



Complete Summary

GUIDELINE TITLE

Management of persistent asthma in adults and children older than 5 years of age.

BIBLIOGRAPHIC SOURCE(S)

Michigan Quality Improvement Consortium. Management of persistent asthma in adults and children older than 5 years of age. Southfield (MI): Michigan Quality Improvement Consortium; 2006 Aug. 1 p.

GUIDELINE STATUS

Note: This guideline has been updated. The National Guideline Clearinghouse (NGC) is working to update this summary.

** REGULATORY ALERT **

FDA WARNING/REGULATORY ALERT

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- [November 18, 2005, Long-acting beta2-adrenergic agonists \(LABA\) \(Advair Diskus, Foradil Aerolizer, and Serevent Diskus\)](#): U.S. Food and Drug Administration notified manufacturers of to update their existing product labels with new warnings and a Medication Guide for patients to alert health care professionals and patients that these medicines may increase the chance of severe asthma episodes, and death when those episodes occur.

COMPLETE SUMMARY CONTENT

** REGULATORY ALERT **

SCOPE

METHODOLOGY - including Rating Scheme and Cost Analysis

RECOMMENDATIONS

EVIDENCE SUPPORTING THE RECOMMENDATIONS

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

CONTRAINDICATIONS

QUALIFYING STATEMENTS

IMPLEMENTATION OF THE GUIDELINE

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

SCOPE

DISEASE/CONDITION(S)

Persistent asthma

GUIDELINE CATEGORY

Counseling
Management
Treatment

CLINICAL SPECIALTY

Allergy and Immunology
Family Practice
Internal Medicine
Pediatrics
Pulmonary Medicine

INTENDED USERS

Advanced Practice Nurses
Health Plans
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

- To achieve significant, measurable improvements in the management of persistent asthma through the development and implementation of common evidence-based clinical practice guidelines
- To design concise guidelines that are focused on key management components of persistent asthma to improve outcomes

TARGET POPULATION

Adults and children older than 5 years of age with persistent asthma*

*Symptoms >2/week but <1x/day and/or >2 nights/month with forced expiratory volume in one second (FEV₁) or peak expiratory flow (PEF) \geq 80% predicted and peak expiratory flow variability 20% to 30%.

INTERVENTIONS AND PRACTICES CONSIDERED

1. Peak flow meter
2. Inhaled corticosteroids
3. Intermediate or long acting beta₂ agonists

4. Short-acting, inhaled beta₂ agonist
5. Oral steroids for acute exacerbations
6. Follow-up outpatient visit
7. Close monitoring of patients receiving long acting beta₂ agonist
8. Written action plan for self-management
9. Assessment of adherence to action plan, psychosocial status, asthma control, triggers, medication use and side effects
10. Immunization (e.g., influenza, other age appropriate immunizations)
11. Patient and family education
12. Alternative therapies for inhaled corticosteroids with long-acting beta₂ agonists
 - For moderate persistent asthma: inhaled corticosteroids with either leukotriene modifier or theophylline
 - For mild persistent asthma: cromolyn, leukotriene modifier, nedocromil, or sustained release theophylline to serum concentration of 5 to 15 micrograms/mL
13. Consultation with an asthma specialist if indicated

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The Michigan Quality Improvement Consortium (MQIC) project leader conducts a search of current literature in support of the guideline topic. Computer database searches are used to identify published studies and existing protocols and/or clinical practice guidelines on the selected topic. A database such as MEDLINE and two to three other databases are used.

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 for the Most Significant Recommendation

- A. Randomized controlled trials

- B. Controlled trials, no randomization
- C. Observational studies
- D. Opinion of expert panel

METHODS USED TO ANALYZE THE EVIDENCE

Review

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

Using the health plan guideline summaries and information obtained from the literature search, the Michigan Quality Improvement Consortium (MQIC) director and/or project leader prepare a draft guideline for review by the MQIC Medical Directors.

The draft guideline and health plan guideline summaries are distributed to the MQIC Medical Directors for review and discussion at their next committee meeting.

The review/revision cycle may be conducted over several meetings before consensus is reached. Each version of the draft guideline is distributed to the MQIC Medical Directors, Measurement, and Implementation Committee members for review and comments. All feedback received is distributed to the entire membership.

