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Proclaiming & Promoting Academic Leadership

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Baisakhi: The Harvest Festival of Punjab

Every year, as winter loosens its quiet grip and spring arrives in a riot of colour, North India awakens to the vibrant celebration of Vaisakhi, a festival that is as spirited as it is significant. It is not merely a date on the calendar; it is an experience, a feeling, a jubilant symphony of faith, harvest, history, and uncontainable joy.

Vaisakhi, celebrated on the 13th or 14th of April, marks the harvest season in Punjab, where golden fields of wheat sway like waves under the sun, ready to reward months of hard labour. Farmers rejoice, their faces glowing with pride and relief. The air hums with gratitude, laughter, and the rhythmic beats of the dhol, echoing across villages and cities alike.

But Vaisakhi is far more than a harvest festival. It holds profound spiritual significance for Sikhs across the world. It commemorates the historic founding of the Khalsa Panth in 1699 by Guru Gobind Singh, a moment that transformed Sikh identity and fortified the principles of courage, equality, and devotion.

Men in vibrant turbans and women in dazzling phulkari dupattas take to the fields and streets, dancing the electrifying bhangra and graceful gidda.

Markets come alive with sweets like laddoos and jalebis, their sugary aroma drifting through the air, tempting every passerby. Stalls brim with traditional attire, bangles, and festive trinkets.

What makes Vaisakhi truly special is its spirit it is a festival that unites. It transcends boundaries of religion and region, inviting everyone to partake in its warmth. Whether you are in a bustling Punjabi village or a distant corner of the world, the essence of Vaisakhi remains the same: gratitude for abundance, reverence for history, and an unbridled celebration of life.

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Official Voice of
Academic College of Emergency Experts (ACEE)
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Efficacy of Intravenous Acetaminophen (IV Tylenol)

Dr. Arin Choudhury

Abstract

Background: Intravenous acetaminophen (IV Tylenol) is widely used as part of multimodal analgesia, particularly in perioperative and emergency settings where oral administration is not feasible.

Objective: To evaluate the efficacy, pharmacokinetics, and clinical utility of IV acetaminophen in acute care settings.

Methods: A narrative review of randomized controlled trials, meta-analyses, and clinical guidelines was conducted to assess analgesic efficacy, opioid-sparing effects, and safety profile.

Results: IV acetaminophen provides rapid onset of analgesia and antipyresis, with peak plasma concentrations achieved within 10–15 minutes. Studies demonstrate a 30–50% reduction in opioid consumption when used in multimodal regimens. It is effective in both perioperative and emergency settings, with improved patient satisfaction and reduced recovery time.

Conclusion: IV acetaminophen is an effective, safe, and opioid-sparing analgesic that plays a critical role in modern anesthesiology and emergency medicine practice.

Keywords: Intravenous acetaminophen, Tylenol, analgesia, opioid-sparing, emergency medicine, perioperative care.

Introduction: Acetaminophen is a widely used analgesic and antipyretic agent. The intravenous formulation, approved by the United States Food and Drug Administration (FDA) in 2010, has enhanced acute pain management by providing rapid and reliable drug delivery. Unlike oral formulations, IV acetaminophen bypasses gastrointestinal absorption and achieves peak plasma concentrations within 10–15 minutes compared to 45–60 minutes for oral administration.[1]

This pharmacokinetic advantage makes it particularly useful in nil-per oral (NPO) patients, including those in postoperative recovery and emergency settings. In high-volume tertiary care centres, especially in resource-constrained environments, IV acetaminophen supports opioid-sparing strategies and facilitates rapid clinical decision-making.[2]

Pharmacokinetics and Mechanism of Action: IV acetaminophen exerts its analgesic and antipyretic effects primarily through central inhibition of cyclooxygenase (COX) enzymes, resulting in decreased prostaglandin synthesis. It lacks significant peripheral anti-inflammatory activity.

The recommended dose is 1000 mg administered over 15 minutes every 6 hours, with a maximum daily dose of 4 g. It demonstrates nearly 100% bioavailability and has a half-life of approximately 2–3 hours. [3]Clinical studies indicate rapid onset of analgesia, with significant reductions in pain scores observed within minutes of administration. This makes it particularly valuable in perioperative and emergency scenarios where rapid symptom control is essential.[4]

Clinical Efficacy: Evidence from randomized controlled trials and meta-analyses supports the efficacy of IV acetaminophen in acute pain management.

A 2024 meta-analysis reported a 30–50% reduction in opioid consumption when IV acetaminophen was included in multimodal analgesic regimens.[5] Patients receiving IV acetaminophen also demonstrated improved satisfaction scores and shorter post-anaesthesia care unit (PACU) stays.

In emergency department settings, IV acetaminophen has been shown to provide effective pain relief in a majority of non-traumatic cases within 4 hours.[6] Additionally, studies evaluating its antipyretic effects have demonstrated superior early fever reduction compared to placebo.[1]

In surgical populations, particularly orthopaedic procedures, IV acetaminophen has been associated with reduced postoperative nausea and earlier mobilization.[7]

Comparative Effectiveness

Clinical Content	IV vs Oral Efficacy	Opioid Reduction	Onset
Post operative	Comparable overall[4]	20–40%[5]	~10 min
ED Acute Pain	Faster initial effect[6]	~30%[6]	~15 min
Fever	Superior early effect[1]	Not applicable	Immediate

Safety Profile and Implementation: IV acetaminophen is generally well tolerated, with adverse effects reported in less than 5% of patients. Common side effects include nausea, pruritus, and infusion-site reactions. [3]

The risk of hepatotoxicity is minimal when the total daily dose does not exceed 4 g. However, caution is advised in patients with severe hepatic impairment. [8]

In the Indian healthcare setting, IV acetaminophen provides a safe, non-opioid alternative that aligns with opioid stewardship initiatives. Its use in institutional protocols—for postoperative care, emergency analgesia, and mass casualty scenarios—has demonstrated both clinical and operational benefits.

Cost-effectiveness analyses suggest that its use may reduce overall healthcare costs through decreased length of hospital stay and improved workflow efficiency. [9]

Conclusion: Intravenous acetaminophen is a valuable addition to multimodal analgesia strategies in both emergency and perioperative care. Its rapid onset, favourable safety profile, and opioid-sparing properties make it an essential tool for clinicians. Wider adoption in structured clinical protocols can enhance patient outcomes and optimize healthcare delivery.

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Pharmacy Medicine Abuse – A Growing Clinical Challenge In India

Dr. Linu

The misuse and abuse of pharmacy medicines have become an important public health concern, especially because many of these products are obtained through legitimate healthcare channels and are wrongly perceived as inherently safe when compared with illicit street drugs . From a toxicologist's perspective, this false sense of safety is one of the most dangerous features of the problem, because delayed recognition of poisoning often increases the severity of clinical outcomes .

Global data show the wider context in which this problem is unfolding. According to the UNODC World Drug Report 2024, the number of people who use drugs worldwide rose to 292 million in 2022, a 20 percent increase over 10 years .The same report notes that about 64 million people were living with drug use disorders, while only one in 11 people with such disorders received treatment; among women, the figure was just one in 18 .Opioids remain particularly concerning, with about 60 million users worldwide in 2022 .

Pharmacy medicine abuse differs from conventional illicit drug abuse because it often begins in a therapeutic setting. Patients may first receive a medicine for pain, insomnia, anxiety, or cough, but then progress to dose escalation, repeated unsupervised use, or psychological dependence. Commonly misused agents include prescription opioids, benzodiazepines, gabapentinoids such as pregabalin, codeine preparations, sedating antihistamines, and certain over-the-counter medicines used for psychoactive effects .

In the emergency department, these patients rarely arrive with a clear history of overdose. Instead, they may present with altered sensorium, respiratory depression, agitation, seizures, or unexplained cardiovascular and metabolic disturbances. Opioids are especially dangerous because they can suppress respiration and rapidly cause death in overdose .

WHO reports that about 600,000 deaths worldwide were attributable to drug use in 2019, close to 80 percent of them related to opioids, with about 25 percent of opioid-related deaths caused by overdose. WHO also estimates that approximately 125,000 people died of opioid overdose in 2019. The toxicological burden is not limited to acute overdose. Repeated medicine misuse can cause delayed and organ-specific harm, including liver injury, renal impairment, gastrointestinal bleeding, dependence, falls, and cognitive decline, depending on the drug class involved . The danger is amplified when medicines are combined with alcohol, benzodiazepines, barbiturates, anaesthetics, or other respiratory depressants, all of which increase overdose risk.

Another major concern is the treatment gap. WHO states that less than 10 percent of people worldwide who need treatment for opioid dependence are actually receiving it . This means many patients come to toxicology and emergency services only after complications have become severe or life-threatening.

Prevention therefore matters more than rescue. Stronger prescription monitoring, responsible pharmacy dispensing, patient counselling, early recognition of drug-seeking behaviour, and timely referral for de-addiction and mental health care are all essential .Public education must also challenge the myth that medicines bought from a pharmacy are safe regardless of dose, duration, or combination . Such public education initiatives may be initiated by Community Medicine Departments of medical colleges and should include mass media coverage like newspaper , social media platform advertisements , as well as through radio and television programs or short advertisements aired via radio & television

channels.

Pharmacy medicine abuse is not merely a prescribing issue; it is a changing pattern of poisoning that every clinician should recognize. For the clinical toxicologist, it is a warning that medicines can shift from therapeutic tools to agents of harm when access outpaces awareness, monitoring, and regulation .

Working at the Intersection: Emergency Medicine, Digital Tools, and What Needs to Happen Next

Dr. Rajiv Singhal

I am an assistant professor in emergency medicine at a medical college in Sriganganagar, Rajasthan — a Tier-2 city in the northwestern corner of India. The emergency department I work in is a teaching hospital in a metro. It does not have a dedicated electronic health record. It handles agricultural injuries, pesticide poisonings, scorpion stings, late-presenting myocardial infarctions, and sepsis in patients who arrive with no prior documentation. That context is the reason for everything I have been building over the past several years.

The work itself is unglamorous in its day-to-day form. It is largely a collection of offline HTML tools — acid-base and electrolyte interpreters, a sepsis screening and bundle-timer system, a shock-type differentiator with vasopressor calculators, drug dose calculators calibrated for Indian formularies, paediatric resuscitation tools based on Broselow weight zones, an oxygen delivery guide, an AECOPD management module. None of these are sophisticated applications by the standards of large-scale health informatics. They are small, single-file, work without internet, and can be opened on any mobile phone. The design principle has been: if a junior doctor at 3am in a district hospital can use this without reading a manual, it is good enough. If it needs a tutorial, it needs to be redesigned.

That is what is happening in this specific corner of Rajasthan. The question worth asking is what is happening everywhere else, and whether the two are connected.

Globally, the application of artificial intelligence to emergency and acute care medicine has moved well past concept. Sepsis prediction algorithms running on passive vital-sign monitoring are in active use in hospital systems in the United States and parts of Europe. AI-assisted ECG interpretation — detecting STEMI equivalents, Brugada patterns, subtle rhythm abnormalities — is now embedded in the workflows of several large emergency departments. Radiology algorithms that flag intracranial haemorrhage or pneumothorax within seconds of image acquisition have received regulatory clearance in multiple jurisdictions. Early warning scoring systems that aggregate vitals, labs, and nursing observations into deterioration alerts are no longer pilot projects; they are infrastructure.

The global AI healthcare market is projected to grow from approximately 19 billion USD in 2023 to over 600 billion USD by 2034, at a compound annual growth rate exceeding 36%. That number captures the scale of investment and the confidence of the sector, but it does not capture the distribution of benefit. Most of the systems being built at scale are trained on data from Western patient populations, Western disease prevalence patterns, and healthcare delivery models that assume an electronic health record, a radiologist available at night, and laboratory turnaround times measured in minutes.

In India, the picture is more complex and, in some ways, more interesting. The Ayushman Bharat Digital Mission has created a digital health infrastructure that now includes 799 million digital health IDs, 410,000 healthcare facilities, and 671 million linked health records. The eSanjeevani telemedicine platform has enabled 282 million consultations between April 2023 and November 2025, with approximately 12 million of these directly assisted by AI-enabled diagnostic recommendations. In early 2026, the Ministry of Health launched two national frameworks — SAHI, a governance structure for ethical AI adoption in healthcare, and BODH, a benchmarking platform that validates AI tools against real-world clinical data without compromising patient privacy.

The Central Drugs Standard Control Organisation released comprehensive draft guidance in late 2025 classifying AI imaging tools — CT, MRI — as Class C medical devices, requiring formal licensing and clinical validation before deployment. This is a meaningful regulatory step. It signals that India is moving from enthusiasm about AI in health to actual governance of it.

What is notably absent from almost all of this national activity is emergency medicine. The AI tools gaining traction in India are in diabetic retinopathy screening, tuberculosis detection, oncology imaging, and administrative workflow. Emergency care — the front door of the hospital system, the place where the unscreened, undiagnosed, and critically ill arrive without warning — has received almost no attention in this national AI conversation.

This is not a criticism of the progress being made. Building digital health infrastructure at the scale India has achieved is genuinely significant work. But infrastructure without a point of application is incomplete, and the emergency department is precisely where structured decision support is most urgently needed and least available. A patient with sepsis does not wait for a policy framework to mature. A junior doctor managing an unknown poisoning at night does not benefit from a benchmarking platform in Delhi. The work that needs to happen — locally validated tools, regionally relevant training, reproducible clinical protocols — has to be built at the ground level by people working in those conditions. That is where it will be used, and that is where it will matter.

Genesis and Evolution of the TRIHMS Medical Journal (TMJ)

Dr. Ramapati Sanyal

TRIHMS set out to address a fundamental gap: valuable clinical experience, public health insights, and teaching innovations from Arunachal Pradesh were not reaching the wider audience they deserved. Clinicians and trainees were solving real-world local challenges every day, yet these insights rarely translated into citable literature or informed policy discussions beyond the state.

To bridge this gap, the vision for the TRIHMS Medical Journal (TMJ) was conceived in 2018, with the aim of creating a credible platform to document, disseminate, and amplify the region's unique healthcare experiences and academic contributions. This vision was strongly supported and shaped by the leadership and academic initiative of Dr. Moji Jini (then Director) and Dr. Amrita Sarkar (Associate Editor), whose ideas and contributions were instrumental in laying the foundation of the journal.

Operationally, TMJ progressed rapidly from concept to implementation. The first Editorial Board was constituted in 2023, followed by the establishment of a structured submission platform, development of a streamlined editorial workflow, and publication of the initial issues. Importantly, the first cohort of authors—many of them junior faculty members and postgraduate trainees—had their work formally peer-reviewed and published, fostering early academic engagement. The inaugural issue (Volume 1) was successfully published for the Jan–Dec 2024 period. This momentum is precisely what a regional medical college requires to nurture and sustain a robust research culture.

As TRIHMS is the first medical college in the State of Arunachal Pradesh, the establishment of an institutional medical journal was a new undertaking. At the time of initiation, the procedural and technical requirements for developing a journal that could progressively meet the eligibility criteria of recognised indexing agencies (such as those commonly accepted by national regulatory and academic bodies) were not institutionally established. In addition, the Institute did not have dedicated technical or publishing personnel to independently manage journal production, digital platforms, metadata requirements, and indexing-related processes. In this context, and under the guidance of Dr. Moji Jini (then Director), TRIHMS entered into a strategic collaboration with Jaypee Brothers Medical Publishers (P) Ltd., a well-established medical publishing house with extensive experience in journal production and technical publishing support. A pivotal role in this collaboration was played by Dr. Sagar Galwankar, Chief Advisor (Global Executive), whose vision, mentorship, and technical guidance were instrumental in shaping the journal's foundational framework, aligning it with international publishing standards, and facilitating its early development and operationalization. This collaboration was intended to provide infrastructural and technical assistance for journal operations, while academic content, peer review, and editorial decision-making remained under institutional oversight. With this arrangement, the TMJ was structured as the Institute's official, bi-annual, open-access, multidisciplinary, peer-reviewed publication. The journal accepts Editorials, Review Articles, Original Research, Case Studies and Case Series, Innovations and Technology papers, and articles related to Medical Education and Training. The stated objective of TMJ is to serve as a platform for the dissemination of high-quality research in the health sciences, to support evidence-based clinical practice, public health, and medical education, and to encourage translational and collaborative research that addresses real-world healthcare challenges.

The journal follows an open-access publishing model under a Creative Commons Attribution–Non-Commercial (CC BY-NC) license, ensuring that published work is freely accessible for non-commercial use by clinicians, students, researchers, and policymakers, thereby supporting wider dissemination of scientific knowledge without subscription barriers.

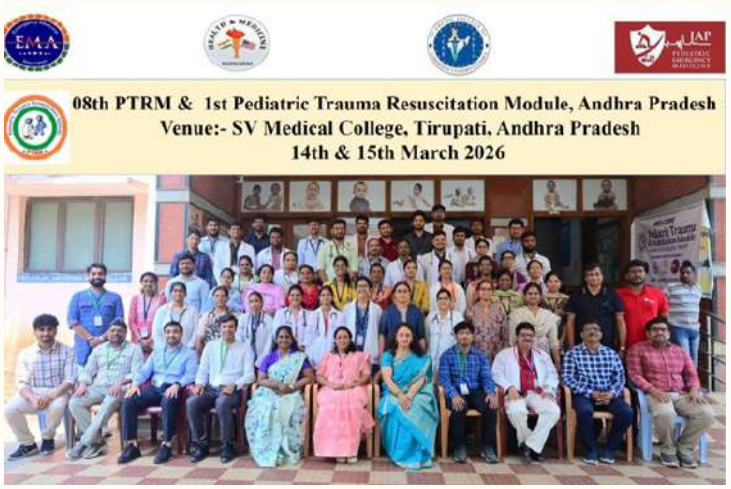
TMJ originated from a clearly identified local need and has already evolved into a functional, open-access academic platform for TRIHMS. With sustained editorial rigor and a focused approach toward meeting indexing standards, the journal has the potential to become a valuable institutional asset—enhancing trainee education, highlighting clinical experiences from remote and resource-limited settings, and strengthening the academic visibility of the Institute in ways that meaningfully benefit both patients and students. This represents a practical and achievable vision: a journal that is firmly rooted in local realities while attaining global visibility.

Building on this momentum, TMJ successfully published its second issue—Volume 2, Issue 1 (January–June 2025)—marking continued progress in its academic journey and reaffirming its commitment to regular, high-quality publication

Accordingly, the initiation and sustained development of the TRIHMS Medical Journal represent a deliberate institutional effort to strengthen academic capacity, enhance research visibility, and ensure regulatory preparedness within a resource-constrained, first-generation medical college. This initiative has been undertaken in good faith and remains aligned with the long-term academic and healthcare interests of both the Institute and the State of Arunachal Pradesh, driven forward by the dedication and collective commitment of the TMJ Editorial Team.

PTRM DAKSHIN: A Milestone in Pediatric Trauma Care

Dr. Neha Thakur Rai



The 8th PTRM provider Course and the inaugural PTRM Dakshin (Pediatric Trauma Resuscitation Module) workshop was successfully concluded at Sri Venkateswara Medical College (SVMC), marking a historic advancement in emergency medical training for South India. Held on March 14-15, 2026, the event brought together over 100 healthcare professionals, including paediatricians, emergency physicians, and nurses, dedicated to mastering life-saving protocols for injured children.

Pediatric trauma remains a leading cause of mortality and long-term disability among children in India. Unlike adults, children possess unique physiological and anatomical characteristics that require a specialized approach during the "Golden Hour"—the critical first sixty minutes following an injury.

PTRM Dakshin was conducted to address this specific need. Grounded in evidence-based practices and supported by the Indian Council of Medical Research (ICMR I), IAP PEM and INDUSEM, the module translates complex global trauma principles into actionable, step-by-step algorithms.

"Pediatric injury care is fundamentally different from adult care," noted one of the lead facilitators. "Our goal is to ensure that every frontline provider has the confidence and skill to act decisively when every second counts."

Highlights from the Workshop

The two-day intensive program was a blend of high-energy lectures and immersive "Skill Stations." Participants were challenged to apply their knowledge in real-time through:

Advanced Airway Management: Mastery of video laryngoscopy and surgical airway techniques specific to pediatric anatomy.

Breathing & Ventilation: Hands-on training in needle decompression and ICD insertion.

Circulation & Hemorrhage Control: Focused sessions on rapid fluid resuscitation and managing pediatric shock.

Simulation-Based Learning: Using high-fidelity mannequins to recreate high-pressure emergency scenarios.

Celebrating Excellence: The Kahoot! Challenge

The workshop reached its academic peak with a spirited Kahoot! Quiz, testing the participants' retention of the module's core protocols. The atmosphere was electric as winners were announced, followed by a formal awards ceremony honouring the top performers and the organising committee at SVMC.

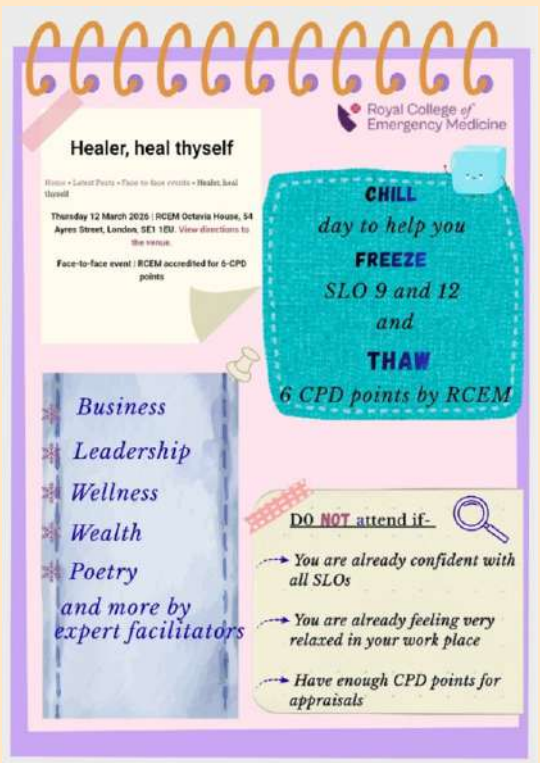
The success of PTRM Dakshin serves as a blueprint for future regional training across India. By empowering primary care providers and emergency staff at the grassroots level, the initiative aims to reduce pediatric trauma-related mortality significantly.

The Pediatric Trauma Resuscitation Manual, edited by Dr. Neha Thakur Rai, was also featured as a primary resource, providing a definitive Standard Operating Procedure for emergency departments nationwide.

AARAAM is Not HARAAM

Dr. Murtuza Ghiya

2 FACEE graduates got invited to London by Royal College of Emergency Medicine to organize a healers heal thy self-workshop during a national Study day. The key highlights were wellbeing strategies through simulation of night shift eating and sleeping strategies and a medical poetry workshop.



The idea was spearheaded by Dr. Murtuza Ghiya and Dr. Wiilliam Wilson. They had done a pilot of this workshop during EM India in 2019 and again in WACEM 2025.

They have now proposed a revised version of this for EM India 2026 at Varanasi, alongside the river Ganga. Be sure to register and see how taking a break from clinical work and actually recharge you, paradoxically making you work better afterwards.

Cough Chronicles: Decoding Cough in Pediatric Emergency Settings

Dr. Nisha Toteja

Introduction: Allergic cough in children frequently presents to the emergency department (ED) as an acute or subacute "night-time" or "recurrent" cough that alarms parents and raises concern for asthma, infection, or foreign-body aspiration. In practice, it is often an allergic or atopic-inflammatory phenomenon, either as an isolated allergic cough or as part of cough-variant asthma or allergic rhinitis–asthma overlap. For the emergency clinician, the key challenge is to distinguish a benign allergic cough from asthma exacerbations, serious airway disease, and red-flag conditions while initiating safe, symptom-targeted therapy within the ED workflow.

When to suspect allergic cough in the ED: Allergic cough should be considered in any child presenting with:

- ☑ Chronic or recurrent dry cough >4 weeks, especially nocturnal or early-morning cough.
- ☑ Clear temporal relation between cough and allergen exposure (pollen season, dust, pets, smoke).
- ☑ Personal or family history of atopy, allergic rhinitis, atopic dermatitis, or asthma.
- ☑ Associated allergic rhinitis symptoms (sneezing, clear rhinorrhea, nasal obstruction, post-nasal drip).
- ☑ Absence of fever, purulent sputum, focal signs of pneumonia, or failure to thrive.

In the ED, allergic cough is often an "after-hours" presentation, with parents describing a "barking" or paroxysmal dry cough that worsens at night or post-exercise, but without overt wheeze or respiratory distress. Children are usually well between episodes, with normal oxygen saturation and unremarkable chest-radiograph findings.

Differential diagnosis at triage: The ED clinician must rapidly exclude dangerous causes while considering allergic cough as a likely diagnosis. Table 1 summarizes key differential diagnoses.

Table 1. Common causes of chronic cough in the ED setting

Condition	Typical ED clues
Asthma/ exacerbation	Wheeze, tachypnea, accessory-muscle use, history of asthma, response to bronchodilators. pmc.ncbi.nlm.nih+1
Cough-variant asthma	Predominant cough without wheeze; often improves with bronchodilators/ICS.
Protracted bacterial bronchitis	Persistent wet cough; may improve with antibiotics.
Post-infectious cough	Follows viral URTI; improves over weeks.
GERD-related cough	Reflux history, occipital-position-related cough, possible esophagitis.
Structural airway / Foreign body	Sudden onset, choking, focal wheeze, clubbing, focal CXR changes.

Allergic cough typically lacks focal bacterial-type findings and instead shows a pattern of atopy-linked, non-productive, environmentally-triggered cough.

ED assessment and red flags: The emergency assessment should be rapid but structured:

1. **Airway and breathing**
   - ☑ Assess work of breathing, retractions, oxygen saturation, and presence of wheeze or stridor.
   - ☑ If signs of significant respiratory distress (cyanosis, altered mental status, respiratory failure) are present, manage as an asthma exacerbation or critical airway emergency first, even if an allergic cough is suspected.
2. **History**
   - ☑ Duration of cough (acute vs chronic), nature (dry vs wet), timing, and triggers, including allergens and smoke.
   - ☑ Atopy and asthma history, recent infections, TB contacts, and choking episodes.
3. **Examination**
   - ☑ Chest: auscultate for wheeze, crackles, and focal decreases in air entry.
   - ☑ Nose and throat: allergic rhinitis signs (pale boggy turbinates, allergic shiners, allergic salute **(Figure - 1)**
   - ☑ Skin: evidence of atopic dermatitis.

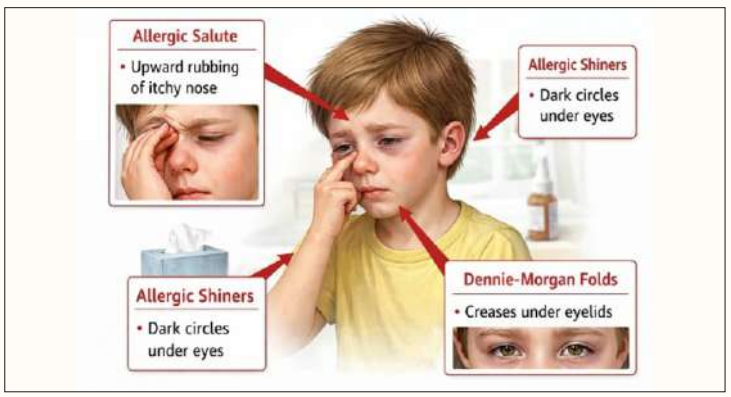


Figure - 1
Classic signs of allergy in a child with recurrent or chronic cough

Red flags requiring urgent work-up or specialist referral are depicted below **(Figure - 2)**. In the absence of red flags, an allergic cough becomes a more likely diagnosis in the ED.

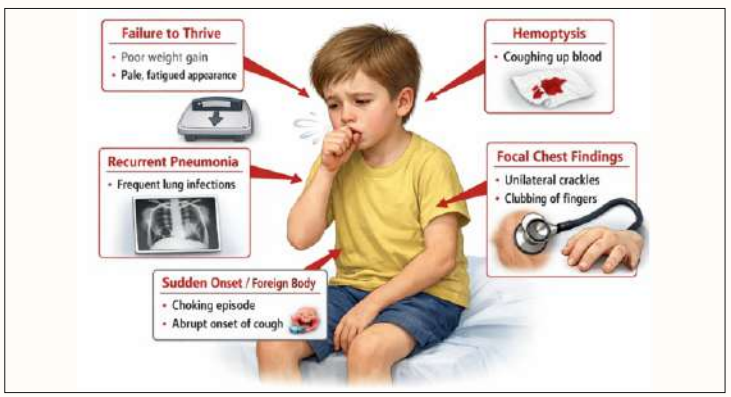


Figure - 2
Red flags pointing to serious pathologies in a child presenting to ER with cough

