for Breast Cancer

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► See related U.S. Preventive Services Task Force Recommendation Statement at <http://www.aafp.org/afp/2016/0415/od1.html>.

This PPIP quiz is based on the recommendations of the USPSTF. More information is available in the USPSTF Recommendation Statement and the supporting documents on the USPSTF website (<http://www.uspreventiveservicestaskforce.org>). The practice recommendations in this activity are available at <http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/breast-cancer-screening1>.

This series is coordinated by Sumi Sexton, MD, Associate Deputy Editor.

A collection of Putting Prevention into Practice published in *AFP* is available at <http://www.aafp.org/afp/ppip>.

**CME** This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz Questions on page 90.

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### Case Study

S.O. is a 47-year-old woman who presents to your office for a well-woman visit. She is healthy, takes no medications, and has no health concerns. She has never been diagnosed with breast cancer, nor have any of her first-degree relatives. Her digital mammography two years ago was negative, and she asks whether she should be screened again this year.

### Case Study Questions

1. According to the U.S. Preventive Services Task Force (USPSTF), which one of the following approaches to screening is appropriate for this patient?

- A. There is insufficient evidence to assess the balance of benefits and harms of screening mammography for this patient.
- B. Do not screen for breast cancer, because she has no symptoms.
- C. Do not screen for breast cancer, because she is not at increased risk of the disease.
- D. If the patient places a higher value on the potential benefit than the potential harms, she may choose to undergo screening mammography again.
- E. Do not screen for breast cancer until she is 50 years of age, because at her current age, the harms outweigh the benefits.

2. The patient decides to undergo screening mammography again, and her breast density is categorized as heterogeneously dense. (The mammography result is otherwise negative.) According to the USPSTF, which one of the following responses is appropriate for this patient?

- A. Inform the patient that this is an incidental finding and has no bearing on her screening results.
- B. Recommend adjunctive (i.e., follow-up) breast ultrasonography this year.
- C. Recommend digital breast tomosynthesis (DBT) for future screening.
- D. Recommend adjunctive breast magnetic resonance imaging this year.
- E. Inform the patient that the evidence is unclear regarding her best screening strategy.

3. Which of the following statements best reflect the epidemiology of breast cancer in the United States?

- A. In 2015, an estimated 40,000 women died of breast cancer.
- B. Among women 40 to 49 years of age, having a first-degree relative with breast cancer is associated with an approximate twofold risk of breast cancer.
- C. The median age of death from breast cancer is 68 years.
- D. Women with a history of chest radiation at a young age have a similar risk of developing breast cancer as that of women without such history.

Answers appear on the following page.

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### Answers

**1. The correct answer is D.** The USPSTF concluded with moderate certainty that the net benefit of screening mammography in the general population of women 40 to 49 years of age is positive but small. This recommendation applies to women who are asymptomatic, who do not have preexisting breast cancer or a high-risk breast lesion such as ductal carcinoma in situ, and who are not otherwise at high risk of breast cancer. For women who are at average risk, most of the benefit of mammography results from biennial screening from 50 to 74 years of age. Although screening mammography in women 40 to 49 years of age may reduce the risk of breast cancer death, the number of deaths averted is smaller than that in older women, and the number of false-positive results and unnecessary biopsies is larger. In this age group, the USPSTF recommends that the decision to start screening mammography should be an individual one, and women who place a higher value on the potential benefit than the potential harms may choose to begin biennial screening (C recommendation). For women 50 to 74 years of age, the USPSTF concluded with moderate certainty that there is a moderate net benefit to biennial screening mammography (B recommendation).

**2. The correct answer is E.** The USPSTF found insufficient evidence to assess the balance of benefits and harms of adjunctive screening for breast cancer using breast ultrasonography, magnetic resonance imaging, DBT, or other methods in women identified to have dense breasts on otherwise negative screening mammography (I statement). In addition, the USPSTF found insufficient evidence to assess the balance of benefits and harms of DBT as a primary breast cancer screening method, regardless of breast density (I statement). Increased breast density is a risk factor for developing breast cancer, and decreases the sensitivity and specificity of mammography for detecting cancer. Approximately 43% of U.S. women 40 to 74 years of age are classified as having heterogeneously or extremely dense breasts (Breast Imaging Reporting and Data System, or BI-RADS, classification of c and d, respectively). However, the USPSTF found that women with dense breasts who develop breast cancer do not have an increased risk of dying from the disease, after adjustment for other

important risk factors, and that most positive results from adjunctive screening are false positives. Although 24 states currently require patient notification of breast density status when mammography is performed, no clinical practice guidelines explicitly recommend adjunctive screening in women identified to have dense breasts on otherwise negative screening mammography, and the current evidence is insufficient to recommend a specific screening strategy for these patients.

**3. The correct answers are A, B, and C.** Breast cancer is the second-leading cause of cancer death among women in the United States. In 2015, an estimated 232,000 women were diagnosed with the disease, and 40,000 women died of it. Breast cancer is most commonly diagnosed in women 55 to 64 years of age, and the median age of death from the disease is 68 years. The USPSTF recommendations on breast cancer screening apply to asymptomatic women 40 years or older who do not have preexisting breast cancer or a previously diagnosed high-risk breast lesion (such as ductal carcinoma in situ). Women with a known underlying genetic mutation (such as a *BRCA1* or *BRCA2* gene mutation or other familial breast cancer syndrome) or a history of chest radiation at a young age are at high risk of breast cancer, and the USPSTF recommendations do not apply to these women. Finally, women with a parent, sibling, or child with breast cancer are at higher risk of breast cancer themselves, and thus may benefit more than average-risk women from beginning screening in their 40s. Women in their 40s who have a first-degree relative with breast cancer have an approximate twofold risk of developing breast cancer.

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.

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### SOURCES

U.S. Preventive Services Task Force. Screening for breast cancer: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med.* 2016;164(4):279-296.

Nelson HD, Fu R, Cantor A, Pappas M, Daeges M, Humphrey L. Effectiveness of breast cancer screening: systematic review and meta-analysis to update the 2009 U.S. Preventive Services Task Force recommendation. *Ann Intern Med.* 2016;164(4):244-255. ■