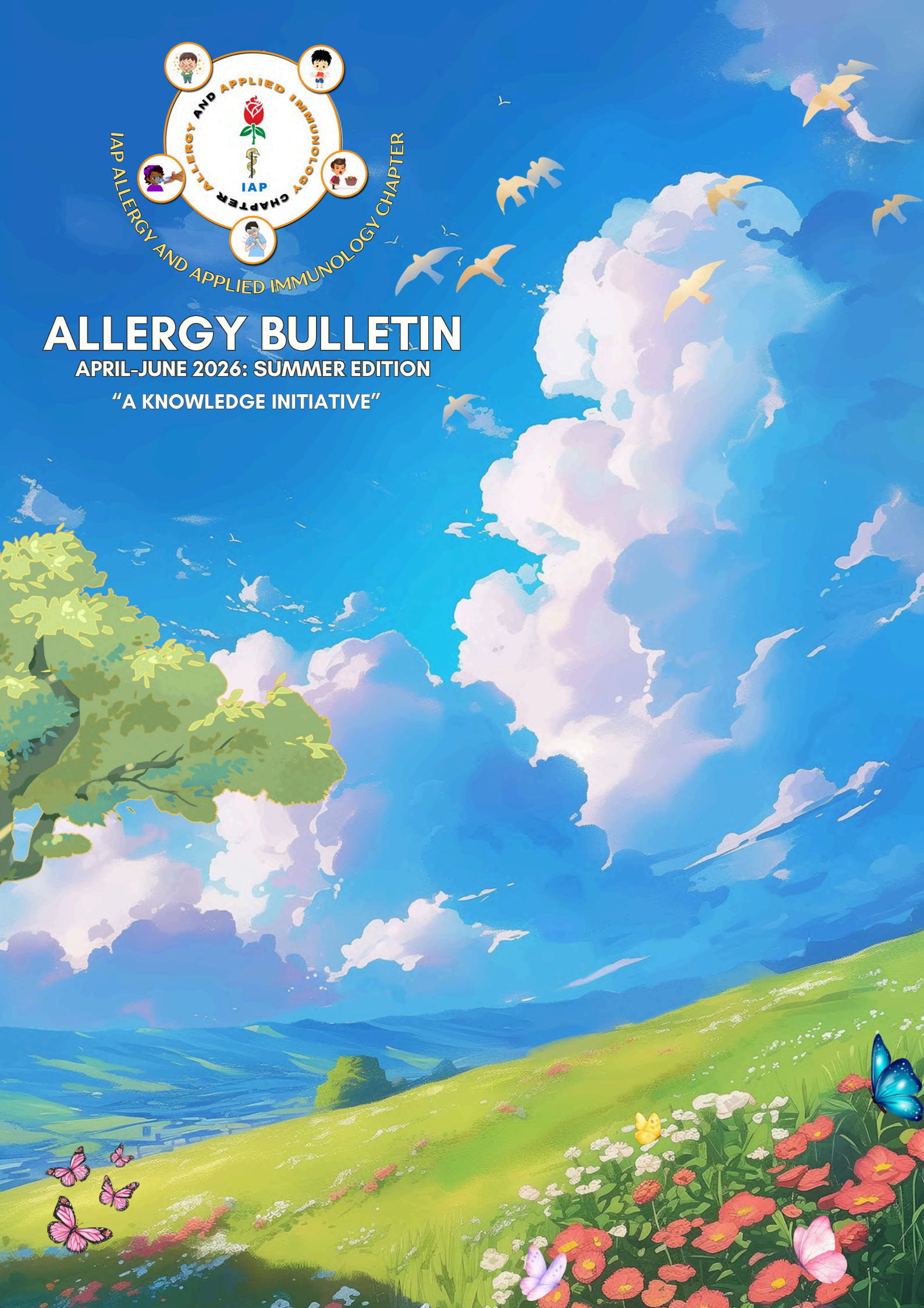

ALLERGY BULLETIN

APRIL-JUNE 2026: SUMMER EDITION

"A KNOWLEDGE INITIATIVE"

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ALLERGY BULLETIN

IAP Allergy and Applied Immunology Chapter

Chairperson's Address

IAP Allergy Chapter — Summer Bulletin

Dr. Uppin Narayan Reddy
Chairperson, IAP Allergy Chapter 2026

Dear Friends and Colleagues,

It gives me immense pleasure to connect with you all through this Summer edition of our Allergy Bulletin. The past few months have been a period of remarkable activity and accomplishment for our chapter, and I take this opportunity to share some of the highlights with you.

The Mid-Term PaedAllerCon held at Agra was a resounding success. The scientific content, the engagement of delegates, and the seamless conduct of the event reflected the dedication and meticulous planning of the entire organising team. I extend my heartfelt congratulations to the organisers for putting together such a memorable academic feast. What was particularly heartening to witness was the noticeable increase in interest among general paediatricians in the field of allergy — a clear sign that our collective efforts towards awareness and capacity building are bearing fruit.

Our focus this year has been firmly placed on expanding allergy-related activities across the length and breadth of the country. I am delighted to share that the publication of the Rational Allergy Guidelines, painstakingly developed by our Allergy team under the leadership of Dr. Sowmya Nagarajan, Secretary, and Dr. Neeraj Gupta, Immediate Past Chairperson, marks a significant milestone for our chapter. These guidelines will serve as a valuable reference for paediatricians in everyday clinical practice and will go a long way in standardising allergy care for children across India. Equally gratifying has been the successful launch of the Allergy Module under the Presidential Action Plan. This initiative promises to bring structured allergy education to a much wider audience of paediatricians and represents a major step forward in integrating allergy care into mainstream paediatric practice.

The IAP allergy Team had a good reperesentation in the EAACI conference in Turkey showing our teams collective effort to make global impact

I would also like to acknowledge the growing reach and impact of our Allergy Bulletin. The bulletin has emerged as an important vehicle for spreading knowledge, sharing experiences, and creating awareness about paediatric allergic disorders. My sincere appreciation to the editorial team and all the contributors who continue to make each issue informative and engaging.

As we move ahead, let us continue to work together with the same enthusiasm and commitment to make childhood allergy care more rational, accessible, and effective.

Warm regards,
Dr. U. Narayan Reddy
Chairperson, IAP Allergy Chapter 2026

Secretary's Desk – IAPAAI Chapter

Summer Edition 2026

Dr Sowmya A Nagarajan

Dear Esteemed Colleagues and Members,

Warm greetings from the IAP Allergy and Applied Immunology Chapter.

As we continue our academic journey in 2026, it is encouraging to witness the growing engagement and collaborative spirit within our allergy community. Building on our commitment to academic continuity and national collaboration, we have initiated several focused activities aimed at enhancing clinically relevant learning across the country.

A key highlight has been the launch of "Allergy India Dialogues", our collaborative academic initiative conducted in partnership with IAP State Allergy Chapters. The recent session, held in collaboration with the IAP Kerala State Allergy Chapter, featured an insightful panel discussion on asthma management, emphasizing practical, evidence-based approaches tailored to real-world clinical settings. This platform continues to strengthen inter-state academic exchange and promote uniform standards in allergy practice.

Our flagship Monthly Friday Webinar series continues to serve as a robust platform for knowledge dissemination. The 47th Friday Webinar, on "Demystifying Ocular Allergies", brought together experts to discuss types, pathophysiology, clinical features, and management strategies of ocular allergies. The session was well appreciated for its practical insights into a commonly encountered yet often under-recognized clinical entity.

In addition to these academic initiatives, the recent publication of the Rational Allergy Practice Guidelines by IAP represents a significant step forward in standardizing pediatric allergy care in India. These guidelines aim to provide evidence-based, contextually relevant, and pragmatic recommendations for diagnosis and management of allergic disorders, supporting clinicians in delivering rational and effective care.

These collective efforts reflect our vision of making allergy education more structured, clinically oriented, and accessible across all levels of pediatric practice.

As we look ahead, we encourage all members to actively participate in these initiatives, contribute to academic discussions, and collaborate in advancing allergy care across diverse healthcare settings.

Together, through collaboration and shared commitment, we can continue to strengthen pediatric allergy practice in India.

With regards,
Dr Sowmya Arudi Nagarajan
Honorary Secretary (2026–2027)
IAP Allergy and Applied Immunology Chapter

From the Editor's Pen

Allergy Bulletin — Summer Edition

Dr Sanjukta De
Editor

Curating this Summer Edition of the Allergy Bulletin has been both a rewarding challenge and a privilege. This issue turns its focus to food allergy — a domain that has rapidly moved from the margins to the centre of paediatric practice, demanding rigour, nuance, and a commitment to evidence-based care.

Food allergy today encompasses far more than diagnosis and avoidance. Advances in early introduction strategies, oral immunotherapy, component-resolved diagnostics, and the management of anaphylaxis have reshaped clinical practice and, with it, the expectations of the families we serve. Assembling a bulletin that reflects this breadth, while remaining accessible to a diverse readership, has been the central editorial challenge of this edition.

It has also been a genuine pleasure. The contributions gathered here affirm our chapter's sustained commitment to advancing allergy knowledge within the community and establishing allergy as a vital, emerging discipline in paediatric medicine. Each article, in its own way, reinforces that mission.

This edition also turns a spotlight on the activities of the chapter and the dedicated work undertaken by its members over recent months. Chief among these is the Mid-Term Paed Allercon held in Agra — a landmark gathering that brought together clinicians, academicians, and trainees for rigorous scientific exchange and collegial dialogue. The conference reaffirmed the chapter's role as a catalyst for learning and a convening point for the paediatric allergy community.

The section on the recently concluded EACCI a conference in Turkey highlights the achievements of our chapter

I hope this edition informs, provokes thought, and renews our collective enthusiasm for the work ahead.
Happy reading.

Spotlight on Allergist

Distinguished Allergist ·Educator · Advocate for Indian Allergy Practice

Dr. Gayatri Pandit

From a defining moment witnessing her first allergy skin test, to training nearly 1,000 physicians across India, Dr. Gayatri Pandit has spent fifteen years reshaping the landscape of allergy practice in the Indian context — with precision, passion, and the steadfast belief that knowledge grows only when shared.

EARLY CAREER & INSPIRATION

What drew you to allergy and immunology? Can you take us back to the beginning?

My interest in allergy began at a deeply personal level — close family members struggled with allergic conditions, and watching them deal with recurring symptoms and the limitations those imposed made me curious about the science behind these diseases, and whether better solutions existed.

A defining moment came when I witnessed my first allergy test, performed by the late Dr. Rudraprasad, an alumnus of CMC Vellore. I was fascinated to see a diagnostic approach so precise and so different from anything I had previously encountered. My first formal exposure to allergy training came through a five-day residential program in Mysore conducted by the Indian Academy of Allergy. Listening to eminent speakers — Dr. P.K. Vedanthan, Dr. Mahesh, Dr. Anand Pendukar, Dr. Sandeep Salvi — was truly inspiring. Their depth of knowledge, clarity of concepts, and passion for the subject motivated me to explore the field more seriously. This inspiration guided me to pursue deeper training at CMC Vellore, where my journey in structured allergy practice truly began.

Were there mentors who significantly shaped your path?

Dr. P.K. Vedanthan has been one of the most influential figures in my career. His simplistic and patient-centric approach, and the importance he placed on technicians in clinical practice, made a profound impact on how I practice medicine today. My academic interests were strongly encouraged by Dr. D.J. Christopher, who motivated me to engage in public speaking and raise awareness about allergic diseases in the community. I am also deeply grateful to Dr. Vinay Mehta for his invaluable guidance with scientific papers, and to Dr. Neeraj Gupta, whose persistent encouragement led me to contribute chapters to the Comprehensive Textbook of Allergy, Allergopaedia, the Handbook of Allergic Rhinitis, and the latest Food Allergy Consensus from India.

KEY ACHIEVEMENTS & IMPACT

What contributions are you most proud of?

I have had the privilege of contributing to the Guidelines on Allergic Rhinitis for Otorhinolaryngologists of India in both 2020 and 2025 — an important academic milestone. I have also served as ENT Convener for the Allergic Rhinitis module for the Indian Academy of Pediatrics, coordinating interdisciplinary collaboration toward practical, evidence-based recommendations.

Serving as President of the Allergy Asthma Network of India — originally initiated by Dr. P.K. Vedanthan — has been especially meaningful. We now bring together around 450 practising allergists from across the country under one unified academic and professional network, promoting standardisation of care, continuous medical education, mentorship, and collective growth.

As Academic Director of MedTrain, we have trained nearly 1,000 doctors through hybrid allergy courses. Many of our trainees have gone on to establish allergy services in medical colleges, integrating allergy education at the undergraduate level. Watching them grow into confident clinicians and leaders is, frankly, far more fulfilling than any publication.

"Watching trainees grow into confident clinicians, educators, and leaders in Allergy is immensely rewarding — far more fulfilling than any publication."

CHALLENGES & LESSONS LEARNED

What were the biggest challenges you faced, and how did you overcome them?

When I began practising allergy after formal training, I realised there was limited practical guidance on adapting allergy practice to the Indian context — particularly in immunotherapy. Allergy truly represents personalised medicine, and each clinician develops their own approach. While this diversity was intellectually stimulating, it also made arriving at uniform conclusions challenging. I invested considerable effort to study these challenges in depth, and we have since simplified the approach considerably. For new trainees today, the learning process is far more structured than what we navigated.

Six Principles for Young Allergists

1. Respect History

Much in allergy practice comes from the patient's history. Listen carefully — your patient will often give you the diagnosis.

2. The Fewer Tests You Order, the Greater Your Expertise

True clinical expertise lies in thoughtful evaluation, not excessive investigations. Testing selectively reflects confidence, clarity, and depth of understanding.

3. Build a Well-Trained Technical Team

A skilled technician is invaluable — especially in skin testing and immunotherapy administration. Investing in team training improves accuracy, safety, and patient trust.

4. Create a System That Suits Your Practice

There is no single "correct" model. Design systems suited to your infrastructure and patient population. A well-built system reduces stress and improves outcomes.

5. Continuously Educate Peers and the Public

Allergy awareness is still evolving. Actively engage in educating colleagues, primary care physicians, and the public — it enhances referrals and early diagnosis.

6. Contribute to Meaningful Research

Even small, practice-based studies can influence patient care patterns. Research refines your thinking and strengthens your authority as a specialist.

THE EVOLUTION OF ALLERGY PRACTICE

How has the field evolved, and what misconceptions need to be addressed?

Allergy practice in India has evolved significantly over the last decade. The expansion of structured training programs has strengthened clinical expertise. Improved accessibility to molecular diagnostics and the availability of standardised house dust mite immunotherapy tablets represent major advances. Together, these mark a substantial leap in the quality, precision, and confidence of allergy practice in India.

That said, misconceptions persist. Food is frequently and incorrectly blamed for symptoms where environmental allergens are the true trigger. The proliferation of non-validated blood tests misleads both patients and practitioners. There is also a widespread mistaken belief that allergies are lifelong conditions that must simply be endured. With proper diagnosis, environmental control, pharmacotherapy, and immunotherapy, allergies can be well managed and, in many cases, significantly modified.

Steroid-related fears remain a major barrier — intranasal and inhaled corticosteroids are frequently misunderstood despite their strong safety profile. Overcoming "steroid phobia" requires consistent patient education. As allergists, our role extends beyond diagnosis and treatment: we must actively correct misinformation and empower patients with accurate knowledge.

RESEARCH & FUTURE DIRECTIONS

What are the most exciting areas of allergy research, and what would you urge young doctors to pursue?
We are entering an era of increasingly personalised medicine — moving beyond broad diagnostic labels toward precise phenotypic and endotypic classification. Targeted marker-based therapies, including biologics, are transforming the management of severe allergic and atopic diseases. Understanding which patient benefits from which therapy will define the expertise of the next-generation allergist.

However, while we adopt global advances, we must simultaneously develop an Indian perspective in allergy. Our environmental exposures, aeroallergen patterns, genetic backgrounds, and healthcare realities are unique. Indian allergists must take ownership of defining our own phenotypes and treatment responses rather than relying solely on Western data.

There is a pressing need to strengthen Indian aerobiological research — updating regional pollen calendars, conducting systematic aeroallergen surveys, and developing pollen bulletins. I strongly urge young and established allergists to collaborate, research, document, and publish. The future of allergy in India should not merely follow global trends — it should contribute meaningfully to them.

PERSONAL REFLECTIONS

What motivates you to keep going?
The results I see in my patients are my greatest source of motivation. When patients tell me how much easier it has become to participate in sports, attend social gatherings without fear, or go on treks and return confidently — those moments are deeply fulfilling. When a patient with nasal polyps says, "Doctor, I could smell mango after many years," it is more than clinical success — it is the restoration of quality of life.

Equally motivating are the words of appreciation from students — many of whom were never exposed to the depth of allergy practice during their training. Watching them discover this field with curiosity and confidence inspires me to continue teaching. Knowing that you have opened a new world to young doctors is as rewarding as treating patients.

A Message to the Next Generation

Choose depth over display. Allergy is a specialty where clinical wisdom matters more than the number of tests you order. A detailed history will teach you more than any laboratory panel. Listen carefully — your patient will often give you the diagnosis.
Remain intellectually humble. Be ready to unlearn and relearn. Build an Indian perspective — study our phenotypes, our aeroallergen patterns, and our environmental exposures. Let India not just follow global data, but generate it. Teach generously. Share what you know.
When a child plays freely, when a patient climbs a mountain without breathlessness, when someone smells a mango after years of anosmia — that is the true measure of success in allergy practice.

Keep learning. Keep questioning. Keep contributing.

