



**Good  Airway Practice**

**Event Report**

# Good Airway Practice

The Event on Chronic Mucus Hypersecretion (CMH), held on 10<sup>th</sup> August 2025 at the Sheraton Grand Pune Bund Garden Hotel, Pune, Maharashtra, brought together leading respiratory experts from across India to address the causes, consequences, diagnostic challenges, and management strategies for CMH.

Dr. Mahavir Bagrecha opened the scientific program with a session on the pathophysiology of CMH, explaining the normal protective role of mucus, the mechanisms driving chronic overproduction, and its impact on lung function, exacerbation risk, and quality of life.

Dr. Nitin Abhyankar followed with an interactive session on patient identification and assessment, highlighting the problem of underdiagnoses and the importance of structured history-taking, symptom scoring tools, and imaging. He also reviewed available pharmacological treatments, including mucolytic and bronchodilators, as well as new therapies under investigation.

After a networking break, Dr. Alpa Dalal presented on non-pharmacological management, with a focus on Oscillatory Positive Expiratory Pressure (OPEP) devices. She covered airway clearance principles, device selection, and patient-specific considerations, supported by case studies and live demonstrations.

The event concluded with shared key takeaways from all speakers, emphasizing early diagnosis, individualized treatment plans, and integrating airway clearance techniques into routine care.

**Date:** 10<sup>th</sup> August 2025

**Venue:** Sheraton Grand Pune Bund Garden Hotel, Pune, Maharashtra

**Total Participants:** 10

# Agenda



10<sup>th</sup> August 2025



10:00 a.m. to 1:00 p.m.



Sheraton Grand Pune Bund Garden Hotel, Pune, Maharashtra

Topics	Speakers	Timings
Welcome and Introduction		10 :00 a.m.–10:05 a.m.
Chronic Mucus Hypersecretion: Pathophysiology, Causes and Consequences	Dr. Mahavir Bagrecha	10:05 a.m.–10:20 a.m.
Workshop: Identifying and Assessing patients with CMH	Dr. Nitin Abhyankar	10:20 a.m.–11:20 a.m.
Workshop: Pharmacological Management of CMH		
<b>TEA BREAK</b>		11:20 a.m.–11:40 a.m.
Non-Pharmacological Management of CMH Focus on OPEP	Dr. Alpa Dalal	11:40 a.m.–12:40 p.m.
<b>Key Takeaways and Way Forward</b>		12:40 p.m.–12:50 p.m.
<b>Vote of Thanks</b>		12:50 p.m.–01:00 p.m

## Summary of the Event

The **CMEFI team** introduced the esteemed speaker, Dr. Mahavir Bagrecha, along with Dr. Nitin Abhyankar and Dr. Alpa Dalal.

### **Chronic Mucus Hypersecretion – Causes and Consequences by Dr. Mahavir Bagrecha**

Dr. Mahavir Bagrecha began his session by thanking the attendees and faculty, introducing Chronic Mucus Hypersecretion (CMH) as an important yet often neglected topic. Dr. Mahavir Bagrecha explained the physiological role of mucus as a first-line defence mechanism in the airways, protecting the respiratory tract through its barrier function. The session reviewed the structure and function of cilia, the anatomy of the upper and lower airways, and the process of mucus clearance, with approximately 30 mL cleared daily via the gastrointestinal tract.

Dr. Mahavir Bagrecha defined CMH as chronic cough and sputum production caused by increased mucus secretion from enlarged glands and goblet cells, leading to airway obstruction. Commonly associated with Chronic Obstructive Pulmonary Disease (COPD), CMH is also referred to as chronic bronchitis, mucoïd cough, or chronic sputum production. Comparative images illustrated differences in mucus characteristics between COPD, asthma, cystic fibrosis, and healthy lungs. Dr. Mahavir Bagrecha explained how excess mucus results from increased production, due to inflammation, oxidative stress, and infections, combined with reduced elimination from poor ciliary function, airway occlusion, and weak respiratory muscles.

Highlighting the relationship between CMH and lung function, Dr. Mahavir Bagrecha shared research showing an accelerated decline in Forced Expiratory Volume in 1 second (FEV<sub>1</sub>) in patients with CMH, particularly in men, and an increased risk of abnormal FEV<sub>1</sub>/FVC ratios. COPD patients with CMH were noted to have worse health-related quality of life scores, reflected in higher mMRC and St. George's Respiratory Questionnaire (SGRQ) results, indicating more severe symptoms and daily activity limitations.

Dr. Mahavir Bagrecha concluded by noting recent advances in CMH research, including reviews in The New England Journal of Medicine, expert consensus statements, and studies on novel drug candidates. While mucus serves vital protective functions, CMH can significantly impair lung function, increase infections, and raise mortality risk. Dr. Mahavir Bagrecha emphasized the urgent need for improved diagnosis, holistic management, and integration of emerging therapies into clinical practice.

### **Importance and Challenges of Identifying CMH by Dr. Nitin Abhyankar**

Dr. Nitin Abhyankar began his session by stressing that Chronic Mucus Hypersecretion (CