



## Complete Summary

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### GUIDELINE TITLE

Interventions to promote breast-feeding: applying the evidence in clinical practice.

### BIBLIOGRAPHIC SOURCE(S)

Palda VA, Guise JM, Wathen CN. Interventions to promote breast-feeding: applying the evidence in clinical practice. CMAJ 2004 Mar 16;170(6):976-8. [45 references] [PubMed](#)

### GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Canadian Task Force on Preventive Health Care. Canadian Task Force on the Periodic Health Examination. Canadian Guide to Clinical Preventive Health Care. Ottawa (Canada): Health Canada; 1994. Breast feeding. p. 232-42.

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

SCOPE  
METHODOLOGY - including Rating Scheme and Cost Analysis  
RECOMMENDATIONS  
EVIDENCE SUPPORTING THE RECOMMENDATIONS  
BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS  
IMPLEMENTATION OF THE GUIDELINE  
INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT  
CATEGORIES  
IDENTIFYING INFORMATION AND AVAILABILITY  
DISCLAIMER

## SCOPE

### DISEASE/CONDITION(S)

Infant nutrition (through breast-feeding)

### GUIDELINE CATEGORY

Counseling  
Management

### **CLINICAL SPECIALTY**

Family Practice  
Nursing  
Nutrition  
Obstetrics and Gynecology  
Pediatrics  
Preventive Medicine

### **INTENDED USERS**

Advanced Practice Nurses  
Allied Health Personnel  
Dietitians  
Nurses  
Physician Assistants  
Physicians

### **GUIDELINE OBJECTIVE(S)**

- To update the 1994 recommendations made by the Canadian Task Force on Preventive Health Care (CTFPHC) on breast-feeding promotion and counseling
- To present evidence on interventions that improve the initiation or duration (or both) of breast-feeding in the Canadian health care setting

### **TARGET POPULATION**

Antepartum, postpartum, and breast-feeding women in Canada

### **INTERVENTIONS AND PRACTICES CONSIDERED**

#### **Interventions to Promote Breast-Feeding**

1. Breast-feeding education (individual or group instruction with structured content including practical skills training)
2. Breast-feeding support involving telephone support and/or in-person visits
3. Written education materials (not recommended)
4. Peer counseling
5. Rooming-in, and early maternal-infant contact
6. Use of commercial discharge packets (not recommended)
7. Advice by primary obstetric or pediatric provider (insufficient evidence to make recommendation)

### **MAJOR OUTCOMES CONSIDERED**

- Rate of breast-feeding initiation
- Duration of breast-feeding

## METHODOLOGY

### **METHODS USED TO COLLECT/SELECT EVIDENCE**

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

### **DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE**

Searches were performed of MEDLINE (1966-2000), HealthSTAR, the Cochrane Database of Systematic Reviews, the National Health Service Centre for Reviews and Dissemination Databases, and bibliographies of identified trials and review articles.

Randomized clinical trials (RCTs) of any counseling, behavioral, or environmental interventions to improve breast-feeding initiation, duration, or both were chosen, where possible. If no randomized clinical trials were available, a system of "best available evidence" was used, whereby non-randomized concurrently controlled trials were included. Other inclusion criteria were: 1) English-language articles, 2) originated from a clinician's practice but could be implemented by any provider in any setting, 3) study took place in a developed country. Community-based or peer-originated interventions were not included.

### **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**

#### **Levels of Evidence - Research Design Rating**

**I:** Evidence from randomized controlled trial(s)

**II-1:** Evidence from controlled trial(s) without randomization

**II-2:** Evidence from cohort or case-control analytic studies, preferably from more than one centre or research group

**II-3:** Evidence from comparisons between times or places with or without the intervention; dramatic results from uncontrolled studies could be included here

**III:** Opinions of respected authorities, based on clinical experience; descriptive studies or reports of expert committees

#### **Levels of Evidence - Quality (Internal Validity) Rating**

**Good:** A study that meets all design- specific criteria\* well.

**Fair:** A study that does not meet (or it is not clear that it meets) at least one design-specific criterion\* but has no known "fatal flaw."

