**Research Article**

**Update of the Global Initiative for Asthma Guidelines for Treating Mild Asthma in Adolescents and Adults**

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**Abstract**

**Purpose:** The article reviewed the 2020 annual Global Initiative for Asthma (GINA) report. The guidelines no longer support the use of as needed short-acting beta2 agonists only for treatment of asthma symptoms.

**Conclusions**: The 2019, GINA landmark change recommended for patients age 12 and older with mild asthma, step 1 therapy, are to add an inhaled corticosteroid when a short-acting beta2 agonists is used; or, inhaled corticosteroids (ICS) can be used with formoterol, Long-Acting β2 Agonist (LABA), as needed. Patients who experience symptoms more than two times a month, or who are at an increased risk of serious exacerbation should receive daily ICS or as needed ICS-formoterol.

**Practice Implications:** Pediatric asthma continues to be a challenge to reduce morbidity and mortality. Nurses play a key role in caring for patients with asthma and need to be aware of these important recommendations.

**Keywords:** Asthma; Guidelines; GINA; Pediatrics

**Introduction**

Worldwide, asthma is the most common chronic disease affecting 334 million individuals [1,2]. The International Study of Asthma and Allergies in Childhood reported higher asthma rates in Latin America, North America, and Oceania region affecting 14.1% of children age 13-14 years [3]. Asthma affects 7.5% of the pediatric population in the United States with increasing rates globally [2,4,5]. The highest rates occur among males (8.4%), Black non-Hispanic (14%), Hispanic or Latino (8%) and children living below the federal poverty threshold (10%) [4].

Since the 1980s, asthma death rates have decreased worldwide from 0.62/100,000 in children and young adults to 0.23/100,00 in the mid 2000s and maybe due to the publications of the national and international asthma guidelines [5]. This article will review the significant new recommendations published by GINA for the treatment of mild asthma for patients 12 and older [6]. The National Asthma Education and Prevention Program (NAEPP) historically has been one of the key guidelines for asthma management in the United States, especially for children: the last major update was completed in 2007. The Global Initiative for Asthma (GINA) is an organization established by the World Health Organization offers another perspective of a clinical guideline for use in caring for children and adults with asthma.

A GINA guideline entitled, Global Strategy for Asthma Management and Prevention [7], was published with new recommendations regarding the treatment of mild asthma for adolescents (12 and older) and adults [6]. After 50 years with no change in the practice standards, GINA no longer recommended SABA only treatment for patients 12 years of age and older to reduce the risk of severe exacerbation and death, prevent exacerbations, control symptoms, and avoid over dependence of SABAs [6]. New evidence suggested treatment with daily ICS; low dose ICS whenever SABA is used; or ICS-formoterol prn (or, as needed) in addition to SABA use improves symptom control and reduces the risk of exacerbations, hospitalization, and death [6,8,9]. Thus, all children 12 and older requiring treatment with SABA regardless of the step therapy should be prescribed SABA and low dose ICS/formoterol or low dose ICS.

**Literature Review**

**Evidence to Support GINA 2019 Recommendations**

Several recent studies have suggested, adolescents and adults with mild asthma, that use of ICS-formoterol as needed was similar to daily ICS plus as needed SABA use in decreasing exacerbations and lower dose of daily ICS [9,10]. Other studies recommended ICS and SABA over SABA use only found a reduction in exacerbations and the risk associated with long term glucocorticoid use and better compliance with daily medication [10-13]. A randomized study by O’Byrne and colleagues [9], evaluated the use of ICS and formoterol as needed, terbutaline as needed, and ICS maintenance in patients 12 and older. The study indicated that patients with mild asthma treated with budesonide-formoterol prn had improved symptoms control than patients on SABA only therapy [9]. Exacerbations rates between budesonide-formoterol and ICS daily therapy were similar but as needed budesonide-formoterol decreased the exposure to daily steroid use [9]. Of note, in particular to the pediatric population, the mean age of study participant age was 39.6 years ($\mp $ 16.6) and the mean time since asthma diagnosis 6.4 years. [9].

