Management of Chronic Asthma in Children

Disclaimer: This background information is not intended to be a comprehensive scientific discussion of the topic, but rather an attempt to provide a baseline level of information for anyone unfamiliar with the subject matter.

Background:

Asthma is a chronic inflammatory disorder of the airways. It is characterized by:

- Airway inflammatory cells resulting in an acute, sub-acute or chronic process that alters airway structure reversibly or permanently.

- Airway hyper-responsiveness in response to allergens, environmental irritants, viral infections and exercise.

Asthma is the most common chronic disease in children and a major cause of morbidity and increased health care expenditures nationally (Adams, et al., 2001) For children, asthma is one of the most frequent reasons for admission to hospitals (McCormick, et al., 1999). In 2003, (Silber, 2003) noted that there are approximately 200,000 admissions for childhood asthma in the U.S. annually, representing more than $3 billion dollars in expenditures. Under-treatment and/or inappropriate treatment of asthma are recognized as major contributors to asthma morbidity and mortality.

According to the Agency for Healthcare Research and Quality (AHRQ), increasing use of controller medications improves outcomes. And, children with asthma who are seen by specialists or receive follow-up appointments are more likely to use appropriate long-term medications (Aronson, 2004)

Organization of care towards patient self-management and patient/caregiver routine education on appropriate use of asthma medications, identification of symptoms of exacerbation, avoidance of environmental triggers cannot be overemphasized (AHRQ, 2005). For children, it is particularly important to involve both the patient and the caregiver in this educational component of asthma care as participation in the plan of care by both will provide the greatest opportunity to promote compliance with the treatment plan, control of asthma, and treatment of exacerbations in a safe and timely manner.
Supporting Evidence:

National Heart, Lung and Blood Institute (NHLBI).
http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf
Guidelines for the Diagnosis and Management of Asthma. The guidelines present basic recommendations of the diagnosis and management of asthma that help clinicians, children and families make appropriate decisions about asthma care.

Global Initiative for Asthma (GINA). http://www.ginasthma.org
This organization produces guidelines and recommendations for asthma management based on scientific information. These reports and their companion documents have been widely distributed and translated into many languages.

Institute for Clinical Systems Improvement, Diagnosis and Management of Asthma, January 2008.
The evidence-based guideline provides a comprehensive approach to the diagnosis and management of asthma in all patients starting at age 5. The components of this guideline include assessment, monitoring, education, awareness and control of environmental triggers and comprehensive pharmacologic therapy.

American College of Allergy, Asthma and Immunology. http://www.acaai.org
Provides both patient and professional-oriented information on asthma diagnosis and management.

American Lung Association (ALA) http://www.lungusa.org
Offers comprehensive information for patients and practitioners on asthma care and reduction of exacerbations and asthma triggers.

Areas of Current Clinical Review and Discussion:

- Measures of Asthma Assessment and Monitoring (Severity & Control)
  Periodic monitoring of asthma control will guide decisions for maintaining or adjusting therapy. Instruct children and caregivers to monitor their asthma control in an ongoing manner. All children and caregivers should be taught how to recognize inadequate asthma control.
**Control of Environmental Factors and Co-morbid conditions that affect asthma**

If children who have asthma are exposed to irritants or inhalant allergens to which they are sensitive, their asthma symptoms may increase and precipitate an asthma exacerbation. Substantially reducing exposure to these factors may reduce inflammation, symptoms, and need for medication.

Children with asthma and their families must have access to culturally appropriate primary and specialty asthma care, culturally appropriate asthma education, and the necessary medications and related devices for effective asthma self-management. More often than not, many children and their families encounter barriers to accessing quality appropriate care and educational services due to a number of social and economic issues. Some children may have access to care, but lack the coordination of care that is necessary for daily management of asthma.

**Sample of Scope:**

- Management of Chronic Asthma in Children ages 5 to 18 years without comorbidities. Areas for consideration include:
  a. Monitoring asthma control
  b. Education
  c. Pharmacologic therapy
  d. Community resources
  e. Risk factor reduction