**Poor:** A study that has at least one design-specific\* "fatal flaw," or an accumulation of lesser flaws to the extent that the results of the study are not deemed able to inform recommendations.

*\*Design specific criteria are outlined in Harris et al, Current methods of the U.S.PSTF. Am J Prev Med 2001;1:70-78.*

## **METHODS USED TO ANALYZE THE EVIDENCE**

Meta-Analysis of Randomized Controlled Trials  
Systematic Review with Evidence Tables

## **DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE**

Two reviewers independently reviewed all abstracts and titles for inclusion, and independently abstracted, from each study, assessment of pre-specified quality criteria and data to evidence tables.

In addition to the qualitative review of studies, three meta-analyses of randomized controlled trials (RCTs) were performed to examine the influence of specific components of counseling interventions on rates of 1) initiation of breast-feeding; 2) breast-feeding duration of 1 to 3 months; and 3) breast-feeding duration of 4 to 6 months. Included were trials that offered education, interventions using in-person or telephone support, or both. Within these categories, the effect of using written materials as a co-intervention was examined.

## **METHODS USED TO FORMULATE THE RECOMMENDATIONS**

Expert Consensus

## **DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS**

Evidence for this topic was presented by the lead author(s) and deliberated upon during meetings in October 2002 and February 2003. (The evidence included a systematic evidence review undertaken in collaboration with the United States Preventive Services Task Force [USPSTF], as well as key evidence published by the USPSTF after the review's completion.)

During the meetings, expert panelists addressed critical issues, clarified ambiguous concepts, and analyzed the synthesis of the evidence. At the end of this process, the specific clinical recommendations proposed by the lead author were discussed, as were issues related to clarification of the recommendations for clinical application and any gaps in evidence. The results of this process are reflected in the description of the decision criteria presented with the specific

recommendations. The group and lead author(s) arrived at final decisions on recommendations unanimously.

Subsequent to meetings of the Task Force to review the draft recommendations, the lead author revised the manuscript accordingly. After final revision, the manuscript was sent by the Task Force to two experts in the field (identified by Task Force members at the meeting). Feedback from these experts was incorporated into a subsequent draft of the manuscript.

## **RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS**

### **Recommendations Grades for Specific Clinical Preventive Actions**

**A** The Canadian Task Force (CTF) concludes that there is **good** evidence to recommend the clinical preventive action.

**B** The CTF concludes that there is **fair** evidence to recommend the clinical preventive action.

**C** The CTF concludes that the existing evidence is **conflicting** and does not allow making a recommendation for or against use of the clinical preventive action; however, other factors may influence decision-making.

**D** The CTF concludes that there is **fair** evidence to recommend against the clinical preventive action.

**E** The CTF concludes that there is **good** evidence to recommend against the clinical preventive action.

**I** The CTF concludes that there is **insufficient** evidence (in quantity and/or quality) to make a recommendation; however, other factors may influence decision-making.

## **COST ANALYSIS**

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

## **METHOD OF GUIDELINE VALIDATION**

Comparison with Guidelines from Other Groups  
External Peer Review

## **DESCRIPTION OF METHOD OF GUIDELINE VALIDATION**

### **External Review**

After final revision, the manuscript was sent by the Task Force to two experts in the field (identified by Task Force members at the meeting). Feedback from these experts was incorporated into a subsequent draft of the manuscript.