Asthma Across Childhood

Age Specific Evidence - Based Management from Toddlers to Adolescents

Dr Krishna Mohan R
Senior Consultant in Pediatrics & Pediatric Allergy

Dr Sinchana Bhat
Specialist in Pediatric Allergy & Immunology

Asthma remains one of the most common chronic diseases of childhood, with far-reaching e5ects on quality of life, school attendance, and long-term lung development. The 2025 update of the Global Initiative for Asthma (GINA) introduces a reFned, age- stratiFed approach to diagnosis and management, incorporating emerging evidence and evolving concepts such as anti-inGammatory reliever therapy and phenotype-driven care.

This article outlines a contemporary, best-practice framework for managing asthma in children under 5 years, those aged 6–11years, and adolescents aged 12 years and above, aligned with GINA 2025 recommendations.

1. Children Under 5 Years

GINA 2025 hasextensively revised its advice on the diagnosis and management of asthma in children under Gve — a group in whom diagnosis is notoriously challenging. ConGrming a diagnosis of asthma in preschoolers is diJcult due to the challenge in performing objective lung function tests and the high prevalence of transient, viral-induced wheezing.

GINA 2025 oMers a pragmatic approach to diagnosis focusing on three clear clinical criteria. All three criteria are required for the diagnosis of asthma in children 5 years and younger:

GINA 2025 DIAGNOSTIC CRITERIA — UNDER 5 YEARS
1. *Recurrent acute episodes of wheezing, with or without interval asthma-like symptoms*
2. *Assessment that an alternative diagnosis is unlikely to be causing the symptoms or signs*
3. *A timely response to asthma treatment*

Management is anchored around optimizing symptom control while minimizing future exacerbations, impaired lung development, and drug- related adverse eMects. SABA remains the reliever therapy of choice for day-to-day symptoms, with regular ICS indicated when symptoms occur more than twice a week or following a severe exacerbation.

Device choice (pMDI with spacer and appropriate interface) is crucial, tailored to the child's age and coordination abilities. Parental education is prioritized, advocating for a written, personalized asthma action plan to empower caregivers to respond promptly to deteriorating control or exacerbations. Leukotriene receptor antagonists remain a secondary option.

2. Children Aged 6–11 Years

Asthma in this age group requires a developmentally sensitive approach, considering the child's ability to use inhaler devices and adhere to therapy. GINA 2025 reYects an evolving paradigm thatintroduces anti- inYammatory reliever strategies in selected children.

STEP	TREATMENT STRATEGY
Step 1	*As-needed low-dose ICS taken with SABA at symptom onset is preferred. Alternatively, daily low-dose ICS may be started if symptoms occur more than twice a month.*
Step 2	*Daily low-dose ICS with SABA as needed. LTRA may be used in patients with poor ICS tolerance or allergic rhinitis, though eDcacy is lower.*
Step 3	*Low-dose ICS–LABA maintenance therapy with SABA as reliever. Very low-dose ICS–formoterol as MART may be used in selected children. Medium-dose ICS maintenance is an alternative.*
Step 4	*Medium-dose ICS–LABA, or continue MART with higher ICS dose. Specialist referral should be considered for poor responders or frequent exacerbations.*
Step 5	*Evaluation for severe asthma. Add-on biologics may be considered aKer conLrming diagnosis, addressing modiLable factors, and assessing phenotypes.*

Regular follow-up visits should assess symptom control, adherence, side eMects, growth parameters, and psychosocial factors. Step-down therapy should be considered when control is sustained for at least three months.

3. Adolescents and Young Adults (12 Years and Above)

Asthma management in adolescents follows principles similar to adult care, with emphasis on anti-in0ammatory treatment even in mild disease, abandoning the previous SABA-only approach. Adolescents are at increased risk of poor adherence, underreporting of symptoms, and psychosocial factors aMecting disease control.

In GINA 2025 guidelines for individuals aged 12 years and above, asthma management is structured into two tracks based on the choice of reliever medication:

PREFERRED APPROACH

TRACK 1

ICS–Formoterol (AIR Strategy)

Useslow-dose ICS–formoterolas both the controller and reliever. Provides better protection against severe exacerbations by addressing airway in?ammation even during symptom relief. SimpliAed, ?exible regimen that aligns with real-world use patterns.

TRACK 2

SABA-Based Reliever

Usesa short-acting beta-agonist (SABA) as the reliever alongside regular maintenance ICS or ICS-LABA controller therapy. An alternative for patients where Track 1 is not suitable.

STEP	TREATMENT STRATEGY (≥12 YEARS)
Step 1	*As-needed low-dose ICS–formoterol (AIR strategy) for infrequent symptoms. Ensures anti-inOammatory therapy during exacerbations, reducing SABA reliance.*
Step 2	*Daily low-dose ICS with as-needed SABA, or as-needed low-dose ICS–formoterol. AIR strategy preferred for better safety and fewer exacerbations.*
Step 3	*Low-dose ICS–LABA as maintenance with SABA as reliever, or low-dose ICS–formoterol for both maintenance and relief (MART). MART simpliLes treatment and improves adherence.*
Step 4	*Medium-dose ICS–LABA (maintenance) with SABA or low-dose ICS–formoterol as reliever. MART continues to be an option for eligible patients.*
Step 5	*Specialist referral. Consider add-on tiotropium, biologics (anti- IgE or anti-IL-5), and phenotyping for severe asthma.*

Psychosocial factors — peer inYuence, adherence barriers, and risk-taking behaviors — are directly addressed, with supportfor mental health, lifestyle counseling, and self-management strategies tailored to the adolescent developmental stage. The guideline further emphasizes transition planning as patients approach adulthood, ensuring consistency of care and fostering independence in disease management.

GINA 2025 — Core Principles Across All Age Groups

- Individualized, developmentally sensitive asthma care
- Balance symptom control with long-term risk reduction
- Regular review of inhaler technique and adherence
- Stepwise therapy adjustments based on control
- Written asthma action plans for all patients
- Anti-inflammatory therapy even in mild disease
- Phenotype-driven care for complex or severe cases
- Proactive caregiver and patient education

GINA 2025 closes with an explicit call to minimize asthmatic risks and ensure personalized, evidence-based care for children and adolescents at every developmental stage. The revised framework underscores the need for proactive, multilevel interventions, regular review, and dynamic therapy adjustment, distinguishing both age- and phenotype-speciGc priorities in pediatric asthma management.

FURTHER READING

Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention, 2025. Available at: https://ginasthma.org/

Food Additives vs Food Allergies

Understanding Pseudo-Allergy in Clinical Practice

A review of food additive hypersensitivity — clinical presentations, diagnosis and management

Dr. Dipti Pujari
MRCPCH (U.K.) • MD Pediatrics • DNB • DCH
European Board (EAACI) Certified in Allergology and Immunology
Fellowship in Allergy and Clinical Immunology (FACI), Chennai
Allergy Consultant & Paediatrician — Deenanath Mangeshkar Hospital and Research Centre, Pune

WHAT ARE FOOD ADDITIVES?

According to the Joint FAO/WHO Expert Committee on Food Additives (JECFA), food additives are substances intentionally added to food to maintain or improve its safety, freshness, taste, texture, or appearance. With more than 3,000 additives listed by the FDA (classified E100–E1518), they are ubiquitous in modern processed foods.

Food additives share several key characteristics:

- They may be synthetic or naturally derived substances
- They are not consumed as foods in their own right
- Their purpose is to improve quality, colour, fragrance, flavour, preservation, or processing

But if additives improve food quality, why the clinical concern? Can they cause allergic reactions — and if so, how do these differ from conventional food allergy? Two illustrative cases shed light on this question.

Artificial additives are injected into a wide range of everyday processed foods and beverages

CLINICAL CASES: THE COLOUR CONNECTION

The 'Barbie doll cake' — pink artificial colouring was the trigger

CASE 1

A 7-year-old girl developed urticarial rash within 30 minutes of eating a 'Barbie doll cake' at a birthday party. Her mother confirmed she had eaten cakes many times previously without incident. Months later, she suffered a severe anaphylactic reaction after eating strawberry ice-cream at a restaurant.

Extensive allergy workup followed. Skin prick tests for wheat, gluten, egg, milk, strawberry, and latex were all negative. Food-dependent exercise-induced anaphylaxis was also excluded.

Peri-peri crisps — red artificial colouring

CASE 2

A 16-year-old boy developed lip angioedema and facial itching while eating 'Peri-peri' flavoured crisps during a film. He had eaten crisps many times before. Days later, he developed severe urticaria with angioedema after eating tandoori chicken at a restaurant — a meal he had tolerated there repeatedly in the past.

Skin prick tests for potato, peanuts, cashew nuts, chicken, ginger, garlic, paprika, and milk were all negative.

Tandoori chicken — red colouring common factor

Key Finding:
Detailed history revealed that artificial pink colouring was the common factor in Case 1 (cake icing and strawberry ice-cream), and artificial red colouring in Case 2 (Peri-peri crisps and tandoori chicken). Both children have remained well since avoiding artificial colours.

DISCUSSION: PSEUDO-ALLERGY EXPLAINED

Allergy occurring due to food additives is termed 'pseudo-allergy', as it is largely not IgE-mediated. Although the clinical presentation closely mirrors true food allergy, no laboratory markers exist to confirm these reactions — making it more accurately classified as food intolerance.

With intensifying competition in the food industry driving wider use of artificial colours, flavours, preservatives, and stabilisers, such presentations are becoming increasingly common in allergy clinics. The consequences are significant: inconclusive allergy test results, increased economic burden on families, stressful mealtimes due to unnecessary food elimination, and heightened anxiety among patients and their families.

COMMON CULPRIT ADDITIVES AND THEIR FOOD SOURCES

The following additives are commonly encountered in clinical practice. They are present across a wide range of everyday packaged and processed foods, often listed under E-numbers on ingredient labels.

Synthetic colour additives in laboratory form

Additive	Commonly Found In
Tartrazine (colour)	Canned foods and soups, desserts, sauces, seasonings, flavoured processed cheese
Carmine (colour)	Cheese, fruit and vegetable preparations, jams, chewing-gum, breakfast cereals, meat products (salami, sausages), processed fish
Annatto (colour)	Cheese, jams, processed potato products, meat products, soups, sauces, noodles
Butylated Hydroxytoluene (preservative)	Seasonings and condiments, fats and oils, cake mixes, cereal-based snack foods, soups, sauces, dehydrated meat and potatoes, various medications
Sulfites (preservative)	Canned/bottled fruit and vegetables, jam, processed potato products, cereals, starches, meat preparations
Monosodium Glutamate / MSG (flavour enhancer)	Processed cheese, fats and oils, fruit preparations, cocoa and chocolate products, chewing gum, breakfast cereals, pasta, noodles, bread, seasonings, soups, sauces
Aspartame (artificial sweetener)	Canned/bottled fruit and vegetables, jam, chewing gum, breakfast cereals, processed fish, soups, sauces, dietary foods, beer, soft drinks, diet soda, desserts, snacks

Brightly coloured confectionery — a common source of artificial colour additives

DIAGNOSIS

Diagnosing food additive hypersensitivity presents a significant clinical challenge, as no definitive tests are available. These substances escape detection by routine IgE-based allergy testing because they are not proteins and bypass the IgE mechanism entirely.

A careful and detailed history remains the cornerstone of diagnosis. A strong pointer is a pattern of reactions to multiple foods that are packaged, tinned, or commercially prepared — with no reaction when the same foods are prepared at home without artificial colours or flavours. Hidden allergens should be carefully excluded before arriving at this diagnosis.

Available diagnostic tools include:

- Atopy Patch Test (APT): useful for detecting delayed-type hypersensitivity to food additives in atopic dermatitis, particularly for colours such as carmine, annatto, and tartrazine
- Double Blind Placebo-Controlled Food Challenge (DBPCFC): the gold-standard diagnostic tool, which should ideally be performed in all cases of suspected food additive hypersensitivity

TREATMENT

Once the diagnosis is established, strict avoidance of the implicated food additive is the cornerstone of management. Patients and their families should receive thorough counselling and be advised to avoid all foods, beverages, cosmetics, and medications that may contain the culprit agent.
In patients with a history of severe reactions, an emergency action plan should be provided, including prescription of adrenaline pre-filled auto-injectors.

CONCLUSION

Food additive-induced reactions presenting as acute urticaria and atopic dermatitis flare-ups are on the rise. Clinicians should maintain a high index of suspicion and take a thorough history in all unexplained allergic presentations. When a clear diagnosis cannot be reached, food additives should be actively considered. DBPCFC should be pursued to confirm the diagnosis, and strict avoidance of the identified additive should then be advised.

REFERENCES

Feketea G, Tsabouri S. Common food colorants and allergic reactions in children: Myth or reality? Food Chem. 2017;230:578–88.

Trasande L, Shaffer RM, Sathyanarayana S. Food additives and child health. Pediatrics. 2018;142:e20181410.

Machler BC, Jacob SE. Carmine Red: A Potentially Overlooked Allergen in Children. Dermatitis. 2018;29:92–3.

CASE REPORT - When Food Can Be Fatal

Food-Dependent Exercise-Induced Anaphylaxis (FDEIA) in a Paediatric Patient

Dr. Mosam Maroo

Allergy & Asthma Centre & MRRCH Hospital, Thane

Specialist in Paediatric Allergy | Component-Resolved Diagnostics | FDEIA

50% FDEIA patients have atopy	**67-69%** recurrence reduction with combined protocol	**14-18%** paediatric anaphylaxis cases involve exercise cofactor

CASE SUMMARY

An 8-year-old male with known IgE-mediated food allergy to chickpeas, allergic asthma, and allergic rhinitis presented with recurrent episodes of acute respiratory distress. He had documented sensitization to house dust mite and was under regular follow-up at the Paediatric Allergy Clinic. He was an active swimmer who habitually consumed fruits or cow's milk before exercise.

First Episode

The child consumed bread with cow's milk approximately 30 minutes before swimming. Within minutes of beginning exercise, he developed nausea, chest tightness, dizziness, and breathlessness. Emergency findings included tachypnea, tachycardia, hypotension, hypoxia, and wheeze with stridor. The episode was initially treated as acute severe asthma — without identifying a food-related trigger.

Second Episode

Two weeks later, while walking with his mother to a flour mill, he developed generalized pruritus, urticaria, breathlessness, and loss of consciousness approximately two minutes after leaving the mill. He was again treated for acute severe asthma with urticaria using salbutamol, corticosteroids, and antihistamines.

Diagnostic Evaluation

Following the second event, detailed evaluation revealed a temporal link between wheat exposure and physical activity, with multisystem involvement (cutaneous, respiratory, and cardiovascular) — features consistent with food-dependent exercise-induced anaphylaxis (FDEIA), most likely triggered by wheat.

The child had previously tolerated wheat products at rest without symptoms. Skin Prick Testing (SPT) to wheat flour was positive. Component-Resolved Diagnostics (CRD) showed elevated specific IgE to ω-5 gliadin — the major allergen of wheat-dependent exercise-induced anaphylaxis (WDEIA).

Table 1: Investigations at a Glance

No.	Test	Result	Significance
1	SPT – commercial wheat extract	No sensitization	Poor sensitivity (50–60%)
2	SPT – wheat flour	Sensitization seen	Better sensitivity (60–80%)
3	Total IgE (IU/mL)	1099	Not routinely required for diagnosis; guides Omalizumab dosing
4	Tri aA_TI (kUA/L)	<0.1	Alpha-amylase/Trypsin Inhibitor (albumin/globulin family)
5	Tri a 14 (kUA/L)	<0.1	Wheat Lipid Transfer Protein (heat stable, gastric pH stable)
6	Tri a 19 (kUA/L)	5.54	Omega-5-gliadin: Major trigger of WDEIA
7	Spirometry	Moderate OAD with small airway involvement	Evaluates asthma control

DISCUSSION

Overview of Anaphylaxis

Anaphylaxis is a severe, rapid-onset systemic hypersensitivity reaction resulting from mast cell and basophil activation, leading to cutaneous, respiratory, gastrointestinal, and cardiovascular involvement. In children, foods are the predominant triggers. Prompt intramuscular epinephrine is life-saving. Diagnosis follows World Allergy Organisation (WAO) criteria, emphasizing acute onset with skin/mucosal involvement and respiratory or circulatory compromise.

Food-Dependent Exercise-Induced Anaphylaxis (FDEIA)

FDEIA is characterized by anaphylaxis triggered only when specific food ingestion is followed by physical activity, typically within 1–4 hours. The food and exercise are each tolerated independently.

First described with shellfish in 1979 (Maulitz et al.), wheat-dependent FDEIA (WDEIA) was later reported in 1985 (Kushimoto et al.) and in India in 2024 (Ahmed et al.). Wheat — particularly ω-5 gliadin — is the most frequent trigger globally, especially in Asian populations.

Common implicated foods include wheat, shellfish, nuts, fish, milk, and certain fruits (peach, apple). Non-food cofactors such as NSAIDs, alcohol, infection, and heat can amplify reactions. Pathophysiologically, exercise increases gut permeability and allergen absorption, enhances osmolality, and redistributes blood flow, potentiating mast cell degranulation in sensitized individuals.

Cofactor-Enhanced Food-Induced Anaphylaxis (CEFIA)

CEFIA refers to food allergic reactions exacerbated by cofactors such as exercise, NSAIDs, alcohol, infection, or menstruation. The same patient may react with different cofactors or require multiple cofactors for severe reactions. FDEIA is the most common subset. Cofactors either lower the reaction threshold or increase reaction severity.

