

Asthma Guidance: Options for Individualized Care



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Asthma is one of the most common medical problems seen by primary care and specialist physicians, affecting more than an estimated 339 million people worldwide¹ and associated with an enormous humanistic and economic cost. To improve worldwide outcomes for this medically impactful condition, the U.S. National Asthma Education and Prevention Program (NAEPP) and the international Global Initiative for Asthma (GINA) have issued guidelines since 1991 and 1993, respectively. The most recent versions were a 2020 Update of the NAEPP guidelines² and the 2021 GINA Strategy Report.³ In this Supplement to the *Journal of Allergy and Clinical Immunology: In Practice*, we are pleased to publish 3 important articles related to these reports,⁴⁻⁶ which should update physicians regarding the changes in the guidelines with the ultimate goal to improve patient care and reduce asthma morbidity and mortality.

The lead article is the Executive Summary of the GINA 2021 Strategy Report.⁴ This year, in addition to providing the full report on their website,⁵ GINA has created an Executive Summary that we are co-publishing with the *American Journal of Respiratory and Critical Care Medicine* and 3 other international pulmonary journals, *Archivos de Bronconeumologia*, *European Respiratory Journal*, and *Respirology*. The Executive Summary summarizes the comprehensive GINA 2021 report by noting key recommendations and then presenting highlights from the full report regarding the topics of asthma management during the COVID-19 pandemic, diagnosis and assessment of asthma, general principles of asthma management, medications and strategies for symptom control and risk reduction, management of asthma with comorbidities and in specific populations, diagnosis and treatment of patients with features of both asthma and chronic obstructive pulmonary disease, difficult-to-treat asthma, worsening of asthma and asthma exacerbations, diagnosis and management in children 5 years of age and younger, primary prevention of asthma in children, implementation of asthma

management strategies into health systems, and asthma management in low-resource settings. The Executive Summary is a wealth of curated information that we feel is a must-read for any clinician managing asthma.

The second article by Drs Brad Chipps, Kevin Murphy, and John Oppenheimer, entitled “2020 NAEPP guidelines update and GINA 2021—asthma care differences, overlap, and challenges,”⁵ compares and contrasts the recommendations regarding the topics in the NAEPP Update to the corresponding recommendations in the GINA Strategy Report. Similarities and differences regarding the methodology used in developing the recommendations and for each of the NAEPP recommendation areas (children 0-4 years of age with viral-induced wheezing, intermittent step 2 inhaled corticosteroid [ICS] treatment, short-term increased ICS in the yellow zone, single inhaler maintenance and reliever therapy [SMART] in steps 3 and 4, long-acting muscarinic antagonists, fractional exhaled nitric oxide, environmental control, immunotherapy, and bronchial thermoplasty) are highlighted and discussed in this unique, comprehensive, and well-written article. The authors conclude that the reports differ in methodology, scope, and several recommendations but provide complimentary information for clinicians caring for asthmatic patients.

Both the NAEPP update and the GINA report recommend SMART therapy in steps 3 and 4 of asthma treatment, which represents a new paradigm of treatment for prescribers in the United States and some other countries. Thus, we feel that the article led by Drs Helen Reddel and Eric Bateman, “A practical guide to implementing SMART in asthma management,”⁶ will be particularly valuable for our readers. The article answers 18 practical questions regarding SMART therapy, provides a summary of messaging and practical steps when introducing patients to the SMART approach, presents specific recommended doses for SMART, and includes a customizable sample SMART action plan. We believe that all clinicians using SMART therapy will benefit greatly from this extremely pragmatic information.

One issue that arises in reading all of these articles is the concept of “preferred therapy.” Both the NAEPP guidelines and the GINA report recommend “preferred” therapy based on efficacy and safety data from clinical studies. Although the “preferred therapy” differs between the GINA and the NAEPP Update in some cases, both documents point out that the guidelines need to be individualized for each patient. We believe that the best way to approach these recommendations is to consider the reasonable choices they provide at each step of therapy as we approach our patients (Table 1). We would counsel that the “preferred therapy” for an individual patient is the one that controls the symptoms and prevents exacerbations with no substantial side effects. Thus, because of individual variability, the “preferred therapy” at any step of care may vary among patients. To identify the “preferred therapy” for each patient, we believe that the initial choice among the viable alternatives at each step can be made based on