Basic ED investigations: In the ED, investigations should be selective and guided by clinical suspicion:

1. **Chest radiograph**
   - ☑ Obtain if there is focal auscultatory findings, high-fever, recurrent pneumonia, or suspicion of structural disease or foreign-body aspiration.
   - ☑ Normal chest radiograph supports functional or allergic etiology when no focal signs are present.
2. **Spirometry / FeNO (when feasible)**
   - ☑ If available and age-appropriate, spirometry with or without bronchodilator response helps differentiate obstructive patterns consistent with asthma.
   - ☑ Fractional exhaled nitric oxide (FeNO) can support an eosinophilic, allergic airway phenotype if the child is stable and cooperative.
3. **Allergy testing and eosinophils**
   - ☑ Skin prick testing or specific-IgE are usually done as outpatient investigations, not in the ED.
   - ☑ Peripheral-blood eosinophilia may support an allergic or asthma-related diagnosis but is non-specific.

Empirical allergy testing is not required in the ED; clinical phenotype and response to therapy often guide management initially.

ED management strategy: Management in the ED should focus on symptom relief, stabilization, and a clear follow-up plan.

1. **Immediate measures**
   - ✦ **Airway / asthma-like presentation**
     - ☑ If significant wheeze or asthma-exacerbation features are present, treat as an asthma attack: short-acting β_2-agonists (salbutamol), systemic steroids, oxygen as needed, and close monitoring.
     - ☑ Improvement with bronchodilators supports an asthma or cough-variant-asthma phenotype.
   - ✦ **Non-asthma allergic cough**
     - ☑ If the child is stable, without wheeze or distress, allergic cough can be managed with supportive care and targeted anti-allergy therapy.
2. **Pharmacotherapy in the ED**
   - ✦ **Second-generation oral antihistamines**
     - ☑ Cetirizine, loratadine, or fexofenadine can be used in children with concurrent allergic rhinitis or strong atopic features; they may reduce cough and nasal symptoms.
     - ☑ Avoid first-generation antihistamines as sole therapy; they offer limited evidence for chronic cough and carry a sedation risk.
   - ✦ **Inhaled corticosteroids (ICS) and bronchodilators**
     - ☑ For children with suspected cough-variant asthma or asthma-overlapping phenotype, initiate a short course of ICS (e.g., budesonide via spacer) with or without as-needed short-acting β_2-agonist.
     - ☑ Evidence supports that ICS reduce subacute and

- ☑ chronic cough in children with inflammatory phenotypes, often within 1–2 weeks.
  - ✦ **Antibiotics and antitussives**
    - ☑ Do not prescribe antibiotics empirically for typical allergic cough; they are reserved for features of bacterial infection or protracted bacterial bronchitis.
    - ☑ Codeine- and opiate-based antitussives are not recommended in children; simple cough suppressants without proven benefit should be avoided.

3. **Environmental and follow-up advice:** At ED discharge, provide clear, practical advice:
   - ✦ **Allergen avoidance**
     - ☑ Minimize exposure to dust mites (bed-covering, hot-water washing of bedding, reduced humidity), pets in the bedroom, and indoor smoke.
     - ☑ Advise avoiding outdoor activities during high-pollen days if seasonal allergic cough is suspected.
   - ✦ **Follow-up plan**
     - ☑ Arrange early pediatric / allergy follow-up (<1–2 weeks) for persistent cough, confirmation of allergic phenotype, and optimization of ICS or allergy therapy.
     - ☑ Provide an asthma-action plan if asthma or cough-variant asthma is diagnosed or strongly suspected.

When to admit or escalate: Admission is driven by severity and uncertainty rather than by diagnosis alone

1. **Admit if**
   - ☑ Respiratory distress, hypoxemia, or failure to respond to standard bronchodilator and steroid therapy.
   - ☑ High concern for pneumonia, TB, foreign body, or structural lung disease with abnormal imaging.
   - ☑ Poor social support or inability to follow outpatient management plan.
2. **Discharge with safety netting if**
   - ☑ Child is clinically stable, with normal oxygen saturation, no focal findings, and a clear plan for allergy/asthma follow-up.

Future directions and ED relevance: Growing evidence links pediatric allergic cough with eosinophilic airway inflammation and cough-hypersensitivity pathways, opening the door to targeted therapies. In the ED, biomarkers such as FeNO and blood eosinophils may eventually help refine phenotype-guided decisions, but currently they remain adjunctive tools rather than routine requirements. Future studies on biologics and allergen immunotherapyb in severe allergic phenotypes may further refine management, although these remain largely outpatient-based strategies. For the emergency clinician, the priority remains safe exclusion of serious causes, rapid symptom control, and clear linkage to outpatient allergy/asthma services for definitive management.

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EM-SONO (Emergency Sonography)

Dr. .....