Table 2: Co-factors in CEFIA

Cofactor	Mechanism	Effect	Notes
Exercise	↑ gut permeability, mast cell activation	Lowers threshold	Most common cofactor in children
NSAIDs	Inhibit prostaglandins, ↑ permeability	Increases severity	Common in adults
Alcohol	Vasodilation,↑ absorption	Lowers threshold	Often combined with exercise
Infection	Systemic inflammation	Amplifies reaction	Key cofactor in children (14–18%)
Menstruation	Hormonal fluctuations	Variable	Reported in adult females

DIAGNOSTIC APPROACH

A structured approach to FDEIA diagnosis includes:

- Detailed history correlating food intake and cofactors
- Food-exercise diary
- Skin prick testing and component-resolved diagnostics
- Baseline and event serum tryptase (to rule out mastocytosis and confirm anaphylaxis)
- Oral Food Challenge followed by controlled exercise (OFCPE) — gold standard, but high-risk in paediatrics; used selectively at specialized centres

MANAGEMENT

Acute Management

- Adrenaline (epinephrine) 0.01 mg/kg IM — repeat every 5 minutes if needed
- Supportive care: oxygen, IV fluids, antihistamines, inhaled bronchodilators
- Adrenaline infusion for refractory cases

Prevention

- Avoid wheat/exercise combination within 4–6 hours
- Always carry an adrenaline auto-injector
- Training and reinforcement at every clinical visit
- Optimize asthma control
- Consider Omalizumab in refractory cases

Dietary Evidence

- Wheat avoidance alone reduces reaction risk by ~29%
- Exercise avoidance post-meal has limited independent effect
- Combined wheat-free and exercise-avoidance protocol reduces recurrence by 67–69%

Conclusion

This case highlights the importance of recognizing wheat-dependent exercise-induced anaphylaxis (WDEIA) in atopic children presenting with exertional symptoms. Cofactor identification, component-resolved diagnostics, and comprehensive patient education are crucial for preventing potentially fatal anaphylaxis. Improved clinician awareness and systematic screening for cofactors can substantially reduce underdiagnosis and recurrence.

Key Learning Points

- Not all 'acute severe asthma' is asthma — recurrent episodes with multisystem involvement should raise suspicion for anaphylaxis
- Skin manifestations are absent in approximately 10-20% of anaphylaxis cases
- Cofactor history is critical — temporal association of food intake with exercise or environmental exposure is key to diagnosing FDEIA/CEFIA
- Wheat (ω-5 gliadin) is a major trigger, especially in Asian populations, and may present even with mild exertion such as walking
- FDEIA patients tolerate food or exercise independently — this often leads to delayed or missed diagnosis
- Early use of intramuscular epinephrine is life-saving — mismanagement as asthma alone can delay treatment and increase risk of severe outcomes

REFERENCES

1. Maulitz RM et al. J Allergy Clin Immunol, 1979 – Exercise-induced anaphylaxis to shellfish.
2. Kushimoto C et al. Allergol Int, 1985 – Wheat-dependent exercise-induced anaphylaxis.
3. Ahmed et al. Indian J Allergy Asthma Immunol, 2024 – First Indian report of WDEIA.
4. Simons FE et al. WAO Guidelines for Anaphylaxis, WAO J, 2020.
5. Brockow K et al. Allergy, 2016 – Component-resolved diagnosis in wheat allergy.
6. Barg W et al. Curr Allergy Asthma Rep. 2011;11(1):45–51.
7. Worm M et al. Allergol Select. 2017;1(1):21–27.
8. Kennard L et al. J Allergy Clin Immunol Pract. 2018;6(6):1892–1897.
9. Zubrinich C et al. J Asthma Allergy. 2021;14:397–403.

First Feed, First Bleed

Early onset Food Protein Induced Allergic Proctocolitis (FPIAP) in a Neonate — A Rare Day-1 Presentation

Dr Mukul Pandey
Neonatology & Paediatric Allergy

CASE REPORT

Food protein–induced allergic proctocolitis (FPIAP) isa benign, non-IgE mediatedgastrointestinal hypersensitivity, commonly presenting inthe first few months of life with blood-streaked stools in otherwisewell-appearing infants.Presentation within the first 24 hours of life is exceedingly rare and poses a diagnostic challenge, as neonatal hematocheziaraises concern for serious conditions such as sepsis, necrotizing enterocolitis (NEC), or coagulopathy. We presentan atypical case that resolved completely on amino acid-based formula.

INTRODUCTION

FPIAP is the current accepted term for a non-IgE-mediated food allergic condition in early infancy, previously describedunder several names including allergic colitis,eosinophilic colitis, cow's milk protein allergy (CMPA), andcow's milk protein intolerance (CMPI). The hallmark symptom ismucous, bloody stools — either frank hematochezia or the presence ofoccult blood. Typically, it begins within the first weeks of life, with over 75% of cases diagnosedwithin 2.5 months.

The most commondietary triggers are dairy, egg, soy, and corn — with dairy accounting for more than three-quarters of cases. It is most often associated with cow's milk protein exposure, either directly via formula orindirectly through breast milk from a mother consuming dairy.

"Day-1 onset of FPIAP is rare, suggesting possible in utero sensitisation or rapid immune response — a striking reminder that allergy can begin at the very first feed."

CASE PRESENTATION

A male neonate (weight 2000 g) was born at 35 weeks of gestation via uncomplicated vaginal delivery and commenced on exclusive breast milk feeds shortly after birth. Within hours of the first feed, he

developed multiple episodesof blood and mucus in the stools. There was no history of perinatal asphyxia, maternal infection, prolonged rupture of membranes, or instrumentation during delivery. The infant remained haemodynamically stable with no abdominal distension or vomiting.

Relevant investigations excluded volvulus, malrotation, intussusception, infectious colitis (parasitic, bacterial, or viral), and Meckel's diverticulum. Given thepossibility of sepsis,appropriate antibiotics were commenced pending culture results, and the infant was made nil peroral in lightof suspected NEC. After 48 hours the baby improved and breast milk was reintroduced — whereupon blood-streaked stools promptly recurred, causing dehydration requiringintravenous fluid management.

Blood results (Table 1) revealedleucocytosis with marked eosinophilia (22%). Repeated sepsisscreens and blood cultures were sterile. Detailed maternal history then revealed regular cow's milk consumption and a personalhistory of skin allergy. Given the clear temporal association between feeding and symptoms, alongside the laboratory findings, a diagnosis of acute FPIAP was considered.

TABLE 1 — KEY LABORATORY FINDINGS

No.	Test	Result
1	Haemoglobin (g/L)	15.6
2	Total Leucocyte Count ($\times 10^3/\mu L$)	45.6
3	Differential Count	N52 · L20 · E22 · B0.3
4	Platelet Count ($\times 10^3/\mu L$)	2.95
5	CRP (g/L)	3.3
6	Sodium (mEq/L)	140
7	Potassium (mEq/L)	4.3
8	Prothrombin Time (sec)	15.1
9	Activated Prothrombin Time (sec)	42
10	INR	1.36
11	Stool Examination	WBCs 40–45/HPF · RBCs 10–15/HPF · Mucus present
12	Blood Culture	Sterile
13	Serum IgE (kUA/L)	12.5 (normal <64)

MANAGEMENT & CLINICAL COURSE

Breast milk was withheld and the infant commencedon extensively hydrolysed formula (EHF), while the motherwas advised to eliminate all dairy products from her diet. This produced partialimprovement with a reduction in the frequencyof blood in stools. A breast milk re-challenge was performed, following which hematochezia recurred with associated dehydration and significant weight loss, necessitating intravenous fluid support.

Inview of incomplete resolution on EHF and symptom recurrenceon re-challenge, feeds were transitioned to an amino acid-based formula (AAF). Within 48–72 hours, hematochezia resolved completely. The infant began tolerating full feeds and commenced weight gain.

DISCUSSION

This case illustrates an atypical early presentation of FPIAP. Critically, it underscores that breast milk can serve as a vehicle for dietaryproteins sufficient to trigger a non-IgE-mediated allergic response even on the first day of life. The normal serum IgE level (12.5kUA/L) is a reminder that standard allergy testing does not exclude food protein-mediated conditions in neonates.

Differentiating FPIAP from FPIES and NEC is essential. FPIES typically presents with delayed vomiting,lethargy, and possible shock.NEC presents with systemic instability, abdominal distension,and radiological features such as pneumatosis intestinalis.FPIAP, by contrast, presents early with blood-streaked stools in an otherwise well-appearing infant andis associated with eosinophilia and a normal IgE— as seen in this case.

Dysbiosis is thought to play a major role in the pathogenesis of FPIAP. Children with a history of FPIAP in infancy carry a higher likelihood of developing IgE-mediated food allergies, eosinophilic oesophagitis (EoE), constipation, and anxiety/OCD — indicating possibleimmunological connections between non-IgE and IgE-mediated food allergic conditions, as well as gut-brain neuroimmune axes. FPIAP may represent the first step in the atopic march.

The gold standard confirmatory test remains a food challenge: disappearance of rectal blood after dietarychange, and its recurrence on re-exposure to the offendingprotein. Elimination diet is the cornerstone of management, withtransition to AAF reserved for refractory or severe cases.

CONCLUSION

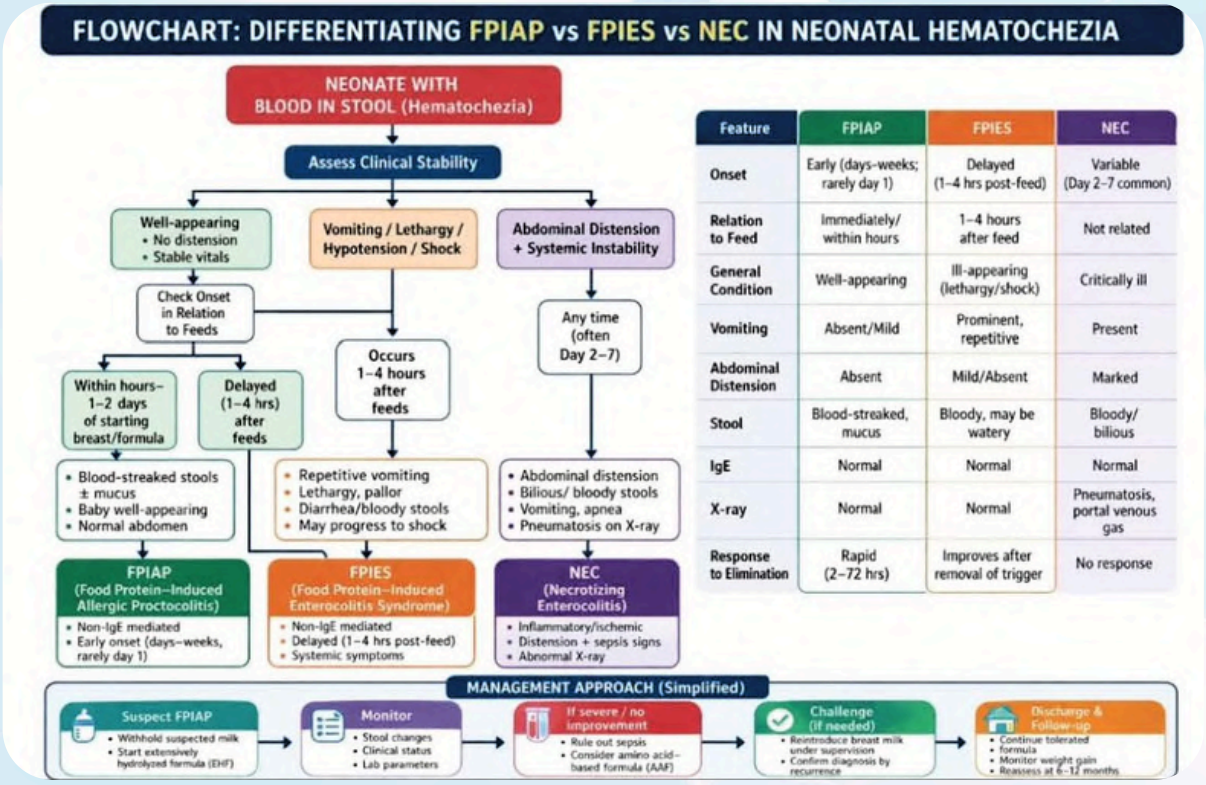
This case highlights a rare presentation of FPIAP occurringimmediately after birth. Early recognition and appropriate dietary management are essential to prevent morbidity and ensure optimal neonataloutcomes. A high index of clinical suspicion, even on day one of life, can avert unnecessary invasive investigations and treatmentdelays.

KEY LEARNING POINTS

- **Consider FPIAP even in day-1 neonates presenting with hematochezia**
- **Breast milk can rarely trigger non-IgE-mediated food allergy**
- **Normal IgE does not exclude food allergy in neonates**
- **Amino acid-basedformula is effective in refractory or severe cases**
- **Careful evaluation is needed to exclude sepsis and NEC before arriving at FPIAP**
- **FPIAP may be the first manifestation of the broader atopic march**

FIGURE 2— DIAGNOSTIC FLOWCHART

Diagnostic approach to neonatal hematochezia highlighting differentiation between FPIAP, FPIES, and NEC.



REFERENCES

1. Dias JT, Assis Carvalho M, Hercos GN, et al. Food Protein-induced Allergic Proctocolitis with Breastfeeding or Formula Feeding at SymptomsOnset — A Ten-Year Experience at a Single Tertiary Center. Arch Gastroenterol Res. 2025;6(1):86–94.
2. Yuan Q. Food Protein-Induced Allergic Proctocolitis (FPIAP): New Insights into Pathogenesis and Implications. Arch Gastroenterol Res. 2025;6(1):13– 18.
3. Martin VM, Virkud YV, Dahan E, et al. Longitudinal disease-associated gut microbiome differences in infants with food protein-induced allergic proctocolitis. Microbiome. 2022;10(1):154.
4. Berni CananiR, De Filippis F, NocerinoR, et al. Gut microbiota composition and butyrateproduction in children affected by non-IgE mediated cow's milk allergy. Sci Rep. 2018;8:12500.
5. Tran KL,Wisner EL, Jeha GM, Wall LA. Developmentof IgE-mediated food allergies in children with history of food protein-induced allergic proctocolitis: a series of five cases. Front Allergy. 2024;5:1354106.

JOURNAL WATCH

Rational Allergy Practice Guidelines

Dr. Neeraj Gupta

Immediate Past Chairperson, IAP Allergy & Applied Immunology Chapter

"Allergy care in India must move from variability to evidence-based, rational practice — for every child, in every setting."

ABOUT THIS GUIDELINE

Developed by the Indian Academy of Pediatrics through its Allergy and Applied Immunology Chapter, these guidelines provide clear, evidence-based, and contextually relevant recommendations for the diagnosis and management of common pediatric allergic disorders.

BACKGROUND & CONTEXT

Allergic diseases represent one of the fastest-growing groups of chronic conditions in children and adolescents, contributing substantially to morbidity, healthcare utilization, school absenteeism, and reduced quality of life. In India, the burden of allergic disorders such as asthma, allergic rhinitis, atopic dermatitis, food allergy, urticaria, and anaphylaxis has increased steadily over the past two decades.

Despite this rising prevalence, allergy care has often been characterized by variability in diagnosis, overuse or misuse of investigations, underutilization of evidence-based therapies, and delayed referral to trained specialists.

KEY OBJECTIVES OF THE GUIDELINES

- Rational clinical decision-making in pediatric allergy care
- Judicious use of diagnostic tests across diverse healthcare settings
- Standardized treatment approaches and timely referral pathways
- Strengthening allergy services, professional training, and caregiver education

The guidelines have been designed to be practical and applicable across primary care, secondary hospitals, and tertiary centers throughout India. The following document presents the complete guidelines as published, serving as a valuable reference for pediatricians, family physicians, specialists, and all healthcare professionals involved in the care of children with allergic diseases.

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FROM THE ACADEMY

Rational Allergy Practice Guidelines by the Indian Academy of Pediatrics (IAP) and IAP-Allergy and Applied Immunology Chapter

Neeraj Gupta[1] · R. Krishna Mohan[2] · Uppin Narayan Reddy[3] · Dhanesh Volvoikar[4] · Dipti Pujari[5] · Gayatri S. Pandit[6] · Jefferson Daniel[7] · Kagithapu Surender[8] · P. A. Mahesh[9] · Mitesh Kakkad[10] · Mohit Poddar[11] · Naresh Grover[12] · Nayan Mani Deka[13] · Rama Rajyam Datti[14] · Saibal Moitra[15] · Sanjukta Dey[16] · Sinchana Bhatt[17] · S. Narmada Ashok[18] · Soundarya Mahalingam[19] · Sowmya Arudi Nagarajan[20] · Vikram Patra[21] · Vinay Mehta[22] · Vasant Khalatkar[23] · Neelam Mohan[24] · Yogesh Parikh[25] · Atanu Bhadra[26]

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Abstract

Objectives Recognition of allergic diseases in children is on the rise globally, with a similar burden in lower–middle-income countries such as India. There is a lack of structured, context-specific guidelines and standardized care pathways for pediatric allergic diseases. This document aims to provide evidence-based, pragmatic guidance for rational allergy practice in children.

Justification Heterogeneous diagnostic approaches and non-uniform management practices for allergic conditions in children contribute to inaccurate disease burden estimation, inappropriate investigations, and suboptimal therapeutic outcomes, thereby increasing morbidity and healthcare costs.

