Complete Summary

GUIDELINE TITLE

Chemoprevention of breast cancer. A joint guideline from the Canadian Task Force on Preventive Health Care and the Canadian Breast Cancer Initiative's Steering Committee on Clinical Practice Guidelines for the Care and Treatment of Breast Cancer.

BIBLIOGRAPHIC SOURCE(S)

Levine M, Moutquin JM, Walton R, Feightner J. Chemoprevention of breast cancer. A joint guideline from the Canadian Task Force on Preventive Health Care and the Canadian Breast Cancer Initiative's Steering Committee on Clinical Practice Guidelines for the Care and Treatment of Breast Cancer. CMAJ 2001 Jun 12;164(12):1681-90. [21 references]

GUIDELINE STATUS

This is the current release of the guideline.

A complete list of planned reviews, updates and revisions is available under the What's New section at the Canadian Task Force on Preventive Health Care (CTFPHC) Web site.

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

Breast cancer

GUIDELINE CATEGORY

Prevention
Risk Assessment

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Obstetrics and Gynecology
Oncology
Preventive Medicine

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Nurses
Patients
Physician Assistants
Physicians
Students

GUIDELINE OBJECTIVE(S)

- To assist women and their physicians in making decisions regarding preventing breast cancer with tamoxifen and raloxifene

TARGET POPULATION

Women without established breast cancer, including women at low or normal risk of breast cancer and women at higher risk of breast cancer

INTERVENTIONS AND PRACTICES CONSIDERED

Chemoprophylaxis

1. Tamoxifen therapy
2. Raloxifene therapy was considered but not recommended

Note: Assessment of baseline risk using the Gail risk assessment index was considered.

MAJOR OUTCOMES CONSIDERED

- Reduction of risk of breast cancer
- Mortality from breast cancer
- Kinds and magnitude of adverse effects on other health outcomes.

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The electronic databases MEDLINE, PreMEDLINE CINAHL, HealthStar, Current Contents, and The Cochrane Library were searched for articles in English from 1966 to August 2000 using the key words "breast neoplasms," and "chemoprevention," "tamoxifen," or "raloxifene." Abstracts of all articles retrieved were read, and the reference lists of key articles were hand-searched. Additional relevant papers were found by reference review. Experts in the field were also consulted to ensure that no significant studies (up to January 2001) were missed.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Quality of evidence was rated according to 5 levels:

I - Evidence from at least 1 properly randomized controlled trial (RCT).

II-1 - Evidence from well-designed controlled trials without randomization.

II-2 - Evidence from well-designed cohort or case-control analytic studies, preferably from more than 1 centre or research group.

II-3 - Evidence from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments could also be included here.

III - Opinions of respected authorities, based on clinical experience, descriptive studies or reports of expert committees.

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

This guideline is a joint project of the Canadian Task Force on Preventive Health Care (CTFPHC) and the Steering Committee on Clinical Practice Guidelines for the Care and Treatment of Breast Cancer. Members of these groups used an evidence-based method for evaluating the effectiveness of preventive health care interventions. Recommendations were not based on cost-effectiveness of options. Patient preferences were not discussed.

Background papers providing critical appraisal of the evidence and tentative recommendations prepared by the primary authors were pre-circulated to the members of each group. Evidence for this topic was presented and deliberated upon in meetings of both groups from October 1999 to June 2000. Consensus was reached on final recommendations.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grades of Recommendation:

A. Good evidence to support the recommendation that the condition or maneuver be specifically considered in a periodic health examination (PHE).
B. Fair evidence to support the recommendation that the condition or maneuver be specifically considered in a PHE.
C. Poor evidence regarding inclusion or exclusion of the condition or maneuver in a PHE, but recommendations may be made on other grounds.
D. Fair evidence to support the recommendation that the condition or maneuver be specifically excluded from consideration in a PHE.
E. Good evidence to support the recommendation that the condition or maneuver be specifically excluded from consideration in a PHE.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The authors' original text was revised by both the Canadian Task Force on Preventive Health Care, and the Steering Committee on Clinical Practice Guidelines for the Care and Treatment of Breast Cancer. The final document reflects a consensus of these contributors. External validation was through the Canadian Medical Journal Association review process.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Recommendation grades [A, B, C, D, E] and levels of evidence [I, II-1, II-2, II-3, III] are indicated after each recommendation. Definitions for these grades and levels are repeated following the recommendations.