## Comparison with Guidelines from Other Groups

Recommendations from the following organizations regarding promotion of breast-feeding were also reviewed:

- United States Preventive Services Task Force (USPSTF)
- Joint statements by the Canadian Paediatrics Society (CPS), Dietitians of Canada, Health Canada, and the Society of Obstetricians and Gynaecologists of Canada (SOGC)
- College of Family Physicians of Canada (CFPC)
- World Health Organization
- American Academy of Pediatrics

## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

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

**Education programs and post-partum support to promote breast-feeding\***: There is good evidence to recommend provision of structured antepartum educational programs and postpartum support (Canadian Task Force on Preventive Health Care, 1994) to promote breast-feeding initiation and duration. [**A recommendation**]

- **Education**. Structured antepartum breast-feeding education improves both initiation and continuation of short-term breast-feeding rates post-partum, compared with usual care.\* (Duffy, Percival, & Kershaw, 1997; Pugh & Milligan, 1998; Hill, 1987; Kistin, Benton, & Rao, 1990; Brent et al., 1995; Redman et al., 1995) [**Level of Evidence: I-fair**]; (Sciacca et al., 1995; McEnery & Rao, 1986; Rossiter, 1994; Wiles, 1984; Reifsnider & Eckhart, 1997); [**Level of Evidence: I-poor**]
- **Education + support**. In-person or telephone support strengthens the effect of education, leading to an additional 5 to 10% increase in breast-feeding initiation and short-term duration. In-person or telephone support by itself may increase both short- and long-term breast-feeding rates. (Pugh & Milligan, 1998; Brent et al., 1995; Redman et al., 1995; Oakley, Rajan & Grant, 1990; Frank et al., 1987; Serafino-Cross & Donovan, 1992) [**Level of Evidence: I-fair**]; (Sciacca et al., 1995; Jones & West, 1985) [**Level of Evidence: I-poor**]

**Peer counseling to promote breast-feeding**: There is fair evidence to recommend peer counseling to promote initiation and maintenance of breast-feeding. [**B recommendation**]

- Peer counselors had a significant effect on breast-feeding rates and duration. (Dennis et al., 2002) [**Level of Evidence: I-fair**]; (Sciacca et al., 1995) [**Level of Evidence: I-poor**]; (Caulfield et al., 1998; Schafer et al., 1998;

Kistin, Abramson, & Dublin, 1994; McInnes, Love, & Stone, 2000) [**Level of Evidence: II-1-poor**]

**Provision of written materials to new mothers to promote breast-feeding:** There is good evidence to recommend against providing written materials alone to promote breast-feeding. [**D recommendation**]

- There is no benefit when written materials are used alone. (Curro et al., 1997) [**Level of Evidence: I-good**]; (Hill, 1987; Redman et al., 1995; Frank et al., 1987) [**Level of Evidence: I-fair**]; (Rossiter, 1994; Kaplowitz & Olson, 1983; Loh et al., 1997; Grossman et al., 1990) [**Level of Evidence: I-poor**]

**Primary health care provider (physician or midwife) advice to expectant or new mothers to promote breast-feeding:** There is insufficient evidence to make a recommendation regarding advice by primary health care providers to promote breast-feeding. [**I recommendation**]

- Effectiveness is unknown [no studies found]

**Provision of commercial discharge packages to new mothers:** There is good evidence to recommend against providing commercial discharge packages to new mothers. [**E recommendation**]

- Women receiving commercial discharge packages had lower breast-feeding rates than patients not receiving packages. (Donnelly et al., 2001) [**Level of Evidence: I (systematic review)-good**]

**Rooming-in and early maternal contact to promote breast-feeding:** There is good evidence to recommend rooming-in and early maternal contact to promote breast-feeding (The 1994 recommendations of the task force reviewed "good" level I evidence. Those recommendations, which were classified as grade A, are not overturned by the evidence reviewed here.) [**A recommendation**]

- **Rooming-in.** The sole new study of rooming-in included multiple interventions, and conclusions could not be drawn. (Winikoff et al., 1987) [**Level of Evidence: I-fair**]
- **Early maternal contact.** New data regarding early maternal contact are insufficient. (De Chateau & Wiberg, 1977; Salariya, Easton, & Cater, 1978; Thomson, Hartsock, & Larson, 1979; Taylor, Maloni, & Taylor, 1985) [**Level of Evidence: I (individual studies and meta-analysis)-good**]

\*In the studies reviewed, these interventions were usually provided in the clinical setting by lactation specialists or nurses, and consisted of individual or group instruction about breast-feeding knowledge, practical skills, and problem-solving techniques.

