How often should women be screened for breast cancer?

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Series Editor

Principle Source: Smith RA, Cokkinides V, Brooks D, et al. Cancer screening in the United States, 2010: a review of current American Cancer Society guidelines and issues in cancer screening. CA Cancer J Clin. 2010;60(2):99-119.

Breast cancer is the most widespread cancer effecting women in the United States.[1] The high prevalence and inherent "cost" of breast cancer mandates physicians to be aware of effective screening tools, existing guidelines, and potential adverse effects.

Mammography screening and improvements in breast cancer treatments have contributed to improved survival rates, but[2,3] mammography screening has declined since 2000. Potential reasons for this decrease include:

- poor access to medical care
- fear of radiation exposure
- concern of undesirable test results
- anticipated pain
- misconceptions of cancer risk
- changes in recommendations regarding mammography screening.

Patients with psychiatric illnesses are less likely to receive mammography screening.[4,5] Cancer patients with schizophrenia, particularly women with breast cancer, have an increased risk of mortality.[6]

Risk assessment

Age, genetic predisposition, and factors that affect endogenous estrogen exposure such as early menarche, late menopause, and nulliparity are among the most important breast cancer risk factors ***(Table 1)***. Explore these and other risk factors with your patient before making screening recommendations.

Tools such as the Breast Cancer Risk Assessment Tool (BCRAT) can assist in stratifying your patient's risk. The BCRAT, available at www.cancer.gov/bcrisktool, takes into account, age, race, family history, and previous breast abnormalities. Women at average risk for breast cancer include those with an estimated lifetime risk of <15%. Women with an estimated lifetime risk of 15% to 20% are at moderate risk. Women >20% are at high risk and should consider more intensive screening ***(Table 2, page 22)***.[7,8]

Other examples of high-risk features include chest radiation therapy (eg, for Hodgkin's lymphoma) between age 10 to

Practice Points

- Starting at age 20, women **should undergo clinical breast exam every 3 years** and be counseled about awareness of breast changes.
- **Average risk women** should undergo clinical breast examination and screening mammography annually starting at age 40.
- Health care providers should **inform women about the benefits and limitations** of mammography and the potential for false positives.
- Women at high risk include those with inherited susceptibility to breast cancer or chest radiation at a young age. They should be **screened with mammography and breast MRI annually starting at age 30.**

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30 or a breast cancer 1, early onset (BRCA1) or breast cancer 2, early onset (BRCA2) mutation carried by the patient or a first-degree family member, which can leave patients more susceptible to breast cancer.

Breast cancer screening

Choice of screening is guided by an individualized risk assessment. For women with average risk for breast cancer, the major components of breast cancer screening are clinical breast examination (CBE) and screening mammography.

Breast self-examination is not routinely recommended by expert groups. The American Cancer Society (ACS) recommends that clinicians discuss the benefits and limitations of breast self-exam with patients. The National Comprehensive Cancer Network (NCCN) recommends that women maintain breast health awareness but no longer advocates instruction in self-examination.

CBE by a trained provider, when coupled to routine screening mammography, may add modest benefit in terms of detecting cancer. The ACS and the NCCN suggest CBE along with annual mammography for all women starting at age 40.

Mammography has been to shown to reduce breast cancer mortality.[8] A United States Preventive Services Task Force (USPSTF) review found statistically significant reductions in breast cancer mortality for women age 39 to 69.[9]

Because the USPSTF found a small net benefit of screening mammography in women age 40 to 49, their recent guidelines recommend against routine mammograms for this age group. Instead, the USPSTF suggests that screening be based on individualized risk assessment and discussion of the benefits and risks (false positive tests, overdiagnosis, and psychological harms) of screening.[10] Other groups continue to recommend annual mammography starting at age 40 for women at average risk ***(Table 2, page 22).***

MRI is more sensitive screening than mammography and the combination of MRI and routine mammograms is more sensitive than either test alone. In 2007, the ACS recommended annual breast MRI screening in addition to mammogram for women at high risk for breast cancer ***(Table 2, page 22)***. For women with moderately increased risk (15% to 20% lifetime) there is insufficient evidence to recommend for or against MRI for screening, but one may consider it on a case-by-case basis; for example, for women with personal history of breast cancer, atypical hyperplasia, or with mammographically dense breasts.

