

Review Article

Executive Summary of the Recommendations on the Management of Asthma In Primary Care (2022) – New Updates

S K Jindal¹, J Lele², A G Ghoshal³, S Nair⁴, S Kant⁵, A Parakh⁶, Meena⁷, Rekha⁸, V D Nagda⁹, T Masurkar¹⁰, SK Joshi¹¹

Background : Asthma is a heterogenous disease defined by the history of respiratory symptoms (shortness of breath, wheezing, cough, and chest tightness) that vary over time and in intensity, along with variable expiratory airflow limitation. Despite an ever-increasing prevalence of asthma across all age groups, this condition remains poorly managed in India. Majority of the Indian patients remain undiagnosed or wrongly diagnosed in general clinical practice and even those who get diagnosed, remain poorly or inadequately treated^{1,2}. Since the last published 2020 Indian Medical Association (IMA) recommendations on the management of asthma in primary care, noteworthy critical changes have been recommended in relation to the diagnosis/management of asthma in international guidelines. Hence, there was a need to update the existing IMA recommendations. For the same, an expert group meeting was organized with family physicians having clinical experience in managing patients with asthma along with chest physicians and pediatricians. Important updates related to asthma diagnosis and its management were discussed and the final recommendation decisions were derived from the joint group discussion. Some of the key points derived from the discussion are mentioned below in the executive summary.

For a detailed version of the new recommendations please click on the url.

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Key words : Asthma, Stable Asthma, Exacerbations, Spirometry, Peak Expiratory Flow, Bronchodilator, Medication.

New Updates in the IMA Recommendations 2022?

Diagnosing asthma in adults, adolescents, and children aged >5 Years :

- The diagnosis of asthma is based on the history of characteristic symptom patterns and evidence of

¹MD, FCCP, FAMS, FNCCP, Emeritus Professor of Pulmonary Medicine, Postgraduate Institute of Medical Education and Research, Chandigarh 160012

²MBBS, Hony. Secretary General, IMA HBI, IMA Building, J R Mhatre Marg, Juhu, Mumbai 400049 and Corresponding Author

³MD, DNB, FCCP, Ex-WHO Fellow ICS, FICP, Medical Director National Allergy Asthma Bronchitis Institutes, Kolkata 700017

⁴MD, DNB, DTCD, Associate Professor Department of Pulmonary Medicine Medical College, Trivandrum 695011

⁵MBBS, MD (Gold Medalist), MNAMS, FCCP (USA), FIAMS, FNCCP, FCAI, FIMSA, FIAB, FUPDA, FIACM, FICP, Professor and Head of The Department Respiratory Medicine, KGMU, Lucknow 226003

⁶MBBS, MD (Pediatric), DNB (Pediatric), Senior Consultant Pediatric Pulmonology, Allergy and Sleep Medicine, BLK Super Speciality Hospital, Delhi and Children's Chest Clinic, Delhi 110005

⁷MBBS, Family Physician, National Chairperson, IMA – Women Doctors Wing, Past President IMA Dhule Branch 424001

⁸MBBS, Director at RR Medicare Centre & E J Immunisation Centre, Chennai, Tamil Nadu 600102

⁹MBBS, Senior General Practitioner at Dr Nagda's Multispeciality Clinic, Mumbai 400055

¹⁰MBBS, Past secretary, IMA Virar Branch 401203

¹¹MBBS, Ex-President, IMA Mumbai West Branch, Juhu 400049

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Executive Summary :

- Asthma is a clinical diagnosis; however, in cases where dilemma exists, refer to an expert. In clinical practice for general physicians, peak expiratory flow can be a good indicator for asthma diagnosis if it shows reversibility after bronchodilator therapy.
- In young children, asthma diagnosis is mainly based on recurrent symptom patterns, assessment of family history, physical findings (if the child is symptomatic), short-term corticosteroid trial therapy, and differential diagnosis.
- The optimal management of asthma includes the use of controller medications, which reduce the underlying inflammation and prevent the occurrence of symptoms, and reliever medications, which are used as required for quick symptom relief.
- Increased use of short-acting beta2-agonists is associated with adverse clinical outcomes.
- Low-dose inhaled corticosteroid plus fast-acting beta2-agonist, ie, budesonide-formoterol, is the preferred reliever in adults and adolescents, as it reduces the risk of severe exacerbations compared with regimens with short-acting beta 2-agonist alone as a reliever.

variable expiratory airflow limitation³.

- For general physicians (GPs), the peak expiratory flow (PEF) value (tested via a peak flow meter) can be a good diagnostic indicator for asthma if it shows

reversibility after bronchodilator medication³.

- Spirometry (forced expiratory volume in 1 second) should be considered more reliable than PEF. However, if spirometry is unavailable, bronchodilator reversibility may be assessed with a peak flow meter³.

Diagnosing Asthma in Children Aged ≤5 Years :

- Based on the pattern of symptoms during and between viral respiratory infections, a probability-based approach may be useful for discussion with parents/carers³.
- In children aged 5 years and younger, no specific tests can confirm the diagnosis of asthma, but there are a few useful adjuncts³.