Once the MQIC Medical Directors achieve consensus on the draft guideline, it is considered approved for external distribution to practitioners with review and comments requested.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

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

METHOD OF GUIDELINE VALIDATION

External Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Once the Michigan Quality Improvement Consortium (MQIC) Medical Directors achieve consensus on the draft guideline, it is considered approved for external distribution to practitioners with review and comments requested.

The MQIC director also forwards the approved guideline draft to presidents of the appropriate state medical specialty societies for their input. All feedback received from external reviews is presented for discussion at the next MQIC Medical Directors Committee meeting. In addition, physicians are invited to attend the committee meeting to present their comments.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note: This guideline has been updated. The National Guideline Clearinghouse (NGC) is working to update this summary. The recommendations that follow are based on the previous version of the guideline.

The level of evidence grades (A-D) are provided for the most significant recommendations and are defined at the end of the "Major Recommendations" field.

Use of Peak Flow Meters

- Prescribe peak flow meter **[B]** and determine personal best.

Frequency

At least once

Regular Use of Controller Medications

- Prescribe daily use of inhaled corticosteroids. **[A]**
- Add intermediate or long acting inhaled beta₂ agonist (LABA)^{1, 2} if symptoms persist despite maximum inhaled steroid dose. **[A]** LABA should not be used as the first medication to treat asthma or as mono-therapy. **[D]** (LABA therapy has been associated with increased risk of severe asthma exacerbation and asthma-related deaths).
- Avoid the regular scheduled use of short-acting beta₂ agonists for long-term control of asthma.
- Prescribe spacer for all meter-dosed medications. **[A]**

Frequency

Reassess at least every 6 months, or at each periodic visit.

¹Inhaled corticosteroids with long-acting beta₂ agonists are preferred therapy for **moderate** persistent asthma. Alternative treatments include inhaled corticosteroids with either leukotriene modifier or theophylline.

²Alternative therapies for **mild** persistent asthma include cromolyn, leukotriene modifier, nedocromil or sustained release theophylline to serum concentration of 5 to 15 micrograms/mL.

Management of Acute Exacerbations

- Prescribe short-acting, inhaled beta₂agonist³. **[A]**
- Prescribe oral steroids for acute exacerbations that fail to respond adequately³. **[A]**
- Routine use of antibiotics for exacerbations is not recommended.

Frequency

During acute episode

³Prescribe these medications for the patient to have at home to use in the event of an acute exacerbation.

Medical Follow-up after Discharge

- Recommend and schedule, if possible, follow-up outpatient visit at discharge from hospital or emergency department. **[D]**

Frequency

Visit within 3 to 5 days of discharge

Periodic Assessment - Monitoring, Management, and Education

- Patients receiving LABA should have close surveillance to assess benefit and safety of medication.
- Provide and review written action plan for self-management (e.g., http://www.mqic.org/pdf/a_action.pdf).
- Assess adherence to written action plan, psychosocial status, asthma control, triggers, medication use, and side effects.
- Recommend influenza immunization and ensure age appropriate immunization status (e.g., pneumococcal vaccine).
- Educate patient/family regarding:
 - Use of asthma action plan, peak flow meter, inhaler, spacer, dry powder inhaler, and medications
 - Importance of using long-term control medication (i.e., inhaled corticosteroids) **[D]**
 - Recognition and treatment of symptoms and when to seek medical attention
 - Identification and avoidance of specific triggers
 - Smoking cessation and secondhand smoke avoidance **[C]**

Frequency

At each periodic visit

Referral

- Consultation with an asthma specialist is recommended when patient is not responding optimally to asthma therapy; has signs, symptoms, or conditions that make it difficult to obtain asthma control; or following a life-threatening asthma exacerbation.

Definitions:

Levels of Evidence for the Most Significant Recommendations

- A. Randomized controlled trials
- B. Controlled trials, no randomization
- C. Observational studies
- D. Opinion of expert panel

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence is provided for the most significant recommendations (See "Major Recommendations" field).

