Complete Summary

GUIDELINE TITLE

Management of persistent asthma in infants and children 5 years of age and younger.

BIBLIOGRAPHIC SOURCE(S)

Michigan Quality Improvement Consortium. Management of persistent asthma in infants and children 5 years of age and younger. 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

IDENTIFYING INFORMATION AND AVAILABILITY
DISCLAIMER

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

Infants and children 5 years of age and younger with persistent asthma*

*Symptoms > 2/week but <1x/day and /or >2 nights/month

INTERVENTIONS AND PRACTICES CONSIDERED

1. Inhaled corticosteroids
2. Intermediate or long acting beta$_2$ agonists
3. Alternative therapies for inhaled corticosteroids with long-acting beta$_2$ agonists

- For moderate persistent asthma: inhaled corticosteroids with either leukotriene receptor antagonist or theophylline
- For mild persistent asthma: cromolyn or leukotriene receptor antagonist

4. Short-acting, inhaled beta$_2$ agonist
5. Oral steroids for acute exacerbations (alternative therapy: oral beta$_2$ agonists)
6. Follow-up outpatient visit
7. Close monitoring of patients receiving long acting beta$_2$ agonist
8. Written action plan
9. Assessment of adherence to action plan, family psychosocial status, asthma control, triggers, medication use, and side effects
10. Immunization (e.g., influenza, other age appropriate immunizations)
11. Family education regarding use of inhaler, spacer, nebulizer, and medications; importance of using long-term control medications; when to seek medical attention; second smoke avoidance
12. 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 Recommendations

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.

Regular Use of Controller Medications

- Prescribe daily use of inhaled corticosteroids **[A]** (with nebulizer or metered-dose inhaler with holding chamber with or without face mask or dry powder inhaler).
- Add intermediate or long acting inhaled $beta_2$ 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 exacerbations and asthma-related deaths.)
- Avoid the regular scheduled use of short-acting $beta_2$ agonists for long-term control of asthma.
- Prescribe spacer for all metered-dose inhalers **[A]**.

Frequency

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

[1]Inhaled corticosteroids with long-acting $beta_2$ agonists are preferred therapy for **moderate** persistent asthma. Alternative treatments include inhaled corticosteroids with either leukotriene receptor antagonist or theophylline.

[2]Alternative therapies for **mild** persistent asthma include cromolyn (nebulizer is preferred or metered-dose inhaler with holding chamber) or leukotriene receptor antagonist.

Management of Acute Exacerbations

- Prescribe short-acting, inhaled beta$_2$ agonist[3, 4] **[A]** by nebulizer or face mask and space or holding chamber.
- Prescribe oral steroids for acute exacerbations that fail to respond adequately[4] **[A]**.
- Routine use of antibiotics for exacerbations is not recommended.

Frequency

During acute episode

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

[4]Alternative treatment: Oral beta$_2$ agonist

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.getasthmahelp.org/simple%20child%20control%20plan.pdf)**.
- Assess adherence to written action plan, family psychosocial status, asthma control, triggers, medication use and side effects.
- Recommend influenza immunization and ensure age appropriate immunization status (e.g., pneumococcal vaccine).
- Educate family and patient regarding:
    - Use of asthma action plan, inhaler, spacer, nebulizer 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 infants and children 5 years of age and younger, 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 beta$_2$ agonist (LABA) therapy has been associated with increased risk of severe asthma exacerbations and asthma-related deaths.

CONTRAINDICATIONS

CONTRAINDICATIONS

Long-acting beta$_2$ 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)

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)

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ADAPTATION

This guideline is based on several sources, including The Diagnosis and Outpatient Management of Asthma Guideline, Institute for 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

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 control plan for children. Electronic copies available in Portable Document Format (PDF) from the Michigan Quality Improvement Consortium Web site. See the related QualityTool summary on the Health Care Innovations Exchange 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 October 16, 2006. The information was verified by the guideline developer on November 3, 2006.

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DISCLAIMER

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

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