Updates about the Treatment of Asthma in Adults and Adolescents :

- The stepwise approach to the management of stable asthma in adults and adolescents has been updated with Inhaled Corticosteroid (ICS)-formoterol as the preferred reliever and short-acting beta2-agonist (SABA) as an alternative option.
- In Step 1 and Step 2 (Track 1), the recommendation for treatment is as-needed low-dose ICS/Formoterol.
- For the alternate (Track 2), the following recommendations are made:
 - Step 1:** Low-dose ICS should be taken whenever SABA is taken.
 - Step 2:** Low-dose daily ICS should be taken for maintenance and as-needed SABA should be taken for relief.
- In Steps 3–5, maintenance and reliever therapy with budesonide-formoterol (preferred approach) or ICS-LABA as maintenance therapy plus SABA as reliever (alternate approach) is recommended.
- Newer recommendations for add-on long-acting muscarinic antagonist (LAMA) and introduction of anti-thymic stromal lymphopoietin (ATSL) as a new biologic agent have been included for severe asthma.
- Other controller options have been clarified and included in the treatment.

Updates about the Treatment of Asthma in Children 6-11 years :

- Step 1 includes low-dose ICS to be taken whenever SABA is taken.
- Steps 3 and 4 include maintenance and reliever therapy (MART) with very low-dose ICS/formoterol and low-dose ICS-formoterol, respectively, to reduce exacerbations.

Preferred route for administering asthma medications :

- Inhalation therapy is the preferred route for the administration of medications in asthma management⁴. The inhalation route ensures the deposition of the optimum concentration of medication in the airways and rapid onset of action and causes fewer systemic adverse effects than oral delivery³.
- The most commonly used inhalation devices include Pressurized Metered-dose Inhalers (pMDIs), Dry Powder Inhalers (DPIs), Breath-actuated Inhalers (BAIs) and Nebulizers⁵.

Concerns with Prescribing SABAs alone for Asthma Management, including Mild Asthma :

- Large multicenter studies have demonstrated that increased use of SABA is associated with increased risks of exacerbation and mortality in asthmatics⁶.
 - Regular use of SABA, even for 1-2 weeks, is associated with adverse effects^{7,8}:
 - Beta-receptor downregulation, decreased broncho protection, rebound hyperresponsiveness, and decreased bronchodilator response
 - Increased allergic response and increased eosinophilic airway inflammation
- Hence, SABA should always be administered along with ICS because ICS reduce the risk of asthma deaths, hospitalization, and exacerbations requiring oral corticosteroids^{9,10}.

The Emerging Concept of using an Anti-inflammatory Reliever in Asthmatics :

- Asthma is a chronic inflammatory disease. During an exacerbation, along with spasms of the smooth muscles, inflammation in the airways increases, which causes an increase in airway obstruction. Traditionally, SABA alone was recommended for quick symptom relief, which does not address the underlying inflammation and may eventually lead to a decline in lung function³.
- The ideal constituents of reliever medication, thus, should be a fast-acting bronchodilator **used in combination with ICS** (popularly known as an **anti-inflammatory reliever**), thereby addressing both bronchoconstriction and inflammation³.
- As per the new guideline, low-dose ICS-formoterol is the preferred anti-inflammatory reliever in adults and adolescents, as it significantly reduces the risk of severe exacerbations compared with SABA alone as a reliever³.

Using SABA as a Reliever :

SABA can be used as reliever therapy in adults and adolescents in the following cases³ :

- As an alternative to an ICS-formoterol reliever, in Step 1, SABA and low-dose ICS can be administered together for symptom relief, either with an ICS plus SABA combination inhaler or with ICS taken right after SABA³.
- As an alternative to an ICS-formoterol reliever, in Steps 2–5, SABA can be administered as a reliever medication, in addition to a controller, to patients who are on controller therapy other than formoterol-budesonide³.

Importance of correct inhalation technique :

- Though inhalation therapy is the cornerstone of asthma treatment, up to 94% of patients with asthma and chronic obstructive pulmonary disease do not use their inhalers correctly. It is important to reinforce the correct inhaler technique at every patient visit¹¹.
- Many people have difficulty using a pMDI, wherein the most common mistake is not being able to actuate and inhale the medication at the same time¹².
- Spacers are used as an add-on with pMDIs. They offer the advantages of easier use and improved deposition pattern of the inhaled drug, reduced side effects, and improved drug efficacy¹³.
- DPIs have the advantages of being portable and compact and overcoming issues of coordination. In addition, they do not contain propellants. However, they require a minimum inspiratory flow for optimum delivery of the dose⁵.
- BAIs have the advantage of overcoming the drawbacks of both DPIs and pMDIs. BAIs sense an inhalation effort through the actuator and mechanically actuate the dose in synchrony, resolving the issue of hand-breath coordination that is commonly seen with pMDIs¹⁴.

Correct inhalation devices based on the age for the successful management of asthma

Selection of the correct inhalation device is crucial for successful asthma management (Table 1)³.

Age group	Preferred choice	Alternative
0–3 years	pMDI + spacer with face mask	Nebulizer with face mask
4–5 years	pMDI + spacer	pMDI + spacer with face mask
5 years and above	pMDI+ spacer/ DPI/BAI	Nebulizer

Role of the GP in Educating and Counseling Patients with Asthma :

Some pointers for GPs with respect to educating and counseling patients with asthma^{15,16} :

- Adequate time should be invested in educating and counseling patients with asthma.
- It is also important to keep oneself updated about different inhalation devices so that the most appropriate inhalation device for patients can be prescribed.
- Train patients on correct inhalation technique and ensure technique at follow-up visits.
- Discuss the patient's treatment goals and guide the patient on an asthma self-management plan.
- Clarify queries during patient visits on a continual basis to improve compliance.
- Check for drug compliance and adherence to asthma treatment at every visit for ensuring optimal asthma control.

Guidance about Asthma and COVID-19 :

- It is advisable for patients with asthma having coronavirus disease (COVID-19) to continue taking their prescribed asthma medications, particularly ICS.
- COVID-19 vaccine is safe for people with asthma (follow the Government of India guidelines for more information).

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