### **Definitions:**

### **Recommendations Grades**

**A:** The Canadian Task Force (CTF) concludes that there is good evidence to recommend the clinical preventive action.

**B:** The CTF concludes that there is fair evidence to recommend the clinical preventive action.

**C:** The CTF concludes that the existing evidence is conflicting and does not allow making a recommendation for or against use of the clinical preventive action; however, other factors may influence decision-making.

**D:** The CTF concludes that there is fair evidence to recommend against the clinical preventive action.

**E:** The CTF concludes that there is good evidence to recommend against the clinical preventive action.

**I:** The CTF concludes that there is insufficient evidence (in quantity and/or quality) to make a recommendation; however, other factors may influence decision-making.

### **Levels of Evidence**

**I:** Evidence from randomized controlled trial(s)

**II-1:** Evidence from controlled trial(s) without randomization

**II-2:** Evidence from cohort or case-control analytic studies, preferably from more than one centre or research group

**II-3:** Evidence from comparisons between times or places with or without the intervention; dramatic results from uncontrolled studies could be included here

**III:** Opinions of respected authorities, based on clinical experience; descriptive studies or reports of expert committees

### **Quality (Internal Validity) Rating**

**Good:** A study that meets all design-specific criteria\* well.

**Fair:** A study that does not meet (or it is not clear that it meets) at least one design-specific criterion\* but has no known "fatal flaw."

**Poor:** A study that has at least one design-specific\* "fatal flaw," or an accumulation of lesser flaws to the extent that the results of the study are not deemed able to inform recommendations.

### **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**

### **Summary of Key Evidence for Interventions to Promote Breastfeeding**

*Maneuver:* Individual or group educational sessions

*Level of Evidence:* Level I, fair (6 studies) poor (5 studies).

*Maneuver:* In-person or telephone support by itself

*Level of Evidence:* Level I, fair (6), poor (2).

*Maneuver:* In-person or telephone support plus education

*Level of Evidence:* Level I, fair (4).

*Maneuver:* Use of written materials

*Level of Evidence:* Level I, good (1), fair (3), poor (4).

*Maneuver:* Peer counseling

*Level of Evidence:* Level I, fair (1), poor (1), level II-1, poor (4).

*Maneuver:* Rooming-in and early maternal contact

*Level of Evidence:* level I, meta-analysis indicating no effect of early maternal contact; no adequate studies for rooming in.

*Maneuver:* Primary provider counseling (no adequate studies).

*Maneuver:* Commercial discharge packages

*Level of Evidence:* Level I, good, Cochrane review of 9 RCTs.

## **BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS**

### **POTENTIAL BENEFITS**

#### **Infant Benefits**

- Reduced risks of overall illness, gastrointestinal tract infections, and atopic eczema
- Probably reduced risks of asthma, otitis media, and respiratory disease requiring hospitalization
- Benefits to neurological development

#### **Maternal Benefits**

- More rapid postpartum return of uterine tone
- Weight loss
- Delay of ovulation
- Decreased risk of breast, ovarian, and endometrial cancers

### **POTENTIAL HARMS**

### **Infant Harms**

- Transmission of virus from human immunodeficiency virus (HIV)-positive mothers
- Polychlorinated biphenyls (PCBs) in breast-milk are not clearly related to effects on neurological development.

### **Maternal Harms**

Temporary outcomes such as sore nipples and mastitis

## **IMPLEMENTATION OF THE GUIDELINE**

### **DESCRIPTION OF IMPLEMENTATION STRATEGY**

An implementation strategy was not provided.

