Evidence-based Best Practices for the Management of Asthma in Pediatric Care in South Carolina

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August 2, 2015

Objectives

- **Assess** and document initial severity and follow-up control to select optimal medications
- **Environmental control** includes a smoke-free home and car and avoiding or minimizing exposure to triggers
- **Develop** a written asthma action plan (AAP) for patient self-management and provide copies for use at home, school and daycare
- **Instruct** patients and parents on the proper use of each of their inhalers

Disclosure

- **Grant funding:**
  - South Carolina Department of Health and Human Services
  - National Institute on Drug Abuse
- **Primary Source of Information**
  - SCORxE Academic Detailing Service, Evidence-Based Best Practices for the Management of Asthma in Pediatric Primary Care in South Carolina. Published April 2012/Revised April 2015.
  
Available at: [www.sccep.sc.edu/SCORxE](http://www.sccep.sc.edu/SCORxE)

Initial Classification of Asthma Severity and Level of Control at Every Follow-up

**Important considerations**

- Documentation/classification of severity helps determine the maximum effective treatment and minimizes medication risks
- Regular follow-up and documentation is important to achieve AND maintain control
- If asthma is not well controlled consider
  - Inhaler/device technique
  - Adherence to medications
  - Trigger control

Assess Initial Asthma Severity

Initial Classification of Asthma

Patient has Mild Persistent Asthma

[Table and diagram showing different severity levels and management strategies for asthma]

[Table and diagram showing different severity levels and management strategies for asthma]
Initial Asthma Classification and Classification of Follow-up Control

The classification of asthma severity (or level of control) and follow-up control is determined by the most severe category of any ONE criterion/feature.

Initiate Drug Therapy Based on Asthma Severity

Include a daily controller + SABA prn rescue inhaler for all patients with persistent asthma.

1. Exertional
   All ages
   SABA PRN

2. Mild Persistent
   All ages
   LOW dose ICS
   Alternative: LTRA

Classification of Asthma Control at Follow-up

<table>
<thead>
<tr>
<th>Qualitative Objective</th>
<th>MILD SYMPTOMS</th>
<th>MODERATE SYMPTOMS</th>
<th>SEVERE SYMPTOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve</td>
<td>1/3 week</td>
<td>1/3 week</td>
<td>1/3 week</td>
</tr>
<tr>
<td>Control</td>
<td>1/3 week</td>
<td>1-2/3 week</td>
<td>2-3/3 week</td>
</tr>
<tr>
<td>Avoid 2 or more days</td>
<td>1-2/3 week</td>
<td>2-3/3 week</td>
<td>3+ days</td>
</tr>
<tr>
<td>Miss school or work</td>
<td>1-2/3 week</td>
<td>2-3/3 week</td>
<td>3+ days</td>
</tr>
<tr>
<td>Miss or play outside</td>
<td>1-2/3 week</td>
<td>2-3/3 week</td>
<td>3+ days</td>
</tr>
<tr>
<td>Miss or play outside</td>
<td>1-2/3 week</td>
<td>2-3/3 week</td>
<td>3+ days</td>
</tr>
</tbody>
</table>

Individualize a Written Asthma Action Plan (AAP)

Provide a copy for home, school and daycare

- Engage patients/parents to monitor asthma control
  - Can include following symptoms, peak flow readings or both
- Use to educate families to monitor for overuse of rescue inhaler
- Review at each visit and modify as needed
- Include guidelines for acute exacerbations and detailed contact information

Peak Flow Meters

Establish your 'personal best' PEFR

Take peak flow readings:

- When your asthma is under good control
- 2x/day for 2-3 weeks
- When you wake up and between noon and 2:00pm

www.bobuxa.com
Help Families Stop Smoking and Minimize Exposure to Other Identified Triggers

- Promote smoke-free environment (home, car, daycare)
- Educate patient on how to eliminate/avoid triggers
  - Requires a multifaceted, comprehensive approach that targets all identified allergens
- Educate families on how to handle unavoidable triggers (e.g., exercise, viral infection)
  - Exercise should be encouraged; families should be educated on how to manage
- Administer the inactivated flu vaccine annually (> 6 months of age)

Help Families Stop Smoking

Pediatric visits offer important opportunities to ask and advise parents and caregivers about tobacco use to effectively increase abstinence among adults who smoke in addition to screening for tobacco use and promoting good health in children and adolescents.

