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# Guideline for The Early Detection of Breast Cancer

This guideline has been developed by the Early Detection of Breast Cancer Working Group and is based on current scientific evidence. Due to the addition of important research related to breast screening, a regular review of this CPG will be undertaken.

## SCOPE OF GUIDELINE

The recommendations in this guideline apply to asymptomatic women. **Any woman who has signs or symptoms suggestive of breast cancer needs appropriate evaluation, regardless of age.**

## GOALS

- ◆ To provide guidance about the appropriate use of screening tools for breast cancer;
- ◆ To help physicians and patients make informed decisions about screening for breast cancer in asymptomatic women of all ages;
- ◆ To decrease mortality due to breast cancer.

## EXCLUSIONS

The recommendations in this guideline do not apply to:

- ◆ Women with signs and symptoms suggesting breast cancer;
- ◆ Women with a history of breast cancer;
- ◆ Men.

## DEFINITION OF SCREENING FOR BREAST CANCER

Breast cancer screening refers to the application of a procedure to asymptomatic women for the purpose of detecting unsuspected breast cancer at a stage when early intervention can affect the outcome.

The above recommendations are systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances. They should be used as an adjunct to sound clinical decision making.

## SCREENING PROCEDURES

Mammography, clinical breast examination and breast self-examination can be used as screening procedures.

## RECOMMENDATIONS

### General

- ◆ Women with a family history of early onset of breast cancer or multiple relatives with breast cancer may need special consideration. Some experts suggest that mammography screening among this population should commence five to ten years prior to the age of onset of breast cancer in their family member. Consideration may be given to referral to the Cancer Genetics Research Clinics. (*See Discussion of Mammography Recommendations and Appendix 1*).

### Women aged 50 to 69

- ◆ Women aged 50 to 69 years should have a screening mammogram at least every two years.
- ◆ Annual mammography screening should be considered in circumstances of increased risk.

### Women aged 40 to 49

- ◆ Women aged 40 to 49 should have the opportunity to access screening mammography. Physicians should discuss with patients, the benefits and risks of screening.
- ◆ There remains controversy regarding the degree of benefit of screening mammography in this age group. (*See Discussion*)
- ◆ If a woman chooses to participate in mammography screening, the recommended interval between screens in this age group is one year.

## Women Over 70 Years

- ◆ The risk of breast cancer in this group is high.
- ◆ Mammography screening should be considered every two years taking into account individual patient health factors and preferences.

## Women Under 40 Years

- ◆ Routine mammographic screening for women under 40 is not recommended.

## Clinical Breast Examination and Breast Self Examination

- ◆ Clinical breast examination (CBE) and breast self examination (BSE) detect some breast cancers which are not evident on mammography. CBE and BSE should be seen as complementary examinations to mammography. (*For CBE See Appendix 2*)
- ◆ Primary care physicians should discuss breast self examination with all women by age 30.

## Breast Implants

- ◆ Women with breast implants should be referred for diagnostic mammography at age appropriate intervals.

## BACKGROUND

### Epidemiology

Breast cancer is one of the most serious health concerns of Canadian women and is the most common form of cancer in women excluding non-melanoma skin cancer. Breast cancer accounts for 30% of all new cancer cases.<sup>1,2,3,4</sup> Over 1,500 new cases of breast cancer were reported in Alberta in 1997<sup>5</sup> and approximately 410 Alberta women die from this each year. Breast cancer accounts for nearly 21% of all cancer deaths in Alberta women.<sup>1</sup>

### Risk Factors

The lifetime risk for breast cancer is one in nine. The risk however, varies over a woman's lifetime. Table One reflects the age specific risk of breast cancer for women.<sup>5</sup>

**Table One**  
**Probability of Developing Breast Cancer in the Next Five Years, by Age, for Women Who Reside in Alberta and Currently Do Not Have Breast Cancer**

Age	Probability
35	1/384
40	1/208
45	1/128
50	1/109
55	1/94
60	1/78
65	1/70
70	1/65

Increasing age, being born in North America and northwest Europe, and having two or more first degree relatives with a history of breast cancer are identified as the strongest risk factors.

There are many other identifiable risk factors, but few are amenable to change. It is estimated that up to 80% of women who develop breast cancer have no risk factors other than being female, and in a higher risk age group.<sup>6</sup>

Available evidence suggests that the effect of hormone replacement therapy (HRT) on the risk of breast cancer is small.<sup>7</sup>

## DISCUSSION OF MAMMOGRAPHY RECOMMENDATIONS

A normal screening mammography does not rule out breast cancer in the presence of persistent palpable abnormalities. Further evaluation may still be required.

### Women Aged 50 to 69 Years

Many studies have shown the efficacy of mammography screening for breast cancer for women aged 50 to 69 years. Regular mammographic screening in this age group is estimated to reduce mortality from breast carcinoma by approximately one third. Because additional benefit with annual screening has not been demonstrated,<sup>8</sup> screening every two years is often recommended.

## Women Aged 40 to 49 Years

In women aged 40 to 49, breast cancer is the single leading cause of death.<sup>3,4</sup> Some of the reservations about making population-based recommendations for women in this age group, are based on limitations in the scientific evidence available to date. While there is emerging evidence of benefit from some combined analyses of the randomized trials, the benefit is smaller than in older women, and is of borderline statistical significance.<sup>9,10</sup>

There has been a lot of debate in the literature regarding the reasons for the apparent decreased benefit of screening. Evidence to date suggests that screening mammography is less sensitive for women in their forties than for older women.<sup>11</sup> It has also been suggested that due to more rapid growth of tumours in this age group that the interval between screens in some studies has been too long to show a benefit.<sup>12</sup> Data suggests that annual mammography in this age group will be required<sup>13</sup> in order to detect breast cancer at its earliest stages and achieve a reduction in breast cancer mortality similar to that seen in older women.<sup>13,14</sup> Finally, there may be statistically insufficient numbers of women in this age group included in the controlled trials to definitively show a benefit.<sup>15</sup>

Concerns have also been raised about the decreased positive predictive value of any of the three breast screening procedures in women in their forties when compared to older women. In other words, the probability that a younger woman would have a benign biopsy as a consequence of screening is higher than for older women.

## Women Over 70 Years

The incidence of breast cancer increases with age, and therefore women over 70 years continue to be at high risk. Although no randomized clinical trials have specifically addressed the efficacy of screening in this age group, it should be considered in the context of individual health factors and personal preference.

## Women Under 40 Years

Randomized controlled studies have not included women in this age group.<sup>16</sup> Routine screening is not recommended.

## Women With A Family History of Breast Cancer

Women with a strong family history of breast cancer should be advised of the availability of counselling and information provided by the Cancer Genetics Research Clinics. (*See Appendix 1 for referral criteria*)

## Radiation Risk

The risk of mammographically-induced cancer is generally considered to be negligible. Some experts have expressed concern over the theoretical risk of radiation-induced breast cancers, especially among younger women. However, the studies which have raised this concern involved much higher levels of radiation than are found in present day mammography.<sup>17,18</sup> The radiation dose delivered by mammography is lower than that of an ordinary chest X-ray.

## FACTORS AFFECTING ACCEPTANCE OF SCREENING RECOMMENDATIONS

The strongest stimulus for a woman to participate in mammography screening is the recommendation from her physician. Studies indicate that many factors affect a woman's choice to participate in breast cancer screening. Adverse factors include age, i.e., younger (40-49) and older (70 plus) women; socioeconomically disadvantaged; limited contact with a physician; single marital status; unemployed and retired; country of birth and fewer years since immigration, i.e., Asia, South and Central America, Caribbean and Africa; lower educational attainment; and, rural residence.<sup>19,20,21</sup> Physicians should ensure that all women who would benefit from screening be informed of its potential advantages.

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## THE ALBERTA CLINICAL PRACTICE GUIDELINES PROGRAM

The Alberta Clinical Practice Guidelines Program promotes appropriate, effective and quality medical care in Alberta by supporting the use of clinical practice guidelines. The program is administered by the Alberta Medical Association under the direction of a multi-stakeholder steering committee.

### Alberta Clinical Practice Guidelines Steering Committee

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### TO PROVIDE FEEDBACK

The Early Detection of Breast Cancer Working Group is a multidisciplinary team composed of a family physician, general practitioners, radiologists, general surgeons, a gynecologist, oncologist, pathologist, epidemiologist, Medical Officer of Health, nurse, medical student, public representatives, the Canadian Cancer Society, and Breast Cancer Policy Council representatives.

The Working Group encourages your feedback. If you need further information or if you have difficulty applying this guideline, please contact:

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