## **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)**

Palda VA, Guise JM, Wathen CN. Interventions to promote breast-feeding: applying the evidence in clinical practice. CMAJ 2004 Mar 16;170(6):976-8. [45 references] [PubMed](#)

### **ADAPTATION**

The guideline is an update of recommendations by the Canadian Task Force on Preventive Health Care (CTFPHC) made in 1994.

### **DATE RELEASED**

2004 Mar 16

### **GUIDELINE DEVELOPER(S)**

Canadian Task Force on Preventive Health Care - National Government Agency  
[Non-U.S.]

## **SOURCE(S) OF FUNDING**

The Canadian Task Force on Preventive Health Care (CTFPHC) is funded through a partnership between the Provincial and Territorial Ministries of Health and Health Canada.

## **GUIDELINE COMMITTEE**

Canadian Task Force on Preventive Health Care (CTFPHC)

## **COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE**

*Canadian Task Force on Preventive Health Care (CTFPHC) Members:* Dr. John W. Feightner, (*Chair*) Professor, Department of Family Medicine, The University of Western Ontario, London, Ont.; Dr. Harriet MacMillan, (*Vice-chair*) Associate Professor, Departments of Psychiatry and Behavioural Neurosciences and of Pediatrics, Canadian Centre for Studies of Children at Risk, McMaster University, Hamilton, Ont.; Drs. Paul Bessette, Professeur titulaire, Département d'obstétrique-gynécologie, Université de Sherbrooke, Sherbrooke, Que.; R. Wayne Elford, Professor Emeritus, Department of Family Medicine, University of Calgary, Calgary, Alta.; Denice Feig, Assistant Professor, Department of Medicine, University of Toronto, Toronto, Ont.; Joanne M. Langley, Associate Professor, Departments of Pediatrics and of Community Health and Epidemiology, Dalhousie University, Halifax, NS; Valerie Palda, Assistant Professor, Department of Medicine, University of Toronto, Toronto, Ont.; Christopher Patterson, Professor and Head, Division of Geriatric Medicine, Department of Medicine, McMaster University, Hamilton, Ont.; and Bruce A. Reeder, Professor, Department of Community Health and Epidemiology, University of Saskatchewan, Saskatoon, Sask.

*Resource People:* Nadine Wathen, Coordinator; Ruth Walton, Research Associate; and Jana Fear, Research Assistant, Canadian Task Force on Preventive Health Care, Department of Family Medicine, The University of Western Ontario, London, Ont.

## **FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST**

Competing interests: none declared

## **GUIDELINE STATUS**

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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 \(CTFPHC\) Web site](#).

Print copies: Available from Canadian Task Force on Preventive Health Care, Clinical Skills Building, 2nd Floor, Department of Family Medicine, University of Western Ontario, London, Ontario N6A 5C1, Canada.

## **AVAILABILITY OF COMPANION DOCUMENTS**

The following are available:

- Palda, V.A., Guise, J.M., Wathen, C.N., and the Canadian Task Force on Preventive Health Care. Interventions to Promote Breast-feeding: Updated Recommendations from the Canadian Task Force on Preventive Health Care. CTFPHC Technical Report #03-6. October 2003. London, ON: Canadian Task Force.
- V.A. Palda, MD, MSc, FRCPC, J-M. Guise, MD, MPH, and C.N. Wathen, MA, with the Canadian Task Force on Preventive Health Care. Recommendation table. Ottawa: Health Canada, 2003 Feb. Available from the [Canadian Task Force on Preventive Health Care \(CTFPHC\) Web site](#).
- 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 [Canadian Task Force on Preventive Health Care \(CTFPHC\) Web site](#).
- Quick tables of current recommendations. Ottawa: Health Canada, 1997. Available from the [Canadian Task Force on Preventive Health Care \(CTFPHC\) Web site](#).

## **PATIENT RESOURCES**

None available

## **NGC STATUS**

This NGC summary was completed by ECRI on August 13, 2004. The information was verified by the guideline developer on September 15, 2004.

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