

Breast Cancer: To Screen or Not to Screen?



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Breast cancer screening has received periodic media attention in recent years, leading to confusion in the minds of both the public and health professionals as to its effectiveness.

In the 1980s, results of clinical trials suggested mammography screening could reduce breast cancer deaths by about 30%. As a consequence, most provinces in Canada began to implement organized breast screening programs in the 1990s.

In 2000-2001, a Cochrane review challenged the value of screening mammography, claiming that it did not reduce breast cancer mortality.¹ On another front, in 2001, the Canadian Task Force on Preventive Health Care concluded that breast self-examination was not effective in reducing breast cancer deaths and should not be routinely taught as part of a periodic health examination.

What should we be recommending to women about breast cancer screening?

Is mammography screening effective?

The mammography debate that began in 2000 prompted in-depth re-examination of the evidence from eight randomized trials of breast screening. These reviews confirmed that mammography screening reduces breast cancer mortality by up to 35% in women aged 50 to 69.^{2,3} Results emerging from organized mammography programs indicate that breast cancer mortality may be more than 40% lower in screened women.⁴

Despite its overall effectiveness, mammographic screening has limitations. Between 10% and 25% of cancers are missed by mammography.^{2,5} Also, only 2% to 15% of women with an abnormal screen will actually have cancer—the rest are false positives.

Women need to be made aware of the limitations of mammography so they have realistic expectations of its effectiveness.

Screening Shirley

- Shirley, 74, presents for her periodic health exam.
- She has a history of mild hypertension, well-controlled with a diuretic.
- She has mild osteoarthritis, but is otherwise healthy.
- She is a non-smoker and walks 4 km to 5 km at least four times per week.



After hearing a media report on mammography...

- Shirley has been discussing breast cancer screening with her daughter, Anne, 46. Shirley reports that they are not sure if they should have mammograms.
- Shirley's last mammogram was six years ago and was normal.
- There is no family history of breast cancer

Should Shirley be screened for breast cancer?

For the answer, go to page 45.

Cover Photograph: Cancer cells (Firstlight Images®)

Expert groups are consistent in recommending routine mammography for women aged 50 to 69 at least every two years. There is less agreement about what to recommend to women outside this age group.

Should screening be continued in women older than 70?

The decision about screening in an older woman should be individualized, based on her general health, values and preferences.

The risk of breast cancer increases with age (Figure 1). Breast density (the relative proportions of fatty and glandular tissue) tends to decrease with age and breast cancers tend to develop more slowly in older women,⁶ making it easier to detect cancers at an early stage. Thus, although data are limited in this age group, most experts believe mammography screening should be considered.

The optimal screening frequency is not known; Canadian screening programs that accept older women recommend biennial screening.⁷

A key factor to consider in the older woman is her general health and estimated life expectancy. There are wide variations in life expectancy in this age group, for example, a healthy 85-year-old woman has a similar life expectancy as a 70-year-old woman in poor health.⁸

The number and severity of comorbid conditions are key determinants. If a woman has an estimated life expectancy of less than five years, breast cancer screening is not likely to be beneficial.

What about screening women in their forties?

There is no clear consensus about the effectiveness of mammography screening for women aged 40 to 49. The risk of cancer is lower and the evidence of impact (mortality reduction) is not as strong as for women aged 50 to 69. Long-term followup of clinical trials has shown a reduction in mortality in women who began screening in their forties, but many of the cancers were diagnosed when women were in their 50s, so it is difficult to assess the additional benefit from beginning screening at age 40 rather than at age 50.

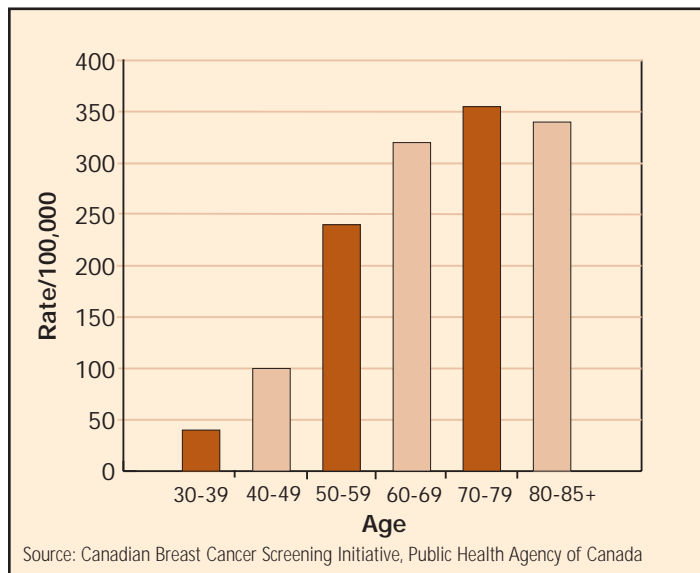


Figure 1. Breast cancer incidence by age, Canada, 2001.

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Pre-menopausal women have denser breasts on average and mammography is consequently less sensitive. Because of this, and since breast cancer in younger women tends to progress more quickly, women who choose to be screened should have a mammography annually.

Should physicians perform CBE?

There is limited evidence on the effectiveness of clinical breast examinations (CBE). Available data suggests that CBE in asymptomatic women makes, at best, a very modest contribution to detecting early breast cancer.^{6,9}

Studies in women who received both CBE and mammography have found that only about 5% of cancers were found by CBE alone.⁹ Reports of sensitivity range from 28% to 54%, depending on setting. Sensitivity improves with the amount of time spent on the examination and with the use of a systematic approach.

Most expert groups have concluded the evidence is insufficient to make a recommendation for or against routinely performing CBE.

What about breast self-examinations?

Because of the lack of evidence as to its effectiveness in reducing breast cancer mortality,¹⁰ most expert bodies no longer recommend routine breast self-examination. However, most experts agree that general breast health awareness is important in that if women are familiar with what is normal for their breasts, they will be more likely to notice changes that may be symptomatic of an early cancer.

More on Shirley

Shirley is a very healthy 74-year-old. After a discussion of the risks and benefits of mammography, she decides to have another mammogram.

The discussion about breast screening has prompted her doctor to review her technique for clinical breast exam.

Shirley is planning to talk with her daughter about what she has learned and is going to suggest Anne contact the provincial breast screening program for more information.

Benefits of organized breast cancer screening programs...

In order for breast screening to have the maximum positive impact on population health, it is best offered through an organized program. Such programs exist or are under development in most Canadian provinces and territories. Organized breast screening programs offer the following advantages:

- Educating women about the importance of regular breast screening.
- Inviting women to be screened and reminding them when it is time for their next mammogram.
- Providing accessible services, such as mobile units that go to smaller communities.
- Ensuring that women needing further investigation get appropriate followup.
- Formalizing quality assurance and evaluation of program performance and effectiveness.

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