



## Complete Summary

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### GUIDELINE TITLE

Varicella vaccination. Recommendation statement from the Canadian Task Force on Preventive Health Care.

### BIBLIOGRAPHIC SOURCE(S)

Varicella vaccination. Recommendation statement from the Canadian Task Force on Preventive Health Care. CMAJ 2001 Jun 26;164(13):1888-9. [97 references]

## COMPLETE SUMMARY CONTENT

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INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT  
CATEGORIES  
IDENTIFYING INFORMATION AND AVAILABILITY

## SCOPE

### DISEASE/CONDITION(S)

Varicella (chicken-pox)

### GUIDELINE CATEGORY

Prevention  
Screening

### CLINICAL SPECIALTY

Family Practice  
Geriatrics  
Infectious Diseases  
Internal Medicine  
Pediatrics  
Preventive Medicine

### INTENDED USERS

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

#### GUIDELINE OBJECTIVE(S)

- To evaluate the evidence relating to the effectiveness and potential harms of varicella-zoster-virus (VZV) vaccine for the prevention of varicella in healthy individuals
- To make recommendations regarding the administration of varicella-zoster-virus vaccine in healthy populations

#### TARGET POPULATION

- Healthy infants
- Older children
- Susceptible adolescents and adults

#### INTERVENTIONS AND PRACTICES CONSIDERED

Administration of varicella-zoster-virus vaccine in healthy populations:

1. Universal vaccination of healthy infants
2. Catch up vaccination of older children
3. Vaccination of susceptible adolescents and adults
4. Vaccination of susceptible pregnant women (considered but not recommended)

#### MAJOR OUTCOMES CONSIDERED

Incidence of varicella, zoster or adverse outcomes following vaccination.

## 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

MEDLINE and EMBASE were searched for trials of varicella zoster virus (VZV) vaccine in healthy populations published from 1966 to December 1998 using the terms: chicken-pox, vaccination, human. There was no language restriction. Additional articles were identified using the reference lists of these publications,

position statements from health organizations, vaccine product information and the Cochrane Library. Selection criteria were used to limit the review to randomised controlled trials or cohort studies of at least one year's duration with loss to follow-up described.

#### 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.

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

The 10-member Task Force of experts in family medicine, geriatric medicine, paediatrics, psychiatry and epidemiology 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 author were pre-circulated to the members. Evidence for this topic was presented and deliberated upon in 1- to 2-day meetings from June 1999 to November 1999. 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.
- B. Fair evidence to support the recommendation that the condition or maneuver be specifically considered in a periodic health examination.
- C. Insufficient evidence regarding inclusion or exclusion of the condition or maneuver in a periodic health examination, but recommendations may be made on other grounds.
- D. Fair evidence to support the recommendation that the condition or maneuver be specifically excluded from a periodic health examination.
- E. Good evidence to support the recommendation that the condition or maneuver be specifically excluded from a periodic health examination.

## 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 findings of the analysis of the recommendations were reviewed through an iterative process by the members of the Canadian Task Force on Preventive Health Care. The draft of the report was also externally peer reviewed. It was again peer reviewed as part of the journal publication process.

# RECOMMENDATIONS

## MAJOR RECOMMENDATIONS

Recommendation grade [A, B, C, D, E] and level 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.

- There is good evidence based on effectiveness data to recommend implementing single dose, routine vaccination of children aged 12-15 months and catch-up vaccination of children aged one to 12 years for the prevention of varicella-zoster-virus illness (Varis & Vesikari, 1996; Tan et al., 1996; Weibel et al., 1984; Kuter et al., 1991; Rothstein et al., 1997; Ngai et al., 1996; Johnson et al., 1997; Takayama, Minamitani, & Takayama, 1997; Asano, 1996; Asano et al., 1985; Watson et al., 1993; White et al., 1991; White et al., 1992; Johnson et al., 1989; Ozaki et al., 1984; Asano & Takahashi, 1977; Asano et al., 1994). [A, I, II-2]
- There is fair evidence based on effectiveness and immunogenicity data for the vaccination of susceptible adolescents and adults (Watson et al., 1993; White et al., 1991; White et al., 1992; Kuter et al., 1995; Ndumbe et al., 1985; Gershon et al., 1988; Gershon, Steinberg, & Gelb, 1986; Kuter et al., 1995) [B, II-1, II-2]. Two doses given 4 to 8 weeks apart appear more effective than a single dose based on immunogenicity data in subjects over 12 years.
- Further clinical trials would be needed to provide better data on cost-effectiveness, mortality and hospitalization, long-term effectiveness in adults, and to compare the effectiveness of one- versus two-dose regimens in adolescents and adults.
- There is insufficient evidence documenting safety of varicella-zoster-virus in pregnancy to recommend vaccination in susceptible pregnant women, although risk is likely to be less than for naturally acquired varicella-zoster-virus.