Process Key domains including asthma, allergic rhinitis, atopic dermatitis, food allergy, urticaria/angioedema, and anaphylaxis were identified. A multidisciplinary expert panel comprising pediatricians, pulmonologists, otorhinolaryngologists, clinical immunologists, internists, and allergists was constituted, with inputs from World Allergy Organization (WAO) Centers of Excellence and professional bodies. Systematic literature searches were conducted in Cochrane Library, Medline, Embase, and Google Scholar. Evidence was appraised and graded using established classification systems. Feasibility, equity, and resource implications relevant to India were considered, with provisions for periodic updates.

Recommendations These guidelines provide an evidence-based framework for rational diagnosis, judicious testing, standardized treatment, timely referral, patient and family education, rational allergen immunotherapy, and advocacy for training and policy development. They aim to standardize pediatric allergy care in India while supporting, not replacing, clinician judgment.

Keywords Allergen immunotherapy · Allergic Rhinitis · Asthma · Pediatric allergy

Introduction

The burden of allergic disorders in Indian children is substantial and rising [1, 2] Recent estimates from the Global Asthma Network (GAN) and International Study of Asthma and Allergies in Childhood (ISAAC) Phase 3 reveal that the prevalence of asthma, allergic rhinitis, and eczema among school-aged children varies from 2 to 23% depending on the geographical region, with allergic rhinitis affecting nearly one in four adolescents in urban areas [3–6]. Prospective food-challenge data are scarce and show probable IgE-mediated food allergy in 0.14–1.2% of preschoolers, which translates to a sizable number in the densely populated country [3].

Allergy remains an underdeveloped discipline in India with fragmented care practices. The absence of National Medical Council (NMC)-approved postgraduate programs in allergy medicine and lack of standardized diagnostic extracts and/or care pathways contribute to diagnostic delays, mismanagement, and under-utilization of disease-modifying interventions such as allergen immunotherapy [7–9].

Inconsistencies in diagnostic criteria, poor awareness of disease mimickers, irrational use of medications, and limited access to specialist services further compound the challenges [8, 9].

Extended author information available on the last page of the article

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Methods

These guidelines were developed by the Indian Academy of Pediatrics (IAP) in collaboration with the IAP–Allergy and Applied Immunology (AAI) Chapter using a structured, evidence-informed and consensus-driven approach tailored to the Indian context.

Constitution of the Expert Group

A multidisciplinary expert panel was constituted by the IAP–AAI Chapter (Web Annexure 1). The panel included pediatricians, pulmonologists, otorhinolaryngologists, clinical immunologists, internists, and allergists from academic institutions and community practice across different regions of India. Representation from World Allergy Organization (WAO) Centres of Excellence in India was included to ensure alignment with international standards while maintaining contextual relevance.

Scope and Key Questions

The scope of the document was defined through initial deliberations focusing on high-burden pediatric allergic disorders encountered in routine practice. Six conditions were selected based on prevalence, clinical impact, and need for standardization of care: allergic rhinitis, asthma, atopic dermatitis, food allergy, urticaria/angioedema, and anaphylaxis.

For each condition, key clinical questions were identified and translated into Key Action Statements (KAS) addressing diagnosis, classification, treatment, testing strategies, and referral pathways (Table 1).

Literature Review

A structured literature search was conducted using PubMed/MEDLINE, Cochrane Library, Embase, and Google Scholar. Literature published up to December 2024 was reviewed. Priority was given to systematic reviews, randomized controlled trials, meta-analyses, and international guideline documents including Allergic Rhinitis and its Impact on Asthma (ARIA), Global Initiative for Asthma (GINA), WAO, European Academy of Allergy and Clinical Immunology (EAACI), and other relevant consensus statements [10]. Indian epidemiological studies and context-specific data were specifically reviewed and incorporated wherever available.

Evidence Appraisal

The evidence was appraised using a modified Oxford Centre for Evidence-Based Medicine (OCEBM) 2011 framework [10]. Levels of evidence were categorized from Ia (meta-analysis of randomized controlled trials) to IV (expert opinion) and the strength of each recommendation (A–D) was assigned based on the OCEBM 2011 level of evidence, consistency of findings, magnitude of clinical benefit, feasibility, safety, equity, and applicability within Indian healthcare settings (Table 2).

Consensus Process

Draft Key Action Statements (KAS) were prepared by the assigned writing groups and circulated electronically (via both emails and WhatsApp messages) among all panel members. Structured virtual meetings were conducted (Zoom platform on 15th March, 29th April, 24th May and 15th June 2025) to deliberate on the evidence synthesis, contextual applicability, clarity, and feasibility in primary and secondary care settings. Recommendations were refined through iterative discussion until a consensus was achieved. Consensus was defined as $\geq 75\%$ agreement among panel members. In areas where high-quality evidence was limited, recommendations were based on expert consensus after considering benefit–risk balance and pragmatic feasibility.

Contextualization and Implementation Considerations

Special emphasis was placed on resource variability, affordability, access to diagnostics and immunotherapy, and the absence of nationally standardized allergy training pathways. The recommendations are intended to guide rational practice

Table 1 Summary of key action statements for pediatric allergic disorders

Disorder	Core recommendations
Allergic rhinitis	Clinical diagnosis; severity-based treatment; intranasal steroids for persistent disease
Asthma	Early diagnosis; inhaled corticosteroids as controller; unified airway approach
Atopic dermatitis	Emollients as cornerstone; topical steroids for flares; selective testing
Food allergy	History-driven diagnosis; avoid screening panels; supervised elimination diet
Urticaria or angioedema	Chronic urticaria is non-IgE mediated; antihistamines first-line treatment
Anaphylaxis	Immediate IM adrenaline; no delay for investigations; structured discharge and follow-up

Table 2 Evidence classification and strength of recommendations

Oxford Centre for Evidence-Based Medicine (OCEBM) Levels of Evidence		Grading of strength of recommendation	
Level	Description	Grade	Basis
Ia	Meta-analysis of randomized controlled trials	A	Directly based on level I evidence
Ib	At least one randomized controlled trial		
IIa	Controlled study without randomization	B	Level II evidence or extrapolated from level I
IIb	Quasi-experimental study		
III	Descriptive non-experimental studies	C	Level III evidence or extrapolated from level I or II evidence
IV	Expert opinion or committee reports	D	Level IV evidence or extrapolated from level I–III evidence

without replacing clinical judgment and allow flexibility based on local resources.

External Review and Updating

The final draft was reviewed by senior members of the IAP and subject experts prior to submission.

Allergic Rhinitis (AR)

Diagnosis

Allergic rhinitis is the IgE-mediated inflammation of the nasal mucosa, often accompanied by ocular and pharyngeal involvement. Typical triggers are aeroallergens including house dust mite, pollen, mold, cockroach allergens, and pet dander. Symptoms include sneezing, nasal congestion, rhinorrhea, and itchy eyes, nose or throat. Examination findings show pale boggy nasal mucosa with mucoid to watery nasal discharge. Associated findings are hypertrophy of nasal turbinate, conjunctival congestion, post nasal drip and signs of eustachian tube dysfunction. Long standing AR can result in adenoid hypertrophy, hyposmia and complications like obstructive sleep apnea. The estimated prevalence is approximately 7.7% in 6–7-year-olds and 23.5% in 13–14-year-olds in India [1, 4]. Allergic rhinitis is predominantly seen in older children and adolescents as a part of the evolving atopic march. Persistent symptoms involving the upper respiratory tract, positive family history of allergy or positive personal history of atopy in early childhood should raise suspicion of AR supported by the above clinical findings. The diagnosis is primarily clinical and routine allergy testing is not necessary to make a diagnosis.

However, testing is indicated when the history matches AR but there is poor clinical response to therapeutic agents, persistent symptoms despite general environmental control measures and when there is significant hinderance to daily life despite adequate treatment [11].

KAS–Diagnosis

Allergic rhinitis should be diagnosed clinically based on a characteristic history of nasal symptoms (sneezing, itching, rhinorrhea and/or nasal obstruction) with identifiable triggers and supportive physical findings. Routine allergy testing is not mandatory for initial diagnosis. (Strength of recommendation: B)

Classification

Allergic rhinitis is classified as per ARIA guidelines based on the symptom severity, duration and the effect on daily life and sleep [12].

- Intermittent, if symptoms are less than 4 days a week or less than 4 weeks per episode
- Persistent, if symptoms are more than 4 days a week and more than 4 weeks per episode
- Moderate-Severe, if routine daily activity including work, school or sleep is affected thus impairing quality of life otherwise mild

Treatment is modulated based on the above classification into intermittent treatment protocols or long-term maintenance protocols [12].

KAS–Classification

Allergic rhinitis should be classified as intermittent or persistent and graded as mild or moderate–severe based on symptom duration and impact on sleep, school performance, and daily activities. (Strength of recommendation: B).

Pharmacotherapy

The treatment for mild intermittent disease is antihistamines given either through oral or intranasal route. Among the oral antihistamines, the second and third generation antihistamines are preferred because of their better safety profile and

reduced side effects (Fexofenadine, Levocetrizine and Bilastine). The duration of treatment is short and administered when needed for up to 2 weeks for symptom relief. Fixed dose combinations with decongestants are not advised [13, 14]. Dosage chart for different antihistamines is enumerated in Table 3.

The treatment of choice for moderate-to-severe persistent AR is intranasal corticosteroids. The commonly available intranasal corticosteroids in India include fluticasone propionate (≥ 4 years of age), mometasone (≥ 2 years of age), fluticasone furoate (≥ 2 years of age), budesonide and beclomethasone (≥ 6 years of age). These differ in terms of systemic bioavailability, dosing frequency, and local irritation potential, mometasone and fluticasone, have lower systemic effects and are preferred for long-term use in children but with similar clinical outcomes. Educating the patients about appropriate and compliant usage is crucial to reduce side effects and improve outcomes. [15, 16] The dosage of different intranasal corticosteroids is enumerated in Table 4.

KAS–Pharmacotherapy

Second-generation oral or intranasal antihistamines are recommended for short duration mild disease, while intranasal corticosteroids are preferred for moderate-to-severe or persistent AR. (Strength of recommendation: A)

Referral

The main referral criteria are:

1. Children who do not confirm to the diagnosis of AR as per routine clinical history, triggers and clinical examination and those who do not respond to the routine management of AR after adequate compliance. Further detailed evaluation (imaging and endoscopy) is indicated when symptoms are present in children younger than 2 years old, symptoms present unilaterally, do not follow the typical allergic march, exhibit features of severe nasal obstruction (in children less than 3 years old) and those with failure to thrive.
2. Children with associated clinical features of asthma
3. Children with persistent symptoms and need of long-term treatment need to be evaluated for allergen immunotherapy [17] (Table 5).

KAS–Referral

Children with persistent symptoms despite optimal therapy, suspected asthma, or those considered for allergen immunotherapy should be referred to an allergy specialist. (Strength of recommendation: C)

Table 3 Dosing guide for second-generation antihistamines in children [13, 14]

Molecule	Age group	Pediatric dose	Frequency	Remarks
Cetirizine	> 6 mo	2.5–5 mg (< 6 y); 10 mg (> 6 y), PO	OD	Rapid onset (30 min), mild sedation
Levocetirizine	> 6 mo	2.5- 5 mg, PO	OD	Minimal CNS effects
Fexofenadine	> 6 mo	30–60 mg, PO	BID	Non-sedating, good safety
Loratadine	> 2 y	5–10 mg, PO	OD	Long half-life
Bilastine	≥ 6 y	10 mg (6–12 y); 20 mg (> 12 y), PO	OD	Must be taken on empty stomach
Desloratadine	> 6 mo	2.5–5 mg, PO	OD	Non-sedating

BID twice daily, *CNS* central nervous system, *mg* milligram, *OD* once daily, *PO* per oral

Table 4 Dosage of commonly used intranasal steroids for allergic rhinitis in children [15, 16]

Medication	Age Group	Dosage	Duration of use
Mometasone furoate	2–11 years	1 spray (50 mcg) in each nostril once daily (total 100 mcg/day)	Typically used for 2–12 weeks; duration may vary based on individual response and physician's recommendation
Fluticasone furoate	2–11 years	1 spray (27.5 mcg) in each nostril once daily (total 55 mcg/day)	Duration varies; often used for several weeks, with adjustments based on symptom control and medical advice

Table 5 Indications for allergist/specialist referral indications

Clinical situations requiring referral to an allergist
1. Recurrent or severe urticaria/angioedema (>6 weeks) unresponsive to antihistamines
2. Multiple food allergies or failure to thrive due to dietary restrictions
3. Suspected drug allergy (especially antibiotics, NSAIDs, vaccines, or anesthesia medications
4. Poorly controlled asthma despite stepwise therapy, adherence and correct inhaler use
5. Allergic rhinitis with complications (e.g., nasal polyps, otitis media, sleep apnea)
6. History of anaphylaxis (to food, insect venom or drug)
7. Exercise-induced or idiopathic/unexplained anaphylaxis
8. Severe eczema with suspected food or aeroallergen sensitization
9. History suggestive of primary immunodeficiency (frequent/severe infections + allergy)
Referrals generally not required in case of
1. Isolated vague symptoms like abdominal pain without any allergic correlation
2. Chronic fatigue syndrome
3. Non-immune triggers (e.g., perfume, sugar intolerance, caffeine sensitivity)

Asthma (Allergic Asthma Phenotype)

Diagnosis

Children with recurrent lower respiratory symptoms like wheezing, cough that is worse at night or early morning, and shortness of breath need to be evaluated for childhood asthma. The likelihood of asthma is higher if there is a personal history of atopic dermatitis during infancy or if there is history of atopy among the parent/s or siblings [18].

Sensitization to aeroallergens is the most common cause for these symptoms which is the allergic asthma phenotype [18]. Airway dynamics with spirometry needs to be performed to assess the presence of variable expiratory airflow limitation that is highly suggestive of asthma. Regular monitoring of children with asthma using the peak expiratory flow helps in monitoring treatment and identifying exacerbations. Spirometry is the investigation of choice and should be done where feasible and in children who are able to cooperate (generally over 7 years of age) with the procedure, whereas oscillometry may be useful in younger or uncooperative or in those children with poor neuromuscular reserves [18].

KAS–Diagnosis

Asthma should be suspected in children with recurrent wheeze, cough, or breathlessness, particularly in the presence of personal or family history of atopy. Spirometry should be performed when age-appropriate and feasible. (Strength of recommendation: A)

Unified Airway Approach

Asthma and AR are a part of the disease continuum which is explained by the unified airway concept. Hence, children with asthma or AR should be evaluated for associated AR and asthma respectively as the airway inflammation which begins in one part of the airway does extend to involve the rest of the airway as well. In order to have complete control of the allergic symptoms, treatment of both AR and concomitant asthma is important to achieve remission [19].

KAS–Unified Airway Approach

Children with asthma should be routinely evaluated for coexisting AR, and both conditions should be treated concurrently to optimize disease control. (Strength of recommendation: B).

Controller Therapy

Inhaled corticosteroids (ICS) are the cornerstone of maintenance therapy in persistent asthma. The need for longer duration of therapy in childhood asthma with an agent with minimal side effects is best achieved with ICS. They act by reducing airway hyperresponsiveness, and preventing exacerbations. Their targeted delivery allows for high local efficacy with minimal systemic side effects when used correctly.

In children, ICS improve lung function, symptom control, and quality of life. They are preferred over systemic steroids for long-term control due to their safety profile. Regular use is essential for optimal outcomes, and adherence should be emphasized along with proper inhaler technique (including spacer usage) among all age groups. Budesonide and Fluticasone propionate are commonly used in pediatric practice, doses may vary based on formulation/device, as per GINA guidelines [20].

KAS–Controller Therapy

Inhaled corticosteroids (ICS) are the preferred first-line controller therapy for persistent asthma. Exclusive reliance on short-acting beta-agonists should be avoided. (Strength of recommendation: A)

Referral

Children who have recurrent respiratory symptoms and do not show a good response to a therapeutic trial of ICS or where the higher dosing of ICS cannot be reduced and tapered, need to be evaluated for other causes of difficult to treat or severe asthma. Age dependent causes like tracheoesophageal fistula or congenital cardiac anomalies in younger infants, tuberculosis or chronic lung diseases in older children are few of the other causes that need to be evaluated. Similarly, evaluation and management of comorbidities like obesity, gastroesophageal reflux disease etc. need to be concurrently executed for adequate asthma control. Children with such conditions need referral to a specialist [18, 21] (Table 5).

KAS–Referral

Children with poor asthma control, frequent exacerbations, or suspected severe asthma should be referred for specialist evaluation. (Strength of recommendation: D)

Atopic Dermatitis

Diagnosis

Atopic dermatitis (AD) is a chronic, pruritic, relapsing inflammatory skin condition that typically begins in infancy or early childhood. It often presents with dry, scaly, and erythematous patches, especially on the face, trunk, and extensor (in early childhood) or flexural surfaces at later age. AD may be associated with other allergic conditions and is often the first manifestation in the atopic march. The latest estimates suggest a prevalence of 3.1–7.2% in Indian children, with rising trends, primarily due to rapid urbanization, adoption of western habits and culture which result in epigenetic changes, microbiota alteration and immune dysregulation [1]. Early onset, and severe AD is associated with progression to other atopic conditions like AR, food allergies and asthma. [5].

Diagnosis of AD is primarily clinical in accordance with the Hannifin Rajka criteria. A positive family history of atopy helps in risk stratification of AD. No specific investigations are needed to confirm the diagnosis [22].