To Quit or Not to Quit... the Unique Role of Pediatric Visits

SC Quitline

- Fax referral form
- Mock RxPad

Many Patients Do Not Use Their Inhalers and Devices Properly

Repeat instructions and have patients demonstrate what they learn to help maintain correct technique over time

Instruct Patients and Parents on the Proper Use of Each of Their Inhalers

Consider having an ‘asthma coach’ at the practice to teach on proper technique on different devices.
Tips for Optimal Selection and Use of Inhalers

- **CONSIDER** devices available for selected drug
- **SELECT** inhaler patient is capable of using properly
- **TEACH** patient and caregiver proper technique then have them teach you back
- **REPEAT** at follow-up: have patient bring device(s) and demonstrate use at every visit
- **COMMON ERRORS**
  - Patient does not exhale before using the device
  - Patient does NOT hold breath after inhaling dose

### Tips for Optimal Selection and Use of Inhalers

<table>
<thead>
<tr>
<th>Device</th>
<th>General age for correct use</th>
<th>Main Advantages</th>
<th>Main Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nebulizer, Diskus, Misthaler (MDI)</td>
<td>≥ 4 years (preschool) to 24 years (adult annual)</td>
<td>Less coordination needed, easier to use, reduced chances of drug dispersion at start of use</td>
<td>Cannot place &gt;1 puff in syringe or wait on long to inhale, spacer is less compatible, less compact</td>
</tr>
<tr>
<td>Unused Diskus Inhaler (MDI)</td>
<td>≥ 6 years with aerosol provided</td>
<td>Compact and portable, can use with spacer</td>
<td>Requires frequent priming and cleaning</td>
</tr>
</tbody>
</table>

### Asthma Medications

**Updates Since 2012**

<table>
<thead>
<tr>
<th>Controller Medications</th>
<th>Inhaler Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICS DPI (Salmeterol/Mometasone)</td>
<td>100 mcg/g/puff, 200 mcg/g/puff, Once daily doses</td>
</tr>
<tr>
<td>ICS/Fluticasone Propionate (Flonase)</td>
<td>110 mcg/g/puff, 44 mcg/g/puff</td>
</tr>
<tr>
<td>ICS/Fluticasone/Fenoterol (Fostair)</td>
<td>50 mcg/g/puff, 25 mcg/g/puff, 12.5 mcg/g/puff</td>
</tr>
<tr>
<td>Fluticasone/Levalbuterol (Advair)</td>
<td>100 mcg/g/puff, 50 mcg/g/puff</td>
</tr>
<tr>
<td>SABA DPI (Albuterol, ProAir, Respigrid)</td>
<td>90 mcg/puff</td>
</tr>
</tbody>
</table>

### Course of Asthma

**Risk Factors for asthma-related death**

- 2012 SCORxE Review
  - Low socio-economic status
  - Prior severe exacerbations requiring intubation
  - Recent ED visit or hospital admission for asthma
  - Difficulty perceiving symptoms or exacerbation severity
- 2 or more rescue inhalers per month
- Cigarette smoking
- CV or psychiatric comorbidities

- 2015 SCORxE additions
  - Poor adherence with asthma medications
  - Poor adherence with asthma action plans
  - Not using inhaled corticosteroids
  - Current or recent use of oral corticosteroids
  - Food allergies

**Course of Asthma**

**Engage Patients in Optimal Asthma Management and Breathe Easy**
What Next from SCORxE
Visits to Practices in the Fall

- Clinical-friendly interactive discussions at practice site
- Concise, user-friendly print materials
- Educational resources and clinical tools
- More detailed evidence-based materials
  - To be available at: www.scpp.sc.edu/SCORxE

Select References


Select References