#### Definitions:

##### Recommendation Grade:

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

##### Level of Evidence:

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

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: Immunization of 12-15 month old children with varicella vaccine

Level of Evidence:

Randomized control trials (I)

Prospective cohort studies (II-2)

Maneuver: Catch-up immunization of children to 12 years with varicella vaccine

Level of Evidence:

Randomized control trials (I)

Prospective cohort studies (II-2)

Maneuver: Immunization of susceptible adolescents with varicella vaccine

Level of Evidence:

Prospective cohort studies (II-2)

Maneuver: Immunization of susceptible adults with varicella vaccine

Level of Evidence:

Controlled trials (II-1)

Prospective cohort studies (II-2)

### BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

#### POTENTIAL BENEFITS

- Prevention of varicella-related morbidity and mortality in children and adults.
- Prevention of herpes zoster due to varicella-zoster-vaccine reactivation in adults.

#### POTENTIAL HARMS

- Immediate adverse reactions (local reactions, fever, injection site reactions, and rash).
- Long-term risk for varicella and herpes zoster (transmission of varicella from vaccines; risk of herpes zoster following vaccination; a shift in varicella cases to an older age group, and more serious disease).

### 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.

Staying Healthy

IOM DOMAIN

Effectiveness

## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

Varicella vaccination. Recommendation statement from the Canadian Task Force on Preventive Health Care. CMAJ 2001 Jun 26;164(13):1888-9. [97 references]

### ADAPTATION

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

### DATE RELEASED

2001 Jun

### 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 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

Authors: S.A. Skull, E.E.L. Wang

Members of the Canadian Task Force on Preventive Health Care

Chairman: Dr. John W. Feightner, Professor, Department of Family Medicine, University of Western Ontario, London, Ont.

Past Chairman: Dr. Richard Goldbloom, Professor, Department of Pediatrics, Dalhousie University, Halifax, NS.

Members: Drs. R. Wayne Elford, Professor and Chair of Research, Department of Family Medicine, University of Calgary, Calgary, Alta.; Michel Labrecque, Professor, Unité de médecine familiale, Université Laval, Rimouski, Que.; Robin McLeod, Professor, Department of Surgery, Mount Sinai Hospital and University of Toronto, Toronto, Ont.; Harriet MacMillan, Associate Professor, Departments of Psychiatry and Behavioural Neurosciences and of Pediatrics, Canadian Centre for Studies of Children at Risk, McMaster University, Hamilton, Ont.; Jean-Marie Moutquin, Professor and Director, Département d'obstétrique-gynécologie, Université de Sherbrooke, Sherbrooke, Que.; Christopher Patterson, Professor and Head, Division of Geriatric Medicine, Department of Medicine, McMaster University, Hamilton, Ont.; and Elaine E.L. Wang, Associate Professor, Departments of Pediatrics and Public Health Sciences, Faculty of Medicine, University of Toronto, Toronto, Ont.

Resource people: Ms. Nadine Wathen, Coordinator, and Mr. Tim Pauley, Research Assistant, Canadian Task Force on Preventive Health Care, Department of Family Medicine, University of Western Ontario, London, Ont.

#### 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:

- Skull SA, Wang EE, with the Canadian Task Force on Preventive Health Care. Use of varicella vaccine in healthy populations: systematic review and recommendations. London, ON: Canadian Task Force, 2000 Apr. (CTFPHC Technical Report #01-1). Available in Portable Document Format (PDF) 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 [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

None available

#### 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.

#### COPYRIGHT STATEMENT

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