KAS–Diagnosis

Atopic dermatitis (AD) should be diagnosed clinically based on chronic or relapsing pruritic eczema with age-specific distribution. Routine allergy testing is not recommended in mild disease. (Strength of recommendation: B)

Skin Barrier Therapy

The mainstay of treatment in AD is fragrance free moisturizers and emollients to be used on a regular basis. This helps in maintaining the hydration in the skin, reducing disease severity and reducing flares. Moisturizers are advised soon after a short bath and recommended twice to thrice daily. These act mainly by slowing down transepidermal water loss, creating hydrophobic films (occlusive moisturizers) or may absorb water from the deeper layers of the epidermis to the subcutaneous layer of epidermis (humectants) [23].

KAS–Skin Barrier Therapy

Regular and liberal use of emollients should be recommended as first-line therapy for all children with AD. (Strength of recommendation: D)

Anti-inflammatory Treatment

Topical corticosteroids are the drug of choice in the treatment of AD in acute exacerbations and flares. The choice of steroid is the lowest potency needed to maintain remission, with higher potency steroids recommended only in chronic severe eczema for a short duration (Table 6). They are applied usually once daily. When using topical corticosteroids, care must be taken while applying on the face, in intertriginous areas and over the scrotum. In infants and young children, application over the face and body can also have systemic absorption and must be with care and under supervision. Hence for all these areas, only low or intermediate potency steroids must be used for a short duration of 5 to 7 days. [24].

KAS–Anti-inflammatory Treatment

Topical corticosteroids are recommended for acute flares, with potency selected according to age, site, and severity. (Strength of recommendation: A)

Allergy Evaluation

Food allergies should be considered in infants and children with moderate to severe atopy who do not improve with conventional therapy or have frequent relapses in the first year of life. Out of the known food allergies, milk, egg and peanut allergies predominate. A careful clinical history with temporal association to the food ingestion / exposure and exacerbation of AD helps in planning food allergy testing and confirmatory challenges.

Table 6 Recommended topical steroids for management of atopic dermatitis [23]

Potency	Class	Topical preparation	Formulation, strength
Ultrahigh	1	Clobetasol propionate	Cream, 0.05%
High	2	Betamethasone dipropionate	Ointment, 0.05%
	3	Betamethasone dipropionate	Cream, 0.05%
		Betamethasone valerate	Ointment, 0.1%
		Triamcinolone acetonide	Ointment, 0.1%
Moderate	4	Desoximetasone	Cream, 0.05%
		Fluocinolone acetonide	Ointment, 0.025%
		Hydrocortisone valerate	Ointment, 0.2%
		Triamcinolone acetonide	Cream, 0.1%
	5	Betamethasone dipropionate	Lotion, 0.02%
		Betamethasone valerate	Cream 0.1%
		Fluocinolone acetonide	Cream 0.025%
		Hydrocortisone butyrate	Cream, 0.1%
		Hydrocortisone valerate	Cream, 0.2%
		Triamcinolone acetonide	Lotion, 0.1%
Low	6	Betamethasone valerate	Lotion, 0.05%
		Desonide	Cream, 0.05%
		Fluocinolone acetonide	Solution, 0.01%
	7	Hydrocortisone acetate	Cream, 1%
		Methylprednisolone acetate	Cream, 0.25%

Similarly, with persistent aeroallergen exposure if patient has poor disease control and has frequent exacerbations, an exposure to aeroallergens must be assessed in detail and aeroallergen testing should be planned for instituting environmental control (Table 7) under specialist supervision (Table 5) [24].

KAS–Allergy Evaluation

Food or aeroallergen testing should be considered only in children with moderate-to-severe AD and a suggestive clinical history. (Strength of recommendation: D)

Food Allergy

Clinical Suspicion

Food allergy should be considered when a patient develops the same symptoms each time a particular food is consumed, and the reaction occurs soon after ingestion. A careful clinical history is the cornerstone of diagnosis and should explore the type of food, timing of symptoms, consistency of reactions, and presence of co-factors such as exercise or illness. Investigations are used to support, not replace, the history. Skin-prick testing (SPT) or serum specific IgE (sIgE) can identify sensitization, but results must be interpreted cautiously. Unfocused testing can lead to overdiagnosis and unnecessary food avoidance [25, 26].

KAS–Clinical Suspicion

Food allergy should be suspected when reproducible symptoms occur following ingestion of a specific food. Diagnosis should be history-driven and supported by targeted testing. (Strength of recommendation: A)

Testing Strategy

Skin-prick testing and food-specific IgE assays should be requested only when there is a clear clinical suspicion based on history. These tests identify sensitization, not clinical allergy, and results are meaningful only when interpreted with reproducible symptoms following food exposure. The use of broad screening panels increases the risk of false-positive results, leading to misdiagnosis, unnecessary dietary restriction, anxiety, and nutritional compromise. Targeted testing, guided by the suspected food and reaction pattern, improves diagnostic accuracy and clinical relevance. When results and history are discordant, supervised oral food challenges by allergist remain the reference standard for confirming or excluding food allergy [27, 28].

Table 7 Practical environmental control measures for families (multi-pronged avoidance strategies are more helpful rather than individual intervention) [18]

Trigger	Measures	Strength of recommendation
Dust mites	Use allergen proof covers, wash linen with hot water (> 55 °C) weekly, remove carpets, vacuum cleaners with HEPA filters	A
Cockroaches	Seal cracks, clean food areas, pest control	B
Mold	Repair leaks, improve ventilation, dry walls	A
Pet dander	Limit pet access indoors, bathe pets, consider removal if severe allergy	B
Pollution	Avoid incense/biomass, improve indoor air, keep windows shut	B

HEPA High-efficiency particulate air

KAS–Testing Strategy

Skin prick testing (SPT) or food-specific IgE testing should be performed only when guided by clinical history. Screening panels are not recommended. (Strength of recommendation: A)

Dietary Management

Unnecessary elimination diets should be avoided, as indiscriminate food avoidance can lead to nutritional deficiencies, impaired growth, and reduced quality of life, particularly in children. Dietary exclusions should be based on a confirmed diagnosis or strong clinical suspicion and regularly reviewed. When food avoidance is required, supervision by a trained healthcare professional or dietitian is essential to ensure nutritional adequacy and appropriate substitutes. This is especially important for common allergens such as milk, eggs, and wheat, which are key sources of energy, protein, and micronutrients. Regular reassessment allows timely reintroduction of foods when tolerance develops and helps prevent long-term sequelae [29–32].

KAS–Dietary Management

Unnecessary elimination diets should be avoided. Dietary exclusions must be supervised to prevent nutritional deficiencies. (Strength of recommendation: B)

Referral

Children with suspected IgE-mediated food allergy or a history of systemic reactions following food ingestion, including anaphylaxis, respiratory compromise, cardiovascular symptoms, recurrent multi-system involvement, or rapid-onset IgE-mediated reactions, require referral to an allergy specialist for accurate diagnosis, targeted testing, risk stratification and further management. Children with food-dependent exercise-induced reactions, suspected Food Protein Induced Enterocolitis Syndrome (FPIES), or discordant history and test results should also be referred for specialist evaluation and risk stratification. Allergy specialists can interpret test results in clinical context, arrange supervised oral food challenges when appropriate, and provide emergency action plans and adrenaline autoinjector training. Early referral also helps avoid unnecessary dietary restrictions and anxiety. Specialist input is particularly important when reactions are rapid, multisystem, or involve respiratory or cardiovascular symptoms [33–35] (Table 5).

KAS–Referral

Children with suspected IgE-mediated food allergy or systemic reactions should be referred to an allergy specialist. (Strength of recommendation: B)

Urticaria and Angioedema

Classification

Urticaria is classified according to duration, with acute urticaria lasting less than six weeks and chronic urticaria persisting for six weeks or longer. Acute urticaria is often triggered by infections, foods, or medications and may occasionally be IgE-mediated. In contrast, chronic spontaneous urticaria (CSU) usually occurs without an identifiable external trigger and is usually not driven by food allergy or IgE mediated mechanisms, but instead result from mast cell activation due to autoimmune or idiopathic processes. This distinction is important, as extensive allergy testing and dietary restriction are rarely useful in CSU and may lead to unnecessary investigations and patient anxiety [36, 37].

KAS–Classification

Urticaria should be classified as acute (< 6 weeks duration) or chronic (≥ 6 weeks duration). Chronic spontaneous urticaria (CSU) is usually not IgE-mediated. (Strength of recommendation: A)

Investigations

Routine allergy testing is not advised in CSU because the condition is rarely caused by allergy. In most cases, symptoms occur without a consistent external trigger and are related to non-IgE-mediated mast cell activation. Performing broad allergy tests in this setting often produces irrelevant positive results, which can confuse patients and lead to unnecessary avoidance measures. Allergy investigations should only be considered when the history clearly suggests a specific trigger, such as immediate and reproducible symptoms after exposure to a food, drug, or physical factor. A careful clinical history remains the most important tool in guiding appropriate investigation and management [38].

KAS–Investigations

Routine allergy testing is not recommended in CSU unless there is a clear history suggestive of an external trigger. (Strength of recommendation: A)

Treatment

Second-generation non-sedating antihistamines are recommended as first-line treatment because they effectively control symptoms while causing minimal drowsiness or cognitive impairment. They work by blocking H1 receptors and reducing the effects of histamine released from mast cells. In patients whose symptoms are not adequately controlled at standard doses, gradual dose escalation (up to four times the usual dose), may be considered under medical supervision. This approach can improve symptom control without significantly increasing the side effects for most patients. Regular review is important to assess response, tolerance, and the ongoing need for treatment, particularly in children and those with chronic symptoms [39, 40].

KAS–Treatment

Second-generation non-sedating antihistamines are recommended as first-line therapy. Dose escalation up to fourfold may be considered under supervision. (Strength of recommendation: A).

Referral

Children who have persistent symptoms after appropriate treatment, present with isolated angioedema, or are suspected to have hereditary angioedema require urgent specialist referral. Refractory symptoms may indicate an alternative diagnosis or the need for advanced therapies. Isolated angioedema, particularly without urticaria, raises concern for non-histaminergic causes that do not respond to standard antihistamines. Hereditary angioedema is rare but potentially life-threatening, especially when airway or abdominal involvement occurs, and requires prompt diagnosis and specific management. Early referral ensures appropriate investigations, access to targeted treatments, and education for families on recognizing and managing acute episodes (Table 5) [41].

KAS–Referral

Children with refractory symptoms, isolated angioedema, or suspected hereditary angioedema should be referred urgently. (Strength of recommendation: C)

Anaphylaxis

Recognition

Anaphylaxis is a clinical diagnosis based on the rapid development of symptoms involving more than one organ system, most commonly the skin, respiratory tract, cardiovascular system, and gastrointestinal tract. It is a medical emergency, and treatment should begin immediately when anaphylaxis is suspected. Laboratory tests, such as serum tryptase, may support the diagnosis later but are not required for acute management. Waiting for confirmation can result in worsening symptoms and increased risk of fatal outcomes. Prompt recognition and early administration of intramuscular adrenaline are critical and remain the cornerstone of effective anaphylaxis management [42].

KAS–Recognition

Anaphylaxis is a clinical diagnosis characterized by rapid onset of multi-system involvement and should not await laboratory confirmation. (Strength of recommendation: A)

Acute Management

Intramuscular adrenaline is the first-line treatment for anaphylaxis and should be given as soon as the condition is recognized. Early administration improves outcomes by rapidly reversing airway edema, bronchoconstriction, and hypotension. The preferred site of injection is the mid-anterolateral thigh, as this allows faster and more reliable absorption compared with other routes or sites. Antihistamines and corticosteroids may be used as adjuncts but must never replace adrenaline in the acute setting. All patients receiving adrenaline for suspected anaphylaxis at home (or any other place outside the hospital) must be urgently transferred to a healthcare facility for observation, due to the risk of symptom recurrence or biphasic reactions. Ongoing monitoring is essential, as repeat doses and further management may be required if symptoms persist or recur [42].

KAS–Acute Management

Intramuscular adrenaline is the first-line treatment and should be administered immediately in the mid-anterolateral thigh. (Strength of recommendation: A)

Discharge and Follow-Up

Children who have been treated for anaphylaxis require careful follow-up to reduce the risk of future episodes and improve safety. Families should receive clear education on recognizing early symptoms, avoiding known triggers, and responding promptly to recurrence. A written emergency action plan provides practical, step-by-step guidance during emergencies and helps ensure consistent care at home, school, and childcare settings. Training about the correct use of adrenaline auto-injectors is essential. Referral to a specialist allows confirmation of the diagnosis, identification of triggers, and long-term management planning, including review of risk factors and regular reassessment as the child grows (Table 5) [42, 43].

KAS–Discharge and Follow-up

Children treated for anaphylaxis should receive education, a written emergency action plan, and referral for specialist evaluation. (Strength of recommendation: A)

Role of the Allergist and Referral Guidelines in India [8]

Current Landscape

For the in vivo diagnosis of allergic sensitization, SPT, and for *in-vitro* diagnosis (sIgE), ImmunoCAP technique remain the standardized tool; however, it does not encompass the full spectrum of indigenous allergens, which limits its applicability in certain regions. With respect to allergen immunotherapy (AIT), standardized sublingual immunotherapy (SLIT) tablets for house dust mite (HDM) are currently available in India with regulatory approval, yet the standardization of Indian allergens remains an unmet need. The main differences between subcutaneous immunotherapy (SCIT) and SLIT routes of allergen immunotherapy are enlisted in Table 8. Educational initiatives, including the IAP – Pediatric Allergy and Asthma Course (IAP-PAAC), as well as the contributions of WAO Centres of Excellence (Sir Ganga Ram Hospital, Delhi and Christian Medical College, Vellore) with courses such as Diploma in Pediatric Allergy and Asthma (DPAA) and Diploma in Allergy and Asthma (DAA), have been instrumental in advancing knowledge and capacity building for rational clinical practice in this field. Nevertheless, it is important to acknowledge that although existing training programs are academically rigorous, they are not structured as full-time courses and currently do not have formal recognition from the National Medical Commission (NMC).

With this background, trained personnel can present themselves as an expert in the field of allergy based on the training received and expertise in this subject. In the absence of formal recognized training programs by the NMC, many medical institutions, including universities, medical colleges, and hospitals, have developed full/part-time different training programs ranging from 6 to 12 months duration. Few programs have accreditation from state councils, some are university recognized, and some are affiliated with well-recognized overseas allergy centers or WAO-recognized centers of excellence. The authenticity of these training programs is based on the faculties, structure, and the curriculum of the same. These trained professionals serve as de facto allergists and are essential to advancing the rational allergy care across India. With experience in allergy diagnostics and Immunotherapy, these clinicians play an important role in bridging the current care gap in India.

Need for Structured Referral Guidelines

In the absence of standardized referral pathways in India, many children with allergic disorders are either undertreated or referred late. This leads to prolonged morbidity, avoidable complications, and missed opportunities for immunomodulation. These recommendations aim to guide primary care and general pediatric practitioners on when to refer to an allergist, especially in refractory cases, which are defined as patients not responding to standard treatment guidelines. The allergist's role in India is evolving but crucial as outlined:

Detailed allergy history-taking and clinical evaluation
Interpretation of SPT, specific IgE assays, and Component Resolved Diagnosis (CRD)

Table 8 Comparison of SCIT and SLIT as allergen immunotherapy [5]

Feature	SCIT	SLIT
Route	Subcutaneous injection	Sublingual drops or tablets
Setting	Clinic-based	Home-based (after initiation)
Safety	Risk of systemic reactions	Better safety profile
Dosing frequency	Weekly → Monthly (Maintenance)	Daily
Use in India	Widely used	Emerging, limited availability

SCIT subcutaneous immunotherapy, *SLIT* sublingual immunotherapy

Diagnosis and management of food and drug allergy, urticaria, anaphylaxis, asthma, and AR
AIT initiation and monitoring
Counselling for allergen avoidance, school safety, and quality of life issues
Participation in research, public education, and advocacy

Conclusion

These guidelines aim to promote rational, evidence-based, and child-centred allergy care, reduce inappropriate testing and treatment, and support the structured development of pediatric allergy services in India. Table 1 summarizes the key action statements for rational allergy practice.

