Making decisions on breast cancer screening

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Following a meta-analysis of available data on breast cancer screening, the U.S. Preventive Services Task Force (USPSTF), an independent panel of experts in preventive medicine and primary care, now recommends that women older than 40 years undergo screening mammography every 1 to 2 years. This updates the USPSTF's 1996 recommendation of regular mammography (no defined interval) for women 50 to 69 years of age.

Applying the data

In developing its recommendations, the USPSTF reviewed the results of eight randomized, controlled trials that included patient follow-up of 11 to 20 years. The panel analyzed the same studies cited in the controversial 2001 Cochrane Collaboration review that criticized the methodological shortcomings of most of those trials and analyses.[1,2]

Although the USPSTF panel agreed that the flaws identified by the Cochrane Collaboration review were indeed flaws, it concluded that they were not severe enough to warrant discarding the trial data or to negate the significant reduction in breast cancer mortality observed in these studies.

The benefit of mammography is validated by those studies that suggest a 25% decrease in breast cancer mortality over 10 years of screening. Possible harms of mammography include false-positive findings that lead to unnecessary follow-up testing (including invasive procedures such as breast biopsy), patient anxiety and discomfort, and increased medical costs. The panel concluded that screening mammography was a causative factor in the epidemiologic data that showed a decreased incidence of late-stage disease and large tumors and an increased incidence of small, early-stage, and pre invasive breast tumors.

Following is the panel's rationale for its revised recommendations for mammography every 1 to 2 years beginning at age 40 years.

• *Age* The data show that women receive the greatest benefit and the least harm from mammography after age so years, but most studies show a mortality benefit for women 40 to 49 years. Because women older than 70 years have a higher absolute risk of breast cancer, screening in this age group .should be considered only for women who are not at greater risk of death from another comorbidity.

• *Frequency* The panel was unable to recommend a more specific frequency than 1 to 2 years for mammography because the trials used intervals ranging from 12 to 33 months.

• *Breast examination* The USPSTF panel found insufficient evidence for or against regular clinical breast examinations (CBEs) or for teaching or recommending breast self-examination (BSE). Randomized clinical trials that address the effectiveness of CBE are inadequate, and studies of BSE have demonstrated high rates of false-positive findings and negative breast biopsy results.

The panel further recommends that clinicians refer patients to FDA-certified mammography centers that meet quality standards for equipment, personnel, and practices under the Mammography Quality Standards Act of 1992. A list of accredited facilities is available online at www.fda.gov/cdrh/mammography/certified.html. In addition, clinics and offices should implement office systems to ensure timely follow-up for abnormal mammography results.

Risk, and the clinician's role

In 2001, breast cancer was diagnosed in 192,000 Americans and was responsible for 40,000 deaths. It is the most common non skin malignancy in women in the United States. Factors that increase the risk of breast cancer include a personal or family (particularly mother or sister) history of breast cancer, prior breast biopsy demonstrating atypical hyperplasia, and first childbirth after age 30 years. Clinicians should discuss with their patients the risk factors for breast cancer, the benefits and harms of mammography, and patient preference for the start and frequency of screening (see Table 1).

The complete USPSTF guidelines can be found online at www.ahrq.gov/clinic/3rduspstflbreastcancer/ brcanrr.htm.

Table 1. Mammography screening recommendations

	Age to begin mammography, by risk			
Organization	All women	High-risk women*	Average-risk women	Interval
AAFP		40 y	50 y	1-2 y
ACOG	40 y			<age 50, 1-2 y; >age 50, annually
ACPM		40 y	50 y	1-2 y
ACR	40 y			Annually
ACS	40 y			Annually
AMA	40 y			Annually
CTFPHC		40 y	50 y	1-2 y
USPSTF	40 y			1-2 y

Key: AAFP, American Academy of Family Physicians; AGOG, American College of Obstetricians and Gynecologists; ACPM, American College of Preventive Medicine; ACR, American College of Radiology; ACS, American Cancer Society; AMA, American Medical Association; CTFPHC, Canadian Task Force on Preventive Health Care; USPSTF, U.S. Preventive Services Task Force.

*Risk factors defined by the USPSTF include personal or family history of breast cancer in a mother or sister, prior breast biopsy demonstrating atypical hyperplasia, and first childbirth after age 30.

REFERENCES

1. Olsen O, Gøtzsche PC. Screening for breast cancer with mammography (Cochrane Review). In: The Cochrane Library, issue 2, 2002. Updated abstract available at: http://www.cochranelibrary.com/ Abs/ab001877 .htm. Accessed June 17, 2002.
2. Olsen O, Gøtzsche PC. Cochrane review on screening for breast cancer with mammography. *Lancet*. 2001; 358:1340-1342.