One large 52-week, double-blind, multicenter trial involved patients 12 years of age or older who were randomly assigned to receive twice-daily placebo plus budesonide–formoterol (200 mcg of budesonide and 6 mcg of formoterol) used as needed or budesonide maintenance therapy with twice-daily budesonide (200 mcg) plus terbutaline (0.5 mg) used as needed. Primary outcome measure was the annualized rate of severe exacerbations [10]. Budesonide–formoterol used as needed in patients with mild asthma was not found to be inferior to twice-daily budesonide in rate of severe exacerbations [10]. However, budesonide–formoterol used as needed was inferior in controlling symptoms. Inhaled glucocorticoid exposure of those in the in the as needed budesonide–formoterol group was one fourth that of the budesonide maintenance group [10]. The TREXA study confirmed the need for ICS in children 5-18 years of age with mild persistent asthma, and the use of ICS with SABA during an exacerbation was acceptable if concerned about the effect of linear height associated with daily ICS [12]. A study by Papi and colleagues [13] concluded ICS as well as ICS and SABA were more effective than SABA only treatment in treating adult patients with mild asthma.

**Recommendations**

Based on the emerging research described, GINA published new treatment strategies for adolescents and adults with mild asthma.

**Step 1 – Mild Asthma**

Short-Acting Beta2 Agonists (SABA) therapy was introduced in the 1960 and changed the management of patients with asthma [14]. Since that time, SABA was the mainstay of treatment for symptoms and was commonly referred to as step 1 treatment for patient with mild asthma [6,15]. Mild asthma affects 50-75% of the patients diagnosed with asthma, and recent studies suggested a change in therapy (step 1) to optimize symptoms relief and maximize better control [8,9]. In the past, mild asthma step 1 was treated with SABAs only and now GINA recommend treatment either symptom driven with ICS-formoterol or low dose ICS whenever starting SABA or daily ICS treatment to reduce the risk of severe exacerbation [6].

**Step2 – (Patients with Symptoms > Two Times a Month or at Increased Risk of Exacerbation)**

The recommendation for step 2 therapy has not change and to continue to be a daily low dose ICS. If the patient is unlikely to take a daily medication, the guidelines recommend to consider as needed low dose ICS-formoterol. Alternative therapy includes Leukotriene Receptor Antagonist (LTRA) or ICS whenever SABA is used [6].

**Impact on Prescribing Clinicians and Nurses**

The use of a drug for a purpose not included in the package insert is considered off-label use of a medication. The American Academy of Pediatrics (AAP) issued a policy statement in 2014 surrounding the off-label use of medication in children. A lack of labeling for a specific disorder, age group, or dosing regimen means that the evidence required by law for the label has not been approved by the FDA. Lack of labeling does not mean there is no evidence to guide prescribing. Providers must use best judgment and only prescribe a drug off-label if confident that sufficient evidence exists supporting a treatment will benefit the patient. In conclusion, the AAP recommend decisions should be based on information available, scientific evidence in the literature, and sound medical judgement [16].

**Conclusion**

Pediatric asthma continues to be a challenge to reduce morbidity and mortality. New recommendations from the GINA guidelines [7] on how providers manage mild asthma for patients 12 and older was discussed. They highlight new standards of care and the importance of recommending SABA and daily ICS or as needed ICS-formoterol therapy based on multiple studies [9-13].

**How Might This Information Affect Nursing Practice?**

Nurses play a key role in caring for patients with asthma and need to be aware of these important recommendations. The new guidelines will help the nurse educate and coordinate the plan of care between their patients and other health care providers. Health disparities continue to affect the urban, economically disadvantaged children with asthma and nurses have an opportunity to provide asthma educational interventions through community clinics, school-based clinics, and private practice settings.

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