



Recommendations on screening for breast cancer in women 40-74 years of age who are not at increased risk of breast cancer

POPULATION

The recommendations on breast cancer screening for women aged 40 to 74 years not at increased risk of breast cancer update earlier task force recommendations published in 2011.

This guideline does not apply to women at increased risk of breast cancer including women with a personal or family history of breast cancer, women who are carriers of gene mutations such as *BRCA1* or *BRCA2* or have a first-degree relative with these gene mutations, and women who had chest radiation therapy before 30 years of age or within the past eight years.

RECOMMENDATIONS

For women aged 40 to 49 years, we recommend not screening with mammography; the decision to undergo screening is conditional on the relative value a woman places on possible benefits and harms from screening. (Conditional recommendation; low-certainty evidence)

For women aged 50 to 69 years, we recommend screening with mammography every two to three years; the decision to undergo screening is conditional on the relative value that a woman places on possible benefits and harms from screening. (Conditional recommendation; very low-certainty evidence)

For women aged 70 to 74 years, we recommend screening with mammography every two to three years; the decision to undergo screening is conditional on the relative value that a woman places on possible benefits and harms from screening. (Conditional recommendation; very low-certainty evidence)

Recommendations on other screening modalities, apart from mammography, for breast cancer screening:

We recommend not using magnetic resonance imaging (MRI), tomosynthesis or ultrasound to screen for breast cancer in women not at increased risk. (Strong recommendation; no evidence)

We recommend not performing clinical breast examinations to screen for breast cancer. (Conditional recommendation; no evidence)

We recommend not advising women to practice breast self-examination to screen for breast cancer. (Conditional recommendation; low-certainty evidence)

BASIS OF RECOMMENDATIONS

Low-certainty evidence from eight randomized or quasi-randomized controlled trials indicates that screening for breast cancer with mammography may result in a modest reduction in breast cancer mortality for women aged 40 to 74 years with the absolute benefit lowest for women less than 50 years of age. Screening leads to overdiagnosis resulting in unnecessary treatment of cancer that would not have caused harm in a woman's lifetime, as well as physical and psychological consequences from false positives. Women less than 50 years of age are at greater risk of these harms than older women.

An evidence review conducted for this guideline of patient values and preferences about breast cancer screening indicates that a substantial proportion of women aged 40 to 49 years would not choose to be screened if they were aware of outcomes for their age group. In contrast, many women aged 50 years and older would choose screening, when informed of outcomes given their more favourable balance of benefits and harms; however, some would choose not to be screened.

After balancing the overall benefits and harms of screening for women aged 40 to 49 years and considering values and preferences of women, in the judgement of the task force the undesirable effects of overdiagnosis and consequences of false positive results outweigh potential benefits; therefore, the recommendation is against screening women of this age. Some women aged 40 to 49 years may wish to be screened based on their values and preferences; in this circumstance, care providers should engage in shared decision-making with women who express an interest in being screened

In balancing the overall benefits and harms of screening for women aged 50 to 74 years, and considering their values and preferences, the task force places greater weight on women's preferences for screening to reduce breast cancer mortality by a modest amount than on harms and therefore recommends in favour of screening women of this age using mammography every 2 to 3 years. This is a conditional recommendation, as some women may choose to not undergo screening. Care providers should engage in shared decision-making with women aged 50 to 74 as those who place a higher value on avoiding harms as compared to a modest absolute reduction in breast cancer mortality may choose to not undergo screening.

CONSIDERATIONS FOR IMPLEMENTATION

Care providers should engage in shared decision-making on breast cancer screening with women aged 50 to 74 years as those who place a higher value on avoiding harms, as compared to a modest absolute reduction in breast cancer mortality, may choose to not undergo screening. In addition, some women aged 40 to 49 years may wish to be screened based on their values and preferences; in this circumstance, care providers should engage in shared decision-making with women who express an interest in being screened. Tools to support shared decision-making are available at www.canadiantaskforce.ca.

The recommendations focus on breast cancer screening using mammography because of the absence of evidence on patient-important outcomes of screening with other modalities as well as low certainty evidence that performing self-breast examination for screening has no impact on breast cancer mortality. The recommendation is to screen women who decide to undergo screening every two to three years because screening intervals in the trials ranged from 12 to 33 months with a pooled analysis indicating similar benefits across intervals.

For more information on breast cancer statistics please see the Canadian Cancer Society's report at: cancer.ca/Canadian-CancerStatistics-2017-EN.pdf.