This guideline is based on several sources, including The Diagnosis and Outpatient Management of Asthma Guideline, Institute of Clinical Systems Improvement, 2005 (www.icsi.org) and the 2002 *National Asthma Education and Prevention Program (NAEPP) Expert Panel Report: Guidelines for the Diagnosis and Management of Asthma, Update on Selected Topics* (www.nhlbi.nih.gov).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Through a collaborative approach to developing and implementing common clinical practice guidelines and performance measures for persistent asthma in adults and children older than 5 years of age, Michigan health plans will achieve consistent delivery of evidence-based services and better health outcomes. This approach also will augment the practice environment for physicians by reducing the administrative burdens imposed by compliance with diverse health plan guidelines and associated requirements.

POTENTIAL HARMS

Long-acting beta₂ agonist (LABA) therapy has been associated with increased risk of severe asthma exacerbation and asthma-related deaths.

CONTRAINDICATIONS

CONTRAINDICATIONS

Long-acting beta₂ agonists (LABA) should not be used as the first medication to treat asthma or as mono-therapy.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

This guideline lists core management steps. Individual patient considerations and advances in medical science may supersede or modify these recommendations.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

When consensus is reached on a final version of the guideline, a statewide mailing of the approved guideline is completed. The guideline is distributed to physicians in the following medical specialties:

- Family Practice
- General Practice
- Internal Medicine
- Other Specialists for which the guideline is applicable (e.g., endocrinologists, allergists, pediatricians, cardiologists, etc.)

IMPLEMENTATION TOOLS

Chart Documentation/Checklists/Forms
Tool Kits

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

Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Michigan Quality Improvement Consortium. Management of persistent asthma in adults and children older than 5 years of age. Southfield (MI): Michigan Quality Improvement Consortium; 2006 Aug. 1 p.

ADAPTATION

This guideline is based on several sources, including: the Diagnosis and Outpatient Management of Asthma Guideline, Institute of Clinical Systems Improvement, 2005 (www.icsi.org), and the 2002 National Asthma Education and Prevention Program Expert Panel Report, Guidelines for the Diagnosis and Management of Asthma, update on Selected Topics (www.nhlbi.nih.gov).

DATE RELEASED

2002 Aug (revised 2006 Aug)

GUIDELINE DEVELOPER(S)

Michigan Quality Improvement Consortium - Professional Association

SOURCE(S) OF FUNDING

Michigan Quality Improvement Consortium

GUIDELINE COMMITTEE

Michigan Quality Improvement Consortium Medical Director's Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Physician representatives from participating Michigan Quality Improvement Consortium health plans, Michigan State Medical Society, Michigan Osteopathic Association, Michigan Association of Health Plans, Michigan Department of Community Health and Michigan Peer Review Organization

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

Note: This guideline has been updated. The National Guideline Clearinghouse (NGC) is working to update this summary.

GUIDELINE AVAILABILITY

Electronic copies of the updated guideline: Available in Portable Document Format (PDF) from the [Michigan Quality Improvement Consortium Web site](#).

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Asthma action plan. Electronic copies available in Portable Document Format (PDF) from the [Michigan Quality Improvement Consortium Web site](#).
- Asthma control plan for children. Electronic copies available in Portable Document Format (PDF) from the [Michigan Quality Improvement Consortium Web site](#).
- Michigan asthma resource kit (MARK). Electronic copies available in Portable Document Format (PDF) from the [Michigan Quality Improvement Consortium Web site](#).

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on April 14, 2004. The information was verified by the guideline developer on July 27, 2004. This NGC summary was updated by ECRI on December 10, 2004. This NGC summary was updated by ECRI on December 10, 2004. The updated information was verified by the guideline developer on January 21, 2005. This summary was updated by ECRI on December 5, 2005 following the U.S. Food and Drug Administration (FDA) advisory on long-acting beta2-adrenergic agonists (LABA). This NGC summary was updated by ECRI on October 13, 2006. The updated information was verified by the guideline developer on November 3, 2006.

COPYRIGHT STATEMENT

This NGC summary is based on the original guideline, which may be reproduced with the citation developed by the Michigan Quality Improvement Consortium.

DISCLAIMER

NGC DISCLAIMER

The National Guideline Clearinghouse™ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at <http://www.guideline.gov/about/inclusion.aspx>.

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.

© 1998-2008 National Guideline Clearinghouse

Date Modified: 9/29/2008