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References

1. Krishna MT, Mahesh PA, Vedanthan P, Moitra S, Mehta V, Christopher DJ. An appraisal of allergic disorders in India and an urgent call for action. World Allergy Organ J. 2020;13:100446.
2. Singh S, Salvi S, Mangal DK, et al. Prevalence, time trends and treatment practices of asthma in India: The Global Asthma Network study. ERJ Open Res. 2022;8:00528-2021.
3. Lai CK, Beasley R, Crane J, Foliaki S, Shah J, Weiland S, et al. Global variation in the prevalence and severity of asthma symptoms: phase three of the International Study of Asthma and Allergies in Childhood (ISAAC). Thorax. 2009;64:476–83.
4. Moitra S, Mahesh PA, Moitra S. Allergic rhinitis in India. Clin Exp Allergy. 2023;53:765–76.
5. De A, Karekar S, Adhav C. Current burden of atopic dermatitis in India: a systematic literature review. Indian J Dermatol. 2023;68:487.
6. Daniel J, Christopher DJ. Strategies to tackle the unmet need for asthma and allergy services in India. Clin Exp Allergy. 2023;53:693–6.
7. Mahesh PA, Kaleem Ullah M, Parthasarathi A. Allergic sensitization to foods in India and other low-middle-income countries. Clin Exp Allergy. 2023;53:739–50.
8. Vedanthan PK, Christopher DJ, Gupta N. Allergy training in India. Clin Exp Allergy. 2022;52:833–5.
9. Mahesh PA, Moitra S, Mabalirajan U, et al. Allergic diseases in India - prevalence, risk factors and current challenges. Clin Exp Allergy. 2023;53:276–94.
10. Shekelle PG, Woolf SH, Eccles M, Grimshaw J. Developing clinical guidelines. West J Med. 1999;170:348–51.
11. Goniotakis I, Perikleous E, Fouzas S, Steiropoulos P, Paraskakis E. A clinical approach of allergic rhinitis in children. Children (Basel). 2023;10:1571.
12. Brożek JL, Bousquet J, Agache I, et al. Allergic Rhinitis and its Impact on Asthma (ARIA) Guidelines-2016 Revision. J Allergy Clin Immunol. 2017;140:950–8.
13. Fein MN, Fischer DA, O'Keefe AW, Sussman GL. CSACI position statement: newer generation H_1-antihistamines are safer than first-generation H_1-antihistamines and should be the first-line antihistamines for the treatment of allergic rhinitis and urticaria. Allergy Asthma Clin Immunol. 2019;15:61.
14. Linton S, Hossenbaccus L, Ellis AK. Evidence-based use of antihistamines for treatment of allergic conditions. Ann Allergy Asthma Immunol. 2023;131:412–20.
15. Bousquet J, Schünemann HJ, Togias A, et al; Allergic Rhinitis and Its Impact on Asthma Working Group. Next-generation Allergic Rhinitis and Its Impact on Asthma (ARIA) guidelines for allergic rhinitis based on Grading of Recommendations Assessment, Development and Evaluation (GRADE) and real-world evidence. J Allergy Clin Immunol. 2020;145:70–80.e3. Erratum in: J Allergy Clin Immunol. 2022;149:2180.
16. Soe KK, Krikeerati T, Pheerapanyawaranun C, Niyomnaitham S, Phinyo P, Thongngarm T. Comparative efficacy and acceptability of licensed dose intranasal corticosteroids for moderate-to-severe allergic rhinitis: a systematic review and network meta-analysis. Front Pharmacol. 2023;14:1184552.
17. Kameswaran M, Juvekar M, Haldipur D, et al. Diagnosis and management of allergic rhinitis: an Indian expert consensus by otorhinolaryngologists. Asia Pac Allergy. 2025;15:319–28.
18. Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention, 2025. Accessed on January 15, 2026. Available from: https://ginasthma.org/2025-gina-strategy-report/
19. Akar-Ghibril N, Casale T, Custovic A, Phipatanakul W. Allergic endotypes and phenotypes of asthma. J Allergy Clin Immunol Pract. 2020;8:429–40.
20. Venkatesan P. 2025 GINA report for asthma. Lancet Respir Med. Published online June 26, 2025. https://doi.org/10.1016/S2213-2600(25)00242-5
21. Zhou X, Zhang P, Tan H, et al. Progress in diagnosis and treatment of difficult-to-treat asthma in children. Ther Adv Respir Dis. 2023;17:17534666231213637.
22. Schoos AM, Chawes BL, Bønnelykke K, Stokholm J, Rasmussen MA, Bisgaard H. Increasing severity of early-onset atopic dermatitis, but not late-onset, associates with development of aeroallergen sensitization and allergic rhinitis in childhood. Allergy. 2022;77:1254–62.
23. Sid Idris F. Treatment of atopic dermatitis in children. Cureus. 2024;16:e69416.
24. Wollenberg A, Werfel T, Ring J, Ott H, Gieler U, Weidinger S. Atopic dermatitis in children and adults—diagnosis and treatment. Dtsch Arztebl Int. 2023;120:224–34.
25. Sehgal S, Gupta N, Dadha P, et al. Understanding the burden of food allergy among urban and rural school children from north India. World Allergy Organ J. 2024;17:100916.
26. Krishna MT, Shamji MH, Boyle RJ. Allergy in India. Clin Exp Allergy. 2023;53:690–2.
27. Terlouw S, van Boven FE, Borsboom-van Zonneveld M, et al. Comparison of skin prick test and prick-to-prick test with fruits

and vegetables in the diagnosis of food allergy. Clin Transl Allergy. 2024;14:e12375.
28. Torres Córdova P. Pruebas cutáneas (Skin Prick Test) en alergia alimentaria [Skin test (Skin Prick Test) in food allergy]. Rev Alerg Mex. 2023;70:242–4.
29. Dannaeus A, Johansson SG, Foucard T, Ohman S. Clinical and immunological aspects of food allergy in childhood. I. Estimation of IgG, IgA and IgE antibodies to food antigens in children with food allergy and atopic dermatitis. Acta Paediatr Scand. 1977;66:31–7.
30. Chiu CY, Yao TC, Huang YL, et al. Sensitization to food and inhalant allergens in relation to atopic diseases in early childhood: a birth cohort study. PLoS ONE. 2014;9:e102809.
31. Danthine S. Management of food allergies in children: challenges and solutions. J Food Nutr Health. 2024;7:233.
32. Pecoraro L, Mastrorilli C, Arasi S, et al. Diagnostic Commission of the Italian Society of Pediatric Allergy and Immunology (SIAIP). Nutritional and Psychosocial Impact of Food Allergy in Pediatric Age. Life. 2024;14:695.
33. Hossny E, Ebisawa M, El-Gamal Y, et al. Challenges of managing food allergy in the developing world. World Allergy Organ J. 2019;12:100089.
34. Hosaagrahara Ramakrishna S, Shah N, Acharyya BC, et al. The need for culturally appropriate food allergy management strategies: the Indian milk ladder. Nutrients. 2023;15:3921.
35. Scarpone R, Kimkool P, Ierodiakonou D, et al. Timing of allergenic food introduction and risk of immunoglobulin e-mediated food allergy: a systematic review and meta-analysis. JAMA Pediatr. 2023;177:489–97.
36. Godse K, Patil A, De A, et al. Diagnosis and Management of Urticaria in Indian Settings: Skin Allergy Research Society's Guideline-2022. Indian J Dermatol. 2022;67:732–43.
37. Zuberbier T, Abdul Latiff AH, Abuzakouk M, et al. The International EAACI/GA^{2}LEN/EuroGuiDerm/APAAACI Guideline for the Definition, Classification, Diagnosis, and Management of Urticaria. Allergy. 2022;77:734–66.
38. Kolkhir P, Bonnekoh H, Metz M, Maurer M. Chronic spontaneous urticaria: a review. JAMA. 2024;332:1464–77.
39. van den Elzen MT, van Os-Medendorp H, van den Brink I, et al. Effectiveness and safety of antihistamines up to fourfold or higher in treatment of chronic spontaneous urticaria. Clin Transl Allergy. 2017;7:4.
40. Kostara M, Kosmeri C, Kocatürk E, Alvaro-Lozano M, Barbaud A, Tsabouri S. Exploring treatment options for pediatric refractory chronic urticaria. Expert Rev Clin Immunol. 2025;21:991–1001.
41. Saini SS, Asero R, Cugno M, Park HS, Oliver ET. Pathogenesis of chronic spontaneous urticaria with or without angioedema. J Allergy Clin Immunol Pract. 2025;13:2221–8.
42. Cardona V, Ansotegui IJ, Ebisawa M, et al. World Allergy Organization anaphylaxis guidance 2020. World Allergy Organ J. 2020;13:100472.
43. Golden DBK, Wang J, Waserman S, et al; Workgroup Contributors; Golden DBK, Wang J, Akin C, et al; Joint Task Force on Practice Parameters Reviewers; Abrams EM, Bernstein JA, Chu DK, Ellis AK, et al. Anaphylaxis: A 2023 practice parameter update. Ann Allergy Asthma Immunol. 2024;132:124–76.

Authors and Affiliations

Neeraj Gupta[1] · R. Krishna Mohan[2] · Uppin Narayan Reddy[3] · Dhanesh Volvoikar[4] · Dipti Pujari[5] · Gayatri S. Pandit[6] · Jefferson Daniel[7] · Kagithapu Surender[8] · P. A. Mahesh[9] · Mitesh Kakkad[10] · Mohit Poddar[11] · Naresh Grover[12] · Nayan Mani Deka[13] · Rama Rajyam Datti[14] · Saibal Moitra[15] · Sanjukta Dey[16] · Sinchana Bhatt[17] · S. Narmada Ashok[18] · Soundarya Mahalingam[19] · Sowmya Arudi Nagarajan[20] · Vikram Patra[21] · Vinay Mehta[22] · Vasant Khalatkar[23] · Neelam Mohan[24] · Yogesh Parikh[25] · Atanu Bhadra[26]

✉ Neeraj Gupta
drneeraj1979@gmail.com

1 Department of Pediatrics, Sir Ganga Ram Hospital, Rajinder Nagar, Delhi 110060, India

2 Department of Health Services, Taluk Hospital, Areacode, Kerala, India

3 Laxmi Child Clinic, Saidabad, Hyderabad, Telangana, India

4 Healthway Hospital, Goa, India

5 Department of Allergy, Deenanath Mangeshkar Hospital and Research Centre, Pune, Maharashtra, India

6 Samarth ENT and Allergy Centre, Bengaluru, Karnataka, India

7 Department of Pulmonary Medicine, Christian Medical College, Vellore, Tamil Nadu, India

8 Department of Pediatrics, GMC, Jayashankar Bhupalpally, Telangana, India

9 Department of Respiratory Medicine, JSS Medical College, JSSAHER, Mysore, Karnataka, India

10 Neo Pediatric Allergy and Asthma Centre, Ahmedabad, Gujarat, India

11 Medihub Multispecialty Clinic, Jaipur, Rajasthan, India

12 Dr Naresh Grover Advanced Pediatric and Allergy Management Centre, Amritsar, Punjab, India

13 Pratiksha Hospital, Guwahati, Assam, India

14 Department of Pediatrics, GMC Paderu, Visakhapatnam, Andhra Pradesh, India

15 Division of Allergy and Immunology, Department of Pulmonology, Apollo Multispecialty Hospitals, Kolkata, West Bengal, India

16 Department of Pediatrics, Peerless Hospital, Kolkata, West Bengal, India

[17] Dr Sinchana's Allergy and Asthma Clinic, Bengaluru, Karnataka, India

[18] Nalam Medical Centre and Hospital, Vellore, Tamil Nadu, India

[19] KMC Hospitals, Mangalore, Karnataka, India

[20] Sanjeevini Specialist Clinic and Mallige Hospitals, Bengaluru, Karnataka, India

[21] Apollo Hospital, Mumbai, Maharashtra, India

[22] Allergy and Asthma Associates of Southern California, Irvine, CA, USA

[23] Khalatkar Bal Rugnalaya, Nagpur, Maharashtra, India

[24] Department of Pediatric Gastroenterology, Hepatology and Liver Transplantation, Medanta the Medicity, Gurugram, Haryana, India

[25] Department of Pediatrics, GMC, Surat, Gujarat, India

[26] ESI Hospital, Asanol, West Bengal, India

JOURNAL WATCH

Pediatric Allergy & Immunology

Dr Rohit Aggarwal
EB Member West Zone

IgE and Hyper-IgE

A Practical Approach to Non-Syndromic Hyper-IgE in Children

Source: Castagnoli et al. World Allergy Organization Journal (2026) 19:101346

THE BOTTOM LINE

Elevated IgE is common in paediatrics, but values >2000 IU/mL demand a structured work-up. The clinician's job is to separate benign atopy and parasitic infection (which account for most cases) from inborn errors of immunity — particularly Hyper-IgE Syndromes (HIES) — using red-flag screening before launching into extensive investigation.

Why This Matters

Elevated IgE is one of the most frequently encountered but least systematically worked-up lab abnormalities in paediatric practice. It is tempting to attribute every high value to atopy — yet the differential extends from benign parasitic infection to life-threatening inborn errors of immunity. Castagnoli and colleagues offer a pragmatic framework to bring clarity to this common clinical dilemma.

Key Definitions

- **High IgE:** serum IgE more than 2 SD above the age-specific normal range.
- **Hyper-IgE:** serum IgE >2000 IU/mL at any age — a threshold that warrants structured evaluation.
- **Non-syndromic Hyper-IgE:** elevated IgE without features of a defined inborn error of immunity (most paediatric cases).

Table 1. Age-specific normal IgE ranges

Age	Normal IgE range (IU/mL)
6–12 months	2–34
1–2 years	2–97
3 years	2–199
4–6 years	2–307
7–8 years	2–403
9–12 years	2–696
13–15 years	2–629
16–17 years	2–537
≥18 years	2–214

IgE in a Nutshell

IgE is the least abundant but most potent immunoglobulin, central to type I hypersensitivity and anti-parasitic defence. Its production is tightly regulated:

- B-cell class-switch recombination (CSR) from IgM — directly or via IgG1
- IL-4 and IL-13 drive IgE synthesis through STAT6 signalling
- CD40–CD40L interaction between B and T-helper cells is essential
- IL-21 acts as a negative regulator via STAT3

Dysregulation at any of these nodes tips the balance toward allergic or immunodeficient phenotypes.

First Fork in the Road: Syndromic or Not?

Before chasing parasites or labelling a child "severely atopic", pause and screen for features of HIES and other inborn errors of immunity — Wiskott-Aldrich, IPEX, Omenn syndrome, and X-linked disorders. Clues include early severe eczema, recurrent or opportunistic infections, autoimmunity, cytopenias, consanguinity, and poor response to standard therapy.

🚩 RED FLAGS — Suspect Inborn Error of Immunity / Syndromic Hyper-IgE
• Serum IgE >2000 kU/L, especially in the first 3 months of life
• Neonatal erythroderma
• Congenital ichthyosis
• Atopic dermatitis + IgE >2000 kU/L + recurrent skin/pulmonary infections ± skeletal or neurodevelopmental abnormalities
• Atopic diathesis + recurrent/severe infections (opportunistic pathogens, Herpesviridae, CMV, EBV)
• Atopic dermatitis + autoimmunity ± recurrent infections
• Atopic diathesis + lymphopenia
• Atopic diathesis + cytopenias (neutropenia/thrombocytopenia/anaemia)
• Atopic dermatitis + diarrhoea + endocrinopathy ± failure to thrive
• Atopic dermatitis + diarrhoea + bleeding ± failure to thrive
• Eosinophilic GI disease + severe eosinophilia (>1500/mm^3) ± atopic diathesis

Non-Syndromic Causes at a Glance

Category	Common Causes
Atopic	Atopic dermatitis (extrinsic), food allergy, allergic asthma, allergic rhinitis, ABPA, AFRS
Parasitic	Strongyloides, Toxocara, Ascaris, Trichuris, Hookworm, Filaria, Schistosoma, Echinococcus
Non-parasitic infections	HIV, TB, CMV, EBV, leprosy, recurrent vaginal candidiasis
Inflammatory / autoimmune	EGPA, Kawasaki disease, Kimura disease
Malignancy	Hodgkin & non-Hodgkin lymphoma, IgE myeloma
Miscellaneous	Drug hypersensitivity, smoking, nephrotic syndrome, GVHD

Atopic Disease — the Usual Suspect

- **Atopic dermatitis** is the commonest cause. The extrinsic endotype (80% of cases, early onset, filaggrin mutations, impaired skin barrier) has markedly elevated IgE, especially with multiple food allergies. The intrinsic endotype has normal IgE and a Th1/Th17 signature.
- **Food allergy:** higher specific IgE predicts positive oral food challenges; falling levels suggest developing tolerance.
- **Allergic asthma:** IgE correlates with severity, airflow limitation, and airway hyperresponsiveness.
- **Allergic rhinitis:** commonly elevated; values >2000 IU/mL are unusual.
- **ABPA:** total IgE ≥500 IU/mL plus specific IgE to A. fumigatus ≥0.35 kUA/L is a hallmark diagnostic criterion.
- **AFRS:** nasal polyps, eosinophilic mucin, non-invasive fungal hyphae, and type I hypersensitivity to fungal antigens.

Parasitic Infection — Don't Miss It

The single most important cause of hyper-IgE in resource-limited and endemic settings. IgE evolved as an anti-parasitic defence, so expect high values with eosinophilia.

- Stool microscopy, coproantigen, serology (ELISA/Western blot) and imaging as appropriate
- Key organisms: Strongyloides, Toxocara, Ascaris, Trichuris, hookworm, filaria, Schistosoma, Echinococcus
- Screen empirically before labelling a child with "idiopathic hyper-IgE" in endemic areas

Other Causes Worth Remembering

- **Non-parasitic infections:** HIV (atopic phenotype, independent of immune status), TB (falls with treatment), primary CMV, EBV, leprosy (higher in tuberculoid form), recurrent vaginal candidiasis.
- **Inflammatory/autoimmune:** EGPA (asthma + eosinophilia + pANCA/anti-MPO), Kawasaki disease, Kimura disease.
- **Malignancy (rare):** Hodgkin and non-Hodgkin lymphoma, IgE myeloma.
- **Miscellaneous:** drug hypersensitivity, tobacco smoke exposure, nephrotic syndrome, graft-versus-host disease.

A Practical Diagnostic Approach

Step 1 — History & Examination

- Onset, severity and response to therapy of eczema; infection pattern (recurrent, opportunistic, deep-seated)
- Growth, development, failure to thrive, skeletal features, facial dysmorphism
- Family history of immunodeficiency or consanguinity; residence in/travel to parasite-endemic areas

Step 2 — First-Line Investigations

- CBC with differential (eosinophils, lymphocytes, cytopenias)
- Total and specific IgE; allergen-specific panels when atopy is suspected
- Stool microscopy (repeated) and serology for region-relevant parasites
- HIV screening where clinically appropriate

Step 3 — Second-Line (if red flags or unexplained)

- Immunoglobulin panel, lymphocyte subsets, vaccine response
- Genetic testing for HIES and related inborn errors of immunity
- Imaging (HRCT chest, CT-PET), lymph node biopsy when malignancy is a concern
- Specialist referral — allergy/immunology

> 💡 **CLINICAL PEARLS**
> ✓ High IgE alone is not diagnostic — clinical context is everything.
> ✓ IgE >2000 IU/mL at any age warrants systematic evaluation.
> ✓ Atopic dermatitis is the commonest cause, but rule out parasitic infection in endemic settings.
> ✓ Always consider immunodeficiency in severe, early-onset, or treatment-resistant atopic dermatitis.
> ✓ Screen for HIES red flags before labelling hyper-IgE as 'idiopathic'.