Table 1

Breast cancer risk factors

Female sex
Older age
Genetic risk factors (eg, BRCA1 and BRCA2 gene mutation)–5% to 10% of breast cancers
Family history of breast cancer
Personal history of breast cancer
Race (eg, Whites have highest incidence, African Americans have highest mortality)
Certain benign breast diseases (eg, atypical hyperplasia)
Early menarche, late menopause
Prior chest radiation (eg, for Hodgkin's lymphoma; especially age 10 to 30)
Nulliparity, late child-bearing
Oral contraceptive use
Hormone replacement therapy (combined estrogen/progesterone)
Not breastfeeding
Alcohol (2 to 5 drinks daily increases risk 1.5 times)
Obesity

BRCA1: breast cancer 1, early onset; BRCA2: breast cancer 2, early onset

Source: Adapted from the American Cancer Society; available at www.cancer.org

Potential harms

Potential mammography harms include the possibility of a false positive result, anxiety as one awaits the test result, and anticipation of discomfort associated with the procedure. There also is the potential for "overdiagnosis" or detection of a cancer that would not have adversely impacted the patient if it had not been discovered. There is also a small risk of radiation exposure

Clinical Point

Patients suffering from psychiatric illnesses such as depression and schizophrenia are less likely to receive mammograms

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Table 2

American Cancer Society breast cancer screening recommendations

	Women at average risk*	Women at high risk*
Breast self-exam	Not routinely recommended. Discuss the benefits and limitations starting with patients in their 20s. Emphasize the importance of reporting new breast symptoms to a health care provider	
Clinical breast exam	At least every 3 years for women in their 20s and 30s. Annually starting at age 40	Annually, starting at age 30
Mammography	Annually, starting at age 40	Annually, starting at age 30
Breast MRI	Not recommended	Annually, starting at age 30, along with mammogram

*Women at average risk for breast cancer include those with an estimated lifetime risk of <15%. Women with an estimated lifetime risk of 15% to 20% are at moderate risk. Women >20% are at high risk and should consider more intensive screening

Source: References 7,8, American Cancer Society (www.cancer.org)

Clinical Point

ACS and NCCN continue to recommend annual mammography starting at age 40 for women at average risk

Related Resource

- National Cancer Institute. www.cancer.gov.

Disclosure

The authors report no financial relationship with any company whose products are mentioned in this article or with manufacturers of competing products.

from repeated mammograms, but this has not been firmly established in the literature.

False-positive results—an abnormal finding on mammogram that does not result in a breast cancer diagnosis—is a significant issue. One study estimated that 11% of screening mammograms return abnormal findings that lead to additional workup, the majority (90%) of which ultimately result in benign diagnoses.[11] Workup often leads to additional mammograms, ultrasound, breast MRI, and invasive procedures such as needle biopsies. False-positive mammograms have been associated with increased symptoms of depression and anxiety.[12] Patients may be more apprehensive about breast cancer following a false-positive result, but this does not appear to lead to chronic anxiety.[13]

The vulnerability of patients experiencing psychiatric illness coupled with the potential psychological consequences of breast cancer make it imperative that psychiatrists remain up-to-date on breast cancer screening guidelines. Reported poor adherence to screening recommendations for mammography may increase the burden of illness and mortality from breast cancer in individuals with mental illness.

Conversations about health maintenance measures always should include careful discussion of the benefits and potential harms associated with the recommended screening tools. Because psychiatrists work closely with patients who may be less likely to undergo mammography, it is important to provide support and advocate for access to health care screening.

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Table 3

Number needed to screen (NNS) with mammography to prevent 1 breast cancer death

Age	NNS
39 to 49	1,904
50 to 59	1,339
60 to 69	337

Source: Reference 9