Introduction: The EM-SONO (Emergency Sonography) Workshop was successfully conducted for two days, on 17th and 18th April 2026, for capacity building of healthcare professionals on point-of-care ultrasound (POCUS) in emergency settings. Emergency sonography plays a critical role in the rapid assessment and management of time-sensitive conditions, particularly in trauma and critically ill patients.

Around 30 physicians, from different districts of Arunachal Pradesh, who work in the Emergency Department, were given hands-on training on POCUS. The two-day workshop focused on enabling the participants to incorporate POCUS in clinical decision-making while providing care to seriously ill patients in the Emergency and ICU, through structured lectures, live demonstrations, and hands-on training.

Faculty: The workshop was facilitated by a distinguished team of experts in emergency medicine:

- ☑ Dr. Sanjeev Bhoi, Professor, Emergency Medicine, AIIMS New Delhi
- ☑ Dr. Tej Prakash Sinha, Additional Professor, Emergency Medicine, AIIMS New Delhi
- ☑ Dr. Moji Jini, Former Director, TRIHMS Naharlagun
- ☑ Dr. Kemba Padu, Associate Professor, Emergency Medicine &

☑ Trauma, TRIHMS Naharlagun
☑ Dr. Charu Malhotra, Emergency Physician, AIIMS New Delhi
☑ Dr. Soorya Suresh, Emergency Physician, AIIMS New Delhi

The faculty team actively engaged participants through interactive sessions, supervised hands-on practice, and real-life clinical scenarios, ensuring an immersive learning experience.

Day 1: 17th April 2026: The workshop commenced with an introduction session and a pre-test, aimed at assessing the baseline knowledge of participants. This was followed by a structured series of sessions aligned with the ABCDE approach, emphasising the integration of ultrasound into primary survey in emergency care.

Key Academic Sessions: ABCDE Approach using Ultrasound - Introduced by Dr. Sanjeev Bhoi, highlighting rapid bedside assessment.


Basics of Ultrasound and Knobology - Delivered by Dr. Tej Prakash Sinha, focusing on image acquisition and optimization

Airway and Breathing Assessment- Demonstrating ultrasound applications in airway confirmation and lung evaluation.


Hands-on Training: Participants were divided into 4 groups (each group consisting 7 participants) and rotated across stations where they practiced airway and breathing assessment under faculty supervision. This station-based learning ensured individualized attention and skill acquisition.

Masterclasses

☑ Airway Pathology – Dr. Soorya Suresh
☑ Breathing Pathology – Dr. Kemba Padu

These sessions provided in-depth insights into pathological findings and interpretation of ultrasound images in real clinical scenarios.

RUSH Protocol Sessions: The Rapid Ultrasound in Shock (RUSH) protocol was comprehensively covered:

☑ Echocardiography – Dr. Sanjeev Bhoi
☑ Aorta and DVT Assessment – Dr. Charu Malhotra
☑ EFAST and IVC Evaluation – Dr. Moji Jini

Afternoon Practical Sessions: Participants underwent intensive hands-on training on EFAST, echocardiography, and DVT assessment. The day concluded with an advanced RUSH Protocol Pathology Masterclass led by Dr. Charu Malhotra and Dr. Soorya Suresh, integrating clinical findings with ultrasound interpretation.


Day 2: 18th April 2026: The second day focused on reinforcing skills through supervised practice and introducing advanced applications of emergency ultrasound.

Mentor-Guided Practice: The day began with guided practice sessions, allowing participants to refine scanning techniques under expert supervision.

Advanced Hands-on Sessions: Participants rotated through stations focusing on:

☑ Gall bladder ultrasound
☑ Inferior vena cava (IVC) assessment
☑ Aortic scanning


Focused Academic Session

☑ Disability Assessment using Ultrasound – Dr. Sanjeev Bhoi
☑ Secondary Survey & Water Bath Technique – Dr. Tej Prakash Sinha
☑ Ultrasound-Guided Vascular Access – Dr. Soorya Suresh

Specialized Skill Stations: Dedicated hands-on modules included:

☑ Musculoskeletal (MSK) ultrasound
☑ Foreign body localization
☑ Ultrasound-guided vascular access techniques


Post-Lunch Sessions: Sono-CPR Algorithm – Dr. Sanjeev Bhoi, an interactive session using real-life case scenarios to enable participants utilize POCUS during a critical procedure like CPR and to interpret the images acquired to correct the reversible causes of cardiac arrest.

Valedictory Session: The workshop concluded with a feedback session, where participants shared positive responses regarding the structure, content, and practical utility of the training. Certificates were distributed to all participants in recognition of their successful completion of the workshop.


Conclusion: The EM-SONO Workshop was a comprehensive and impactful training program that successfully bridged the gap between theoretical knowledge and clinical practice. The active involvement of experienced faculty and the emphasis on skill-based learning ensured that participants were better equipped to deliver timely and effective emergency care using ultrasound.