

Essential Breast Cancer Screening Facts for the Physician

The Numbers

In 2015, approximately 231,840 women will be diagnosed with invasive breast cancer and 40,290 will die.¹

The Science

Mammography screening has consistently been shown to significantly reduce breast cancer mortality across multiple study designs. The effect varies by study type and whether women are actually screened or simply invited to be screened. Randomized control trials (RCTs) evaluate invitation to screening and underestimate the benefit of mammography because many invited women are not actually screened.

Pooled estimates of breast cancer mortality reduction are as follows:^{2, 3, 4}

Case-control studies 48% (screened) 31% (invited)
Cohort studies 38% (screened) 25% (invited)
RCTs N/A 20% (invited)

Use of mammography has resulted in a substantial reduction in late-stage breast cancer (37% decrease; range 21–48%).⁵

Annual screening results in a larger reduction in breast cancer deaths than biennial screening.⁶

Why Start at Age 40?

Annual screening mammography starting at age 40 results in the greatest mortality reduction, the most lives saved and the most life years gained (LYG).^{2,6}

Breast cancer incidence increases substantially around age 40. The incidence rate for ages 40-44 is twice that for ages 35-39 (122.5 vs 59.5). For ages 45-49 it is 188.6; it continues to increase until age 80.7

The years of life lost to breast cancer is highest for women in their 40's.⁷



Age 40–44: The ACS report shows better outcome for women age 45–49 than for 40–44, but this is based on 2009 CISNET models, which used outdated film-screen mammography. The 2015 CISNET models are based on digital mammography and current therapy. These show cancer deaths averted to be equal for both age groups. LYG is higher for ages 40–44 (25.8/1000) than for ages 45–49 (21.2/1000).8 Women age 40–44 should be encouraged to undergo mammography screening.

Screening should continue as long as a woman is in good health and has a 10-year life expectancy. 50% of today's 80-year old women will live at least 10 years.

Mammography Challenges

The most frequent risk of screening is a false positive test, the vast majority of which lead only to additional imaging. Based on BCSC data, about 10% of women will be recalled for additional imaging. Only 1–2% will be recommended for biopsy, most of which can be performed as a minimally invasive needle biopsy. Cumulative 10-year rates for overall false positives are similar whether mammography screening starts at age 40 or age 50. However, the lifetime cumulative risk is higher if screening is started earlier, since more exams are done over time.

The frequency of overdiagnosis* is low, likely in the 1–10% range. 10 Overdiagnosis has been vastly overstated in many reports due to failure to correct for lead time and underlying cancer incidence trends.

Most of the small amount of overdiagnosis is likely DCIS; overdiagnosis of invasive breast cancer is minimal.

References

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Patient information and accredited mammography centers can be found at:

MammographySavesLives.org | 💟 🛐 🛗