Looking Ahead

Castagnoli and colleagues underline three priorities: formal validation of diagnostic algorithms, long-term follow-up of children with isolated hyper-IgE, and standardised international guidelines to reduce practice variation.

> *A high IgE is a signal, not a diagnosis. Read it in the light of the child in front of you — their age, their skin, their infections, their growth — and the commonest traps become obvious, while the rare but serious ones stop slipping through.*

Journal Watch | Based on: Castagnoli R, et al. Non-syndromic Hyper-IgE in children — a practical approach. World Allergy Organ J 2026;19:101346.

DRUG FOCUS : FEXOFENADINE

Dr Shetanshu Srivastava
EBM Central Zone

Fexofenadine: Its Role in Pediatric Allergies

Introduction

Fexofenadine is a second-generation antihistamine indicated for the management of allergic disorders such as allergic rhinitis and urticaria.[1,2] It is a selective peripheral H_1-receptor antagonist and the active metabolite of terfenadine, and is classified as a non-sedating antihistamine owing to its minimal central nervous system (CNS) penetration.

Given its high receptor selectivity, rapid onset of action, and favourable safety profile, fexofenadine is among the preferred oral antihistamines in the paediatric population.[3,4]

Mechanism of Action

Fexofenadine exerts its therapeutic effect by competitively blocking peripheral H_1 receptors, thereby preventing histamine-mediated symptoms. It is effective in both the early and late phases of the allergic response and provides relief from nasal as well as ocular symptoms.

Role in Allergy Management

Fexofenadine plays an important role in the symptomatic management of allergic disorders in children.

Symptom Relief

Fexofenadine effectively reduces the following symptoms:

- Sneezing
- Rhinorrhoea
- Nasal and ocular itching
- Urticarial rash and pruritus

Rapid and Sustained Action

Fexofenadine demonstrates a rapid onset of action, with clinical effects evident within 1–2 hours of administration. Its pharmacokinetic profile permits once- or twice-daily dosing, making it suitable for both acute symptomatic relief and long-term management.[5]

Oral antihistamines remain the most commonly used treatment option in children, as the oral route is the easiest and therefore the preferred mode of administration.[6,7] Clinical data demonstrate that fexofenadine improves symptom scores, quality of life, and daily functioning, including school and work performance.

Indications

Fexofenadine is indicated for the treatment of various allergic conditions:

1. Allergic Rhinitis (AR)

- Seasonal allergic rhinitis (SAR)
- Perennial allergic rhinitis

Allergic rhinitis is highly prevalent, affecting up to 40% of children worldwide, and significantly impacts quality of life.

2. Urticaria

- Chronic spontaneous urticaria
- Reduction of wheals and pruritus

3. Other Uses

- Allergic conjunctivitis
- Atopic conditions (adjunctive role)

Approved paediatric use: children ≥ 6 months (urticaria) and children ≥ 2 years (allergic rhinitis).

Dosage

Paediatric dosing recommendations for fexofenadine are summarised below:[8]

Age Group	Recommended Dose
Children ≥ 12 years	60 mg twice daily OR 120 mg / 180 mg once daily
Children 2–11 years	30 mg twice daily
Infants 6 months–2 years	15–30 mg twice daily (based on age and clinical factors)

Formulations

Fexofenadine is available as oral tablets and as an oral suspension, the latter being particularly useful in paediatric patients. Pharmacokinetic studies indicate rapid absorption, with peak plasma concentrations achieved within approximately one hour and clinical effects within 1–2 hours.[9,10]

Side Effects

Fexofenadine is generally well tolerated, with minimal adverse effects.

Common Side Effects

- Headache
- Mild gastrointestinal discomfort
- Dizziness (rare)

Safety Profile

1. CNS and Cognitive Safety[11]

- No significant sedation
- No anticholinergic effects (e.g., dry mouth, urinary retention)
- Does not cross the blood–brain barrier significantly; no impairment of memory, concentration, or performance

2. Cardiovascular Safety

- Does not prolong the QT interval
- Safe even at high doses
- No significant arrhythmogenic risk

3. Paediatric Safety

- Safe in children, including infants > 6 months
- No significant effects on growth, vital signs, or ECG parameters

4. Long-term Safety

- Well tolerated in long-term use (up to 12 months)
- No dose-related toxicity reported

Conclusion

Fexofenadine is a safe, effective, and widely used second-generation antihistamine with an established role in managing paediatric allergic conditions. Its non-sedating nature, favourable safety profile, minimal side effects, and strong efficacy make it a preferred choice of oral antihistamine in children.

References

1. Meltzer EO, Rosario NA, Van Bever H, Lucio L. Fexofenadine: review of safety, efficacy and unmet needs in children with allergic rhinitis. Allergy Asthma Clin Immunol. 2021 Nov 2;17(1):113. doi:10.1186/s13223-021-00614-6.
2. Prescribing information of Allegra (fexofenadine hydrochloride capsules and tablets). U.S. Food and Drug Administration.
3. Lee HW, Lee HW, Park DJ, et al. The effects of fexofenadine at steady-state on sleep architecture: a study using polysomnography in healthy Korean volunteers. Expert Opin Pharmacother. 2008;9(10):1655–65.
4. Milgrom H, Kittner B, Lanier R, Hampel FC. Safety and tolerability of fexofenadine for the treatment of allergic rhinitis in children 2 to 5 years old. Ann Allergy Asthma Immunol. 2007;99(4):358–63.
5. Martinez JM, Khier S, Morita S, Rauch C, Fabre D. Population pharmacokinetic analysis of fexofenadine in Japanese pediatric patients. J Pharmacokinet Pharmacodyn. 2014;41(2):187–95.
6. Dykewicz MS, Wallace DV, Amrol DJ, et al. Rhinitis 2020: a practice parameter update. J Allergy Clin Immunol. 2020;146(4):721–67.
7. Kuna P, Jurkiewicz D, Czarnecka-Operacz MM, et al. The role and choice criteria of antihistamines in allergy management — expert opinion. Postepy Dermatol Alergol. 2016;33(6):397–410.
8. Hampel FC, Kittner B, van Bavel JH. Safety and tolerability of fexofenadine hydrochloride, 15 and 30 mg, twice daily in children aged 6 months to 2 years with allergic rhinitis. Ann Allergy Asthma Immunol. 2007;99(6):549–55.
9. Meltzer EO, Scheinmann P, Rosado Pinto JE, et al. Safety and efficacy of oral fexofenadine in children with seasonal allergic rhinitis — a pooled analysis of three studies. Pediatr Allergy Immunol. 2004;15(3):253–60.
10. Simons FER, Simons KJ. Histamine and H_1-antihistamines: celebrating a century of progress. J Allergy Clin Immunol. 2011;128(6):1139–50.
11. Hampel FC, Kittner B, van Bavel JH. Safety and tolerability of fexofenadine hydrochloride in paediatric patients. Ann Allergy Asthma Immunol. 2007;99(6):549–55.

Summer and Allergies in Children

Dr Soundarya Mahalingam
Consultant Paediatrician , Allergist and EB Member

Summer is seen as a season of joy and freedom for children and a time for playing outdoors , family trips and long days in the sunshine . However for many children this season also challenging as there is worsening of their allergies . The warm weather na din created outdoor activity expose the children to various environmental triggers that can cause or worsen allergic reactions

Major Sources of Summer Allergies

During summer, two major sources of allergies become more prominent:

Pollen

Pollens are released in large numbers from plants that flower in summer, either in the mornings or evenings. This results in exacerbation of symptoms of allergic rhinitis in children — marked by sneezing, itchy eyes, a runny nose, and nasal congestion — when they play outside during these times. Grasses like Bermuda grass and Timothy grass have significant pollination in late spring and early summer.

Insect Stings

Along with the flowering season, there is an increase in the insect population and hence a rise in insect sting incidence. Stings from bees, wasps, or mosquitoes can cause reactions ranging from mild skin irritation to serious allergic responses such as anaphylaxis in highly sensitive individuals.

Environmental Factors

Mold Spores

In tropical countries, mold spores thrive in warm and humid conditions and can become abundant in soil, fallen leaves, and damp areas. Children playing outside or near partly dry vegetation inhale these spores, triggering acute exacerbation of asthma and allergic rhinitis.

Air Pollution

Summers tend to have hot, warm winds with dry air flow. This results in more dispersal of smog and air pollutants, which can worsen allergic symptoms and even trigger asthma attacks in allergic children.

Managing Summer Allergies

Prevention

- Check daily pollen counts and plan outdoor activities accordingly.
- Encourage indoor play during high-pollen hours (early morning and late afternoon).
- Keep windows closed when pollen levels peak.
- Ensure regular bathing and changing of clothes after outdoor activity to remove allergens from skin and hair.

Treatment

For symptom relief, over-the-counter antihistamines and nasal sprays can be effective. Severe cases should be addressed with a healthcare visit.

Lifestyle Adjustments

Along with medical care, lifestyle adjustments contribute to better outcomes:

- A balanced diet rich in fruits and vegetables, along with adequate hydration, supports the immune system and helps ward off infections.
- Parents and children should be aware of recognizing early symptoms, such as itchy eyes or difficulty breathing, so that help can be sought promptly.

While summer is a vibrant and enjoyable season, it can pose significant challenges for children with allergies. By understanding the triggers and implementing proactive strategies, parents can help their children experience the joys of summer with minimal discomfort.

Parent Information Leaflet

Summer and Allergy in Children

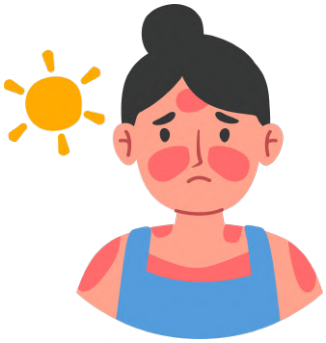
Dr. Nayan Mani Deka
Consultant Pediatrician & Asthma Allergy Specialist
Pratiksha Rainbow Children's Hospital, Guwahati, Assam

What every parent and caregiver should know

SKIN HIVES

ALLERGIC SKIN REACTION

SUMMER HEAT



INDIAN CHILDREN IN SUMMER

ALLERGENS

COMMON FOOD ALLERGENS

UNDERSTANDING

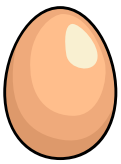
What is an Allergy?
The immune system overreacts to harmless substances like foods, dust, or pollen — causing reactions in the skin, stomach, lungs, or whole body.

FOOD ALLERGY

What is Food Allergy?
An immune reaction triggered by specific foods. Even a tiny amount can cause symptoms within minutes to 2 hours of eating.

COMMON FOOD ALLERGENS

Milk



Egg

Peanut & Nut

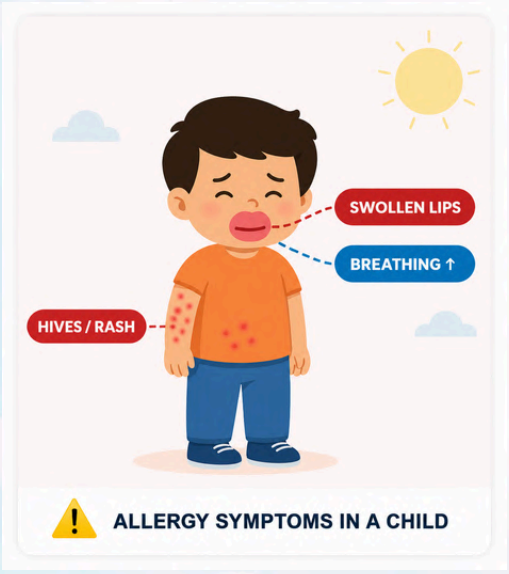
Wheat

Soy

Fish & Shellfish

SYMPTOMS

Signs of a Food Allergic Reaction



Skin Reactions
Hives, itching, redness, swelling of lips or face

Stomach Symptoms
Vomiting, abdominal pain, diarrhoea

Breathing Problems
Cough, wheeze, difficulty breathing

When Do They Appear?
Usually within minutes to 2 hours of eating the trigger food

LIFE-THREATENING EMERGENCY

What is Anaphylaxis?
A severe, whole-body allergic reaction needing IMMEDIATE treatment.

- Difficulty breathing or noisy breathing
- Swelling of tongue or throat
- Repeated vomiting
- Dizziness or fainting
- Child becomes weak, pale, or unresponsive

ACT FAST

What To Do in an Emergency

1
Give adrenaline (epinephrine) IMMEDIATELY if available

2
Rush to the nearest hospital without delay

3
Lay child flat and raise their legs if possible

Antihistamines alone are NOT enough — do not delay treatment

DIAGNOSIS & MANAGEMENT

Managing Food Allergy

- **Strictly avoid the trigger food**
- **Always check food labels**
- **Inform school and caregivers**
- **Carry emergency medicines if prescribed**
- **Diagnosed via history + skin/blood tests**
- **Regular follow-up with your doctor**

Can Allergy Be Outgrown?
Milk & egg allergy may improve with age. Peanut & nut allergies often persist. Regular follow-up is important.

How Is It Diagnosed?
Doctors assess the child's history of reactions and may do allergy skin tests or blood tests to confirm the trigger food.

Prevention Tips for Parents

- Start complementary (solid) feeding at around 6 months of age
- Early introduction of common allergenic foods may reduce allergy risk
- Breastfeeding is beneficial for your baby's immune system
- In summer heat, watch for worsening of skin allergies and rashes

SEEK MEDICAL HELP

When to See a Doctor

→ *Your child has repeated reactions to a specific food*
→ *Breathing difficulty or severe symptoms occur*
→ *You suspect any allergic reaction*
→ *Allergy symptoms worsen in summer heat*

KEY MESSAGE

Awareness & Early Action Save Lives

Food allergy can be serious, but with awareness and prompt action it is manageable. Recognise symptoms early, act fast — adrenaline saves lives.

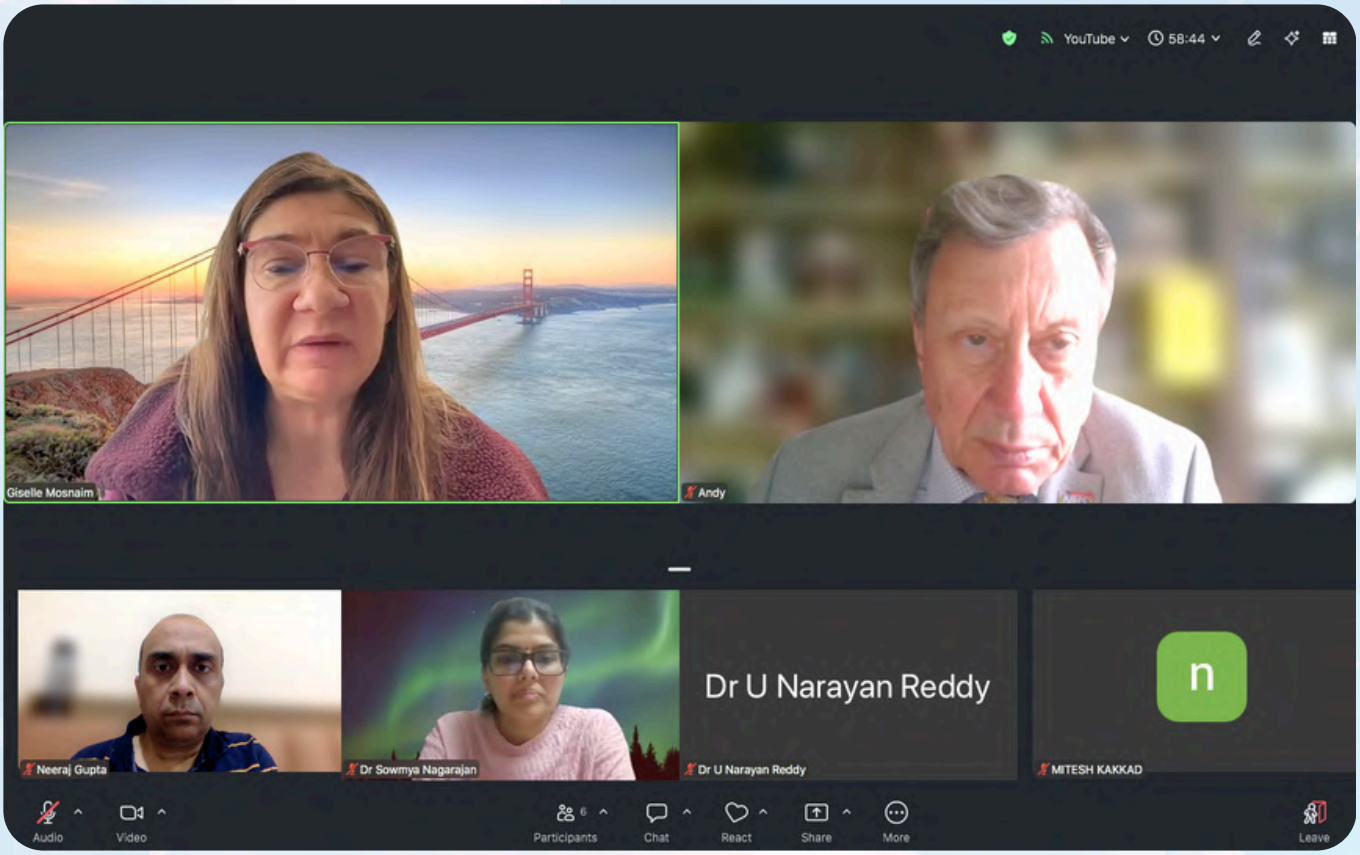
This leaflet is for general information only.
Always consult your doctor for personal medical advice.