- Women at low or normal risk of breast cancer (Gail risk assessment index of <1.66% at 5 years): There is fair evidence to recommend against the use of tamoxifen to reduce the risk of breast cancer in women at low or normal risk of the disease (Veronesiet et al., 1998; Powles et al., 1998). (D, I)
- Women at high risk for breast cancer (Gail risk assessment index of ≥1.66% at 5 years): Evidence supports counselling women at high risk on the potential benefits and harms of breast cancer prevention with tamoxifen (Fisher et al., 1998) (B, I). The cutoff for defining high risk is arbitrary, but the National Surgical Adjuvant Breast and Bowel Project P-1 study included women with a 5-year projected risk of at least 1.66% according to the Gail risk assessment index, and the average risk of patients entered in the trial was 3.2%. Examples of high-risk clinical situations are: two first-degree relatives with breast cancer, a history of lobular carcinoma in situ, or a history of atypical hyperplasia. The duration of tamoxifen in such situations is 5 years based on the results of trials of tamoxifen in women with early stage breast cancer. If a woman raises concerns or has already been evaluated and is calculated to be at high risk, then individuals experienced and skilled in counselling may discuss the benefits of tamoxifen versus the harms.

Important additional issues

Prevention of breast cancer with raloxifene: Current evidence does not support recommending raloxifene therapy to lower risk of breast cancer outside of a clinical trial setting.

Screening using the Gail risk assessment index: This index was the major eligibility criterion for enrolling women in the one study that demonstrated potential benefit from chemoprevention. However, it has not been evaluated for use as a routine screening or case finding instrument; validation of the technology is required. Overall, current evidence does not support a shift to its routine use in physicians' offices for screening or case finding purposes. However, when a woman or her physician are concerned about her increased risk for breast cancer, the index can be a useful tool in deciding whether to pursue an in-depth discussion of the pros and cons of chemoprevention. Hence, the approach to identifying women at higher risk who warrant counselling and shared decision-making will vary across practices. (The Gail risk assessment index can be obtained from the U.S. National Cancer Institute Web site).

Definitions:

Recommendation Grades:

A. Good evidence to support the recommendation that the condition or maneuver be specifically considered in a periodic health examination (PHE).
B. Fair evidence to support the recommendation that the condition or maneuver be specifically considered in a PHE.
C. Poor evidence regarding inclusion or exclusion of the condition or maneuver in a PHE, but recommendations may be made on other grounds.
D. Fair evidence to support the recommendation that the condition or maneuver be specifically excluded from consideration in a PHE.
E. Good evidence to support the recommendation that the condition or maneuver be specifically excluded from consideration in a PHE.

Levels of Evidence:

I - Evidence from at least 1 properly randomized controlled trial (RCT).

II-1 - Evidence from well-designed controlled trials without randomization.

II-2 - Evidence from well-designed cohort or case-control analytic studies, preferably from more than 1 centre or research group.

II-3 - Evidence from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments could also be included here.

III - Opinions of respected authorities, based on clinical experience, descriptive studies or reports of expert committees.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

Maneuver: Tamoxifen to reduce the risk of breast cancer [Low/Normal Risk Women (e.g., <1.66% on the Gail Index)]
Level of Evidence: Two randomized control trials (I)

Maneuver: Counseling High Risk Women [High Risk Women (e.g., 1.66% or higher on the Gail Index)]
Level of Evidence: One randomized trial (I)

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Three randomised trials of tamoxifen reported inconsistent results. The largest randomised trial (NSABP-P1) reported that tamoxifen reduced by 49% ($p < 0.00001$) the incidence of invasive breast cancer in women who were at high risk. Two other trials did not report significant differences in risk reduction.

Subgroups Most Likely to Benefit:

Data indicate that the benefits of tamoxifen therapy are more likely to outweigh the risks in younger women (aged 35 to 50 years).

POTENTIAL HARMS

There is statistically significant evidence from three randomised trials that tamoxifen therapy increased the risk of thromboembolic disease, endometrial cancers and cataracts in women. No differences in mortality outcomes have been reported to date. The balance between benefits and harms varies by age, risk level and personal health factors.

Subgroups Most Likely to be Harmed:

Data indicate that as age increases, the risks will compete with and at some point outweigh, potential benefits, depending on a woman's baseline risk. Clinical trial data showed that most adverse effects of tamoxifen occurred in women aged 50 years and over.

Because all three trials that evaluated tamoxifen excluded women with a history of venous thromboembolism and because of the increased risk of thrombotic events observed in the one trial, it would be prudent not to consider tamoxifen therapy in women with prior thromboembolism, documented thrombophilia or a strong family history of thromboembolism.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Implementation of preventive activities in clinical practice continues to be a challenge. To address this issue, Health Canada established a National Coalition of Health Professional Organizations in 1989. The purpose was to develop a strategy to enhance the preventive practices of health professionals. Two national workshops were held. The first focused on strengthening the provision of preventive services by Canadian physicians. The second addressed the need for collaboration among all health professionals.