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TABLE I. Step-care therapy for asthma: reasonable options based on NAEPP and GINA guidance*

Step	Children aged 5-11	Individuals aged 12 and older
1	ICS + SABA concomitantly as needed SABA as needed	ICS-formoterol as needed SABA as needed
2 [†]	ICS + SABA concomitantly as needed Regular low-dose ICS and as-needed SABA	ICS-formoterol as needed ICS + SABA concomitantly as needed Regular low-dose ICS and as-needed SABA
3 [†]	Low-dose ICS/LABA and as-needed SABA Medium-dose ICS and as-needed SABA Very low or low-dose ICS-formoterol SMART	Low-dose ICS-formoterol SMART Low-dose ICS-LABA and as-needed SABA
4 [†]	Low- or medium-dose ICS-formoterol SMART Medium-dose ICS-LABA and as-needed SABA	Medium-dose ICS-formoterol SMART Medium-dose ICS-LABA and as-needed SABA
5	Higher dose ICS-LABA and as-needed SABA Biologics (dupilumab [‡] , mepolizumab [‡] , omalizumab [‡])	Azithromycin Biologics (benralizumab, dupilumab, mepolizumab, omalizumab, reslizumab) Triple therapy (ICS-LABA + LAMA) and as-needed SABA
6	Regular prednisone at lowest effective dose	Bronchial thermoplasty Regular prednisone at lowest effective dose

GINA, Global Initiative for Asthma; ICS, inhaled corticosteroids; LABA, long-acting beta agonist; LAMA, long-acting muscarinic antagonist; NAEPP, National Asthma Education and Prevention Program; SABA, short-acting beta agonist; SMART, single inhaler maintenance and reliever therapy.

*Choices are listed alphabetically.

[†]Consider allergen immunotherapy in allergic patients to provide control with reduced medications.

[‡]Based on U.S. FDA approval in this age range.

individual risk factors for exacerbations, adherence issues, cost and formulary considerations, and informed patient preference (shared decision-making). We would also emphasize, as do both reports, that avoidance of triggering factors (including allergens), adherence and inhaler technique, and management of comorbidities should be optimized at every step of care. If the initial choice at any given step-care level does not provide adequate control, an alternative at that step can be considered before stepping up. It should be noted that this approach demands careful follow-up to be certain that the goals of therapy are met by the regimen chosen and to allow a different option to be instituted if not. We believe that this interpretation of the options in the NAEPP Update and the 2021 GINA Strategy Report empowers clinicians to provide optimal personalized care for every patient.

Asthma is an important topic in *JACI: In Practice*. We hope that the robust information and guidance provided in this Supplement to the Journal will help our readers optimize the care and quality of life of the millions of people with asthma everywhere.

REFERENCES

- Vos T, Abajobir AA, Abbafati C, Abbas KM, Abate KH, Abd-Allah F, et al. Global, regional, and national incidence, prevalence, and years lived with disability for 328 diseases and injuries for 195 countries, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet* 2017;390:1211-59.
- Expert Panel Working Group of the National Heart, Lung, and Blood Institute (NHLBI) administered and coordinated National Asthma Education and Prevention Program Coordinating Committee (NAEPPCC). 2020 Focused updates to the Asthma Management Guidelines: a report from the National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group. *J Allergy Clin Immunol* 2020;146:1217-70.
- Global Initiative for Asthma. Global strategy for asthma management and prevention; 2021. Accessed October 17, 2021. <https://ginasthma.org/wp-content/uploads/2021/05/GINA-Main-Report-2021-V2-WMS.pdf>
- Reddel HK, Bacharier LB, Bateman ED, Brightling CE, Brusselle GG, Buhl R, et al. Global Initiative for Asthma strategy 2021: executive summary and rationale for key changes. *J Allergy Clin Immunol Pract* 2021;10:S1-18.
- Chipps BE, Murphy KR, Oppenheimer J. 2020 NAEPP Guidelines Update and GINA 2021—asthma care differences, overlap, and challenges. *J Allergy Clin Immunol Pract* 2021;10:S19.
- Reddel HK, Bateman ED, Schatz M, Krishnan JA, Michelle M, Cloutier MM. A practical guide to implementing SMART in asthma management. *J Allergy Clin Immunol Pract* 2021;10:S31-8.