Allergy Activities

Spirometry workshop at GCS Medical College on 5th may World Asthma Day

Allergy Activities - Webinar

World Asthma Day webinar on 05th May 2026



On the occasion of World Asthma Day 2026, the IAP Allergy and Applied Immunology Chapter organized an insightful webinar on the topic “Mild is not Mild: Why Every Asthmatic Patient Needs Anti-inflammatory Treatment" on 5th May 2026. The session highlighted the evolving understanding of asthma management and emphasized the importance of early anti-inflammatory therapy even in patients with seemingly mild disease.

The webinar featured an enriching academic lecture by Dr Giselle Mosnaim, with Dr Andrew Bush gracing the occasion as Chief Guest. Their valuable insights added immense depth to the discussion on contemporary asthma care and patient outcomes.

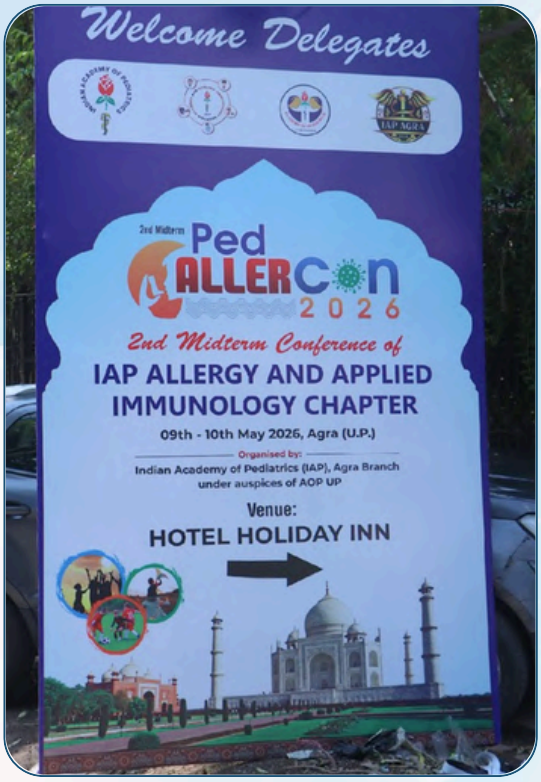
The session was ably moderated by Dr Neeraj Gupta and Dr Sowmya Nagarajan, who facilitated an engaging and interactive academic exchange. The webinar witnessed enthusiastic participation from pediatricians and healthcare professionals across the country, making it a highly informative and impactful educational event.

2nd Midterm PedAllerCon 2026

Conference of the IAP Allergy and Applied Immunology Chapter
09th – 10th May 2026 | Hotel Holiday Inn, Agra

The 2nd Midterm Conference of the IAP Allergy and Applied Immunology Chapter, hosted in the historic city of Agra on 9th and 10th May 2026, turned out to be one of the most rewarding academic gatherings of the year. Organised by the Indian Academy of Pediatrics, Agra Branch, under the auspices of AOP UP, the meeting brought together pediatricians, allergists and immunologists from across the country for two days of rigorous learning, warm camaraderie and unhurried clinical conversation..

From the moment delegates arrived at Hotel Holiday Inn, the meticulous planning of the organising committee was unmistakable. Registration was seamless, the venue layout was thoughtfully designed for both plenary sessions and informal networking, and the volunteers were unfailingly courteous. The Agra Branch and the organising team deserve sincere appreciation for the warmth and the precision with which they ran every aspect of the event.



Welcome Delegates — the conference banner that greeted us at the venue

A lucid session on spirometry and pulmonary function interpretation — translating FVC and forced expiratory parameters into clinical decisions

A Scientific Programme of Real Substance

What set PedAllerCon 2026 apart, however, was the calibre of its scientific content. The programme had clearly been curated with care — it moved beyond textbook revision into the kind of nuanced, practice-changing discussion that practising clinicians actually need.

The diagnostic immunology stream was equally strong. A detailed treatment of specific IgE measurement by serology covered the science behind solid-phase antigen assays, the strengths and limitations of in-vitro testing, and how to integrate these results with skin-prick findings and clinical history. For a chapter dedicated to allergy and applied immunology, this kind of depth is exactly what delegates come looking for.

Measurement of specific IgE by serology — a thorough walk-through of in-vitro allergy diagnostics

Dr. Neeraj Gupta presenting on alternative pulmonary function testing — exploring options beyond conventional spirometry

Dr. Neeraj Gupta's session on alternative approaches to pulmonary function testing was a highlight, opening up discussion on impulse oscillometry and other modalities relevant to younger children who cannot perform conventional spirometry. The chairpersons — Dr. Sonia Bhatt, Dr. Mitesh Kakkad and Dr. Neeraj Gupta — kept the discussion crisp and clinically grounded.

Faculty contributions from speakers such as Dr. Sowmya Nagarajan brought another dimension to the meeting — the kind of animated, audience-engaging delivery that turns a lecture into a conversation. Across the two days, the speakers struck an admirable balance between evidence and experience, and the question-and-answer segments were lively without losing focus.

Dr. Sowmya Nagarajan engaging delegates with characteristic energy

Faculty, Fellowship and Recognition

A moment with senior faculty — the kind of mentoring presence that anchors a meeting like this

Conferences are made memorable not only by their lectures but by the people one meets between them. PedAllerCon 2026 was rich in both. It was a pleasure to share the venue with senior faculty whose decades of contribution to pediatric allergy and immunology continue to inspire the next generation, and equally to meet colleagues working at the cutting edge of clinical practice.

Colleagues and faculty catching up between sessions

The informal exchanges in the corridors and over meals were, as always, where some of the most valuable learning happened — case discussions, practice tips, and the simple reassurance that comes from talking to peers wrestling with the same clinical problems.

A token of appreciation presented to faculty — gratitude well earned

Recognition of contributing faculty and chairpersons

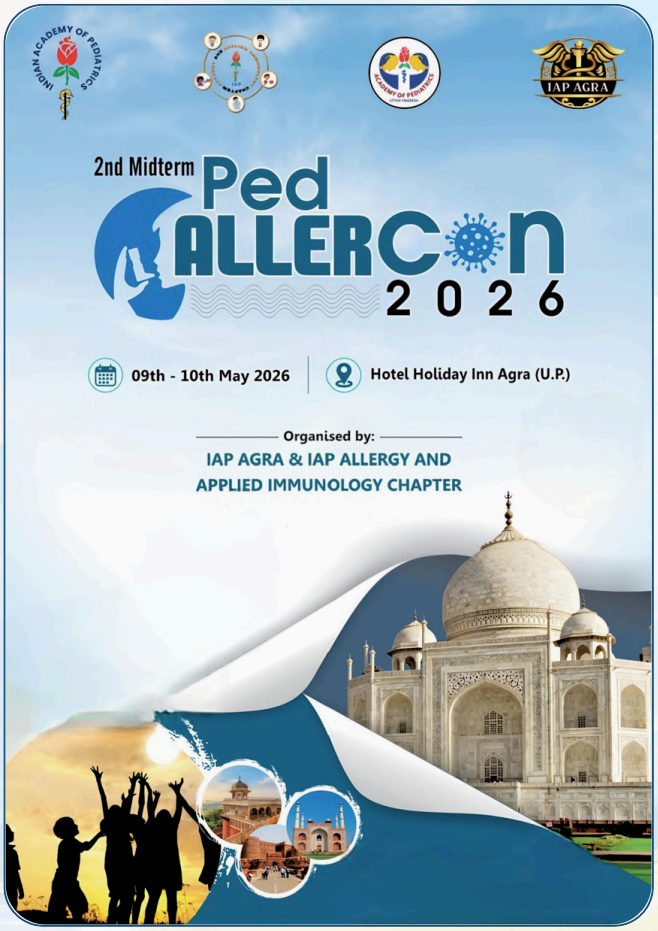
The organising team and faculty — the people whose tireless work made it all possible

The closing felicitations were a fitting tribute to the faculty, chairpersons and the organising committee. To the Agra Branch of the IAP, to the office bearers of the Allergy and Applied Immunology Chapter, and to every volunteer and coordinator who contributed behind the scenes — heartfelt congratulations on a meeting that was both academically excellent and warmly hospitable.

In Closing

PedAllerCon 2026 was, in every sense, a model midterm conference: scientifically rigorous, beautifully organised, and generous in its spirit of mentorship. Delegates returned home with sharper clinical insight, refreshed connections, and the unmistakable feeling that the field is in capable, committed hands. One looks forward eagerly to the next edition.

Sincere thanks once again to the organisers for an event that will be remembered for all the right reasons.



EAACI Congress 2026

IAP Allergy & Applied Immunology Chapter at EAACI Congress 2026, Istanbul, Türkiye

The participation of the Indian Academy of Pediatrics (IAP) Allergy & Applied Immunology Chapter at the EAACI Congress 2026 in Istanbul, Türkiye, marked another important milestone in showcasing Indian allergy and immunology on a global platform. Held under the theme *"Vision Zero: A Future Free from Allergy and Asthma Burden,"* the congress brought together leading experts from across the world to discuss advances in allergy, asthma, clinical immunology, precision medicine, and preventive strategies.

The IAP Allergy & Applied Immunology Chapter maintained a strong academic and scientific presence throughout the meeting. A major highlight was the promotion of the **World Allergy Summit (WAS) 2027**, scheduled to be held in Kolkata, India, in collaboration with EAACI, ISAAS, and other international partners. The initiative received encouraging support from global leaders and delegates, reflecting India's growing contribution to allergy science, education, and international collaboration.

A notable contribution from India was the **"Meet the Expert"** session delivered by **Dr. Neeraj Gupta** on *"Oscillometry Across the Airway Continuum: From Nose to Lung and Beyond."* The session highlighted the expanding role of oscillometry as a non-invasive tool for evaluating airway physiology across the respiratory tract, with applications in asthma, allergic rhinitis, small airway disease, pediatric respiratory disorders, and integrated airway assessment. The presentation generated significant interest among clinicians seeking practical approaches to precision respiratory care.

The chapter's academic visibility was further enhanced through the presentation of the **"Food Allergy in India: Delphi Consensus Statement,"** developed through collaboration among leading Indian experts. The work attracted considerable attention for its focus on region-specific challenges in food allergy diagnosis and management. The consensus emphasized India's unique epidemiology, dietary practices, and healthcare needs, underscoring the importance of locally relevant recommendations.

Dr. Sowmya Arudi Nagarajan delivered an invited lecture titled *"Food Allergy in India: Unique Epidemiology, Practices and Protective Factors."* Her presentation highlighted emerging evidence on food allergy prevalence, environmental influences, dietary diversity, and potential protective factors observed in Indian populations. The session was well received and stimulated valuable scientific discussions with researchers from Europe, Asia, and Latin America.

Beyond formal presentations, the congress provided opportunities for several high-level academic interactions. Particularly noteworthy were discussions between **Dr. Neeraj Gupta, Prof. María Torres (Past President, EAACI),** and **Prof. Mohamed Shamji (President, EAACI)** regarding future collaborations between EAACI and Indian allergy organizations. Key areas of discussion included allergy education, allergen immunotherapy, biomarker-driven precision medicine, immune tolerance, and strengthening research networks across Asia.

The meeting also brought recognition to Indian excellence in allergy education. **Dr. Mitesh Kakkad** and **Dr. Hitesh Billa** were honoured during the EAACI Congress for being among the top performers in the **EAACI-UEMS Knowledge Examination 2025,** a remarkable achievement that brought recognition to the Indian allergy community.

The interactions and achievements at EAACI 2026 reinforced the importance of global collaboration in addressing the rising burden of allergic diseases. They also highlighted India's increasing leadership role in pediatric allergy, food allergy research, airway diseases, and clinical immunology.

The Indian delegation also received considerable appreciation for its efforts in strengthening international partnerships, promoting allergy education, and expanding India's visibility within the global allergy community.

In summary, EAACI 2026 was a highly productive and impactful meeting for the IAP Allergy & Applied Immunology Chapter, marked by scientific presentations, international collaborations, leadership engagement, and enhanced global visibility for Indian allergy and immunology. The congress not only showcased the strength of Indian academic contributions but also laid the foundation for future international partnerships and the successful organization of the World Allergy Summit 2027 in Kolkata.

Dr Dipti Pujari spoke on “Arginine kinase as an important house dust mite component in skin prick test negative allergic rhinitis and asthma patients,” in what proved to be a highly interactive session. She also presented a well-received poster on “Progesterone hypersensitivity.”

Indian booth at EAACI Congress 2026, Istanbul, Türkiye

Interaction with World Allergy Organization Leadership

Dr Neeraj Gupta delivering the "Meet The Expert" session on Oscillometry Across the Airway Continuum

Dr Sowmya Nagarajan delivering her invited lecture on Food Allergy in India

EAACI Leadership Visits the Indian Booth

Strengthening India–EAACI Collaboration: Dr Neeraj Gupta with Prof. Md Shamji, President, EAACI (2026-2028)

Dr Mitesh Kakkad and Dr Hitesh Billa were honoured during the EAACI Opening Ceremony for being among the top performers in the EAACI-UEMS Knowledge Examination 2025

World Allergy Summit 2027, Kolkata, India

In collaboration with IAP Allergy & Applied Immunology Chapter, ISAAS and EAACI

Building Global Partnerships for Allergy Care, Education and Research

Membership Snapshot

STATE / UNION TERRITORY	MEMBERS
ANDHRA PRADESH	87
ARUNACHAL PRADESH	1
ASSAM	30
BIHAR	13
CHANDIGARH	5
CHHATTISGARH	7
DELHI	86
GOA	11
GUJARAT	71
HARYANA	39
HIMACHAL PRADESH	2
J&K	11
JHARKHAND	12
KARNATAKA	116
KERALA	102
MADHYA PRADESH	36
MAHARASHTRA	137
MANIPUR	2
MEGHALAYA	6
MIZORAM	2
NAGALAND	5
ODISHA	71
PUDUCHERRY	2
PUNJAB	35
RAJASTHAN	66
SIKKIM	1
TAMIL NADU	166
TELANGANA	74
TRIPURA	3
UTTAR PRADESH	80
UTTARAKHAND	10
WEST BENGAL	93
TOTAL MEMBERS	1376

Wish to join our membership?

ENROLL NOW

14th

Ped Allercon 2026
Bengaluru

IAP Pediatric

Allergy and Immunology

Chapter(PAAI) – PedAllercon 2026

ORGANISED BY:

IAP-Karnataka State Allergy and Applied Immunology Chapter

In association with:

- IAP Pediatric Allergy and Applied Immunology Chapter (PAAI)
- Indian Academy of Pediatrics, Karnataka
- IAP Bengaluru Chapter
- Karnataka ECHC Chapter Association

Pedallercon registration please click here

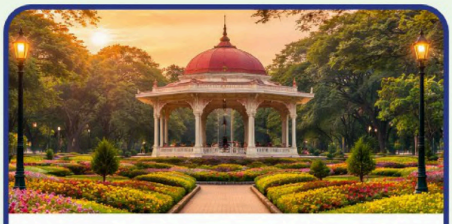
Dates: September 19th and 20, 2026
Venue: J N Tata Auditorium, IISC Bengaluru

IN & AROUND CITY

VIDHANA SOUDHA

LAL BAGH GARDEN

BENGALURU PALACE



CUBBON PARK

NANDI HILLS

ISKCON TEMPLE

IAP-PAAI OFFICE BEARERS

Registration Categories	Early Bird Registration till 31st May 2025		Registration till 31st July 2025		Registration till 30th July 2025		On-Spot Registration	
	Member* or PG Student	Non-Member*	Member* or PG Student	Non-Member*	Member* or PG Student	Non-Member*	Member* or PG Student	Non-Member*
Conference Registration	INR 4,000	INR 5,000	INR 5,000	INR 5,000	INR 5,000	INR 7,000	INR 8,000	INR 10,000
Pre-Conference Workshop + Companion Registration	INR 5,000	INR 6,000	INR 6,000	INR 7,000	INR 7,000	INR 8,000		
Accompanying Person	INR 5,000		INR 5,000		INR 5,000		INR 5,000	
International Delegates	USD 200		USD 300		USD 400		USD 500	
International Accompanying Person	USD 100		USD 100		USD 100		USD 100	

DETAILS FOR ONLINE TRANSFER

Name of the Bank : State Bank of India, Nimhans Branch
Name of Account : PAAI KARNATAKA CHAPTER
Account Number : 44991938097
Type of Account : Current Account
IFSC Code : SBIN0040675
MICR Code : 560002480

Pedallercon registration please click here

IAP ALLERGY AND APPLIED IMMUNOLOGY CHAPTER

About Us

IAP Allergy and Applied Immunology Chapter (IAPPAAI) aims to promote awareness, education, research, and best practices in the field of allergy and asthma. It also works to enhance access to care, provide support to healthcare professionals, and advocate for policies that benefit patients with these conditions.

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Don’t Miss This Opportunity!

Join the IAP Allergy & Applied Immunology Chapter today and enhance your knowledge and expertise in the field of allergy and immunology.

For more information, contact us now!

Upgrade Your Expertise..!

ENROLL NOW

info@iapaai.com
paai.pedsallergy@gmail.com

www.iapaai.com