This process led to the development of a framework or "blueprint for action" for strengthening the delivery of preventive services in Canada (Supply and Services Canada: an Inventory of Quality Initiatives in Canada: Towards Quality and Effectiveness. Health and Welfare Canada, Ottawa, 1993). It is a milestone for professional associations and one that will have a major impact on the development of preventive policies in this country.

In 1991 the Canadian Medical Association spearheaded the creation of a National Partnership for Quality in Health to coordinate the development and implementation of practice guidelines in Canada. This partnership includes the following: the Association of Canadian Medical Colleges, the College of Family Physicians of Canada, the Federation of Medical Licensing Authorities of Canada, the Royal College of Physicians and Surgeons of Canada, the Canadian Council on Health Facilities Accreditation, and the Canadian Medical Association.

The existence of guidelines is no guarantee they will be used. The dissemination and diffusion of guidelines is a critical task and requires innovative approaches and concerted effort on the part of professional associations and health care professionals. Continuing education is one avenue for the dissemination of guidelines. Local physician leaders, educational outreach programs, and computerized reminder systems may complement more traditional methods such as lectures and written materials. Public education programs should also support the process of guideline dissemination. In this context, rapidly expanding information technology, such as interactive video or computerized information systems with telephone voice output, presents opportunities for innovative patient education. The media may also be allies in the communication of some relevant aspects of guidelines to the public. All of these technologies should be evaluated.

The implementation of multiple strategies for promoting the use of practice guidelines requires marshaling the efforts of governments, administrators, and health professionals at national, provincial and local levels. It is up to physicians and other health professionals to adopt approaches for the implementation of guidelines in clinical practice and to support research efforts in this direction.

IMPLEMENTATION TOOLS

Patient Resources

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Levine M, Moutquin JM, Walton R, Feightner J. Chemoprevention of breast cancer. A joint guideline from the Canadian Task Force on Preventive Health Care and the Canadian Breast Cancer Initiative's Steering Committee on Clinical Practice Guidelines for the Care and Treatment of Breast Cancer. CMAJ 2001 Jun 12;164(12):1681-90. [21 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2001 Jun

GUIDELINE DEVELOPER(S)

Canadian Breast Cancer Initiative (Health Canada) - National Government Agency [Non-U.S.]
Canadian Task Force on Preventive Health Care - National Government Agency [Non-U.S.]

GUIDELINE DEVELOPER COMMENT

This guideline is one of a series of guidelines on prevention developed by the Canadian Task Force on Preventive Health Care and is No. 12 in a series of guidelines on the management of breast cancer developed by the Canadian Breast Cancer Initiative's Steering Committee on Clinical Practice Guidelines for the Care and Treatment of Breast Cancer.

Additional information regarding the Canadian Breast Cancer Initiative is available via the Health Canada Web site.

SOURCE(S) OF FUNDING

The Canadian Task Force on Preventive Health Care is funded through a partnership between the Provincial and Territorial Ministries of Health and Health Canada. The Steering Committee on Clinical Practice Guidelines for the Care and Treatment of Breast Cancer is part of Health Canada's Canadian Breast Cancer Initiative.

GUIDELINE COMMITTEE

- Canadian Task Force on Preventive Health Care (CTFPHC)
- Canadian Breast Cancer Initiative's Steering Committee on Clinical Practice Guidelines for the Care and Treatment of Breast Cancer

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

A complete list of planned reviews, updates and revisions is available under the What's New section at the Canadian Task Force on Preventive Health Care (CTFPHC) Web site.

GUIDELINE AVAILABILITY

Electronic copies: Available from the Canadian Task Force on Preventive Health Care Web site.

Also available from the Canadian Medical Association Journal (CMAJ) Web site in Portable Document Format (PDF) and HTML format.

Print copies: Available from Canadian Task Force on Preventive Health Care, 100 Collip Circle, Suite 117, London, Ontario N6G 4X8, Canada.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Stachenko S. Preventive guidelines: their role in clinical prevention and health promotion. Ottawa: Health Canada, 1994. Available from the Canadian Task Force on Preventive Health Care (CTFPHC) Web site.
- CTFPHC history/methodology. Ottawa: Health Canada, 1997. Available from the CTFPHC Web site.
- Quick tables of current recommendations. Ottawa: Health Canada, 2000. Available from the CTFPHC Web site.

PATIENT RESOURCES

The following is available as Appendix 2 to the original guideline:

- Questions and answers on chemoprevention and breast cancer. A guide for women and their physicians. CMAJ 2001 Jun12;164(12):1689-90.

Electronic copies: Available from the Canadian Medical Association Journal (CMAJ) Web site in Portable Document Format (PDF).

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This summary was completed by ECRI on September 25, 2001. The information was verified by the guideline developer as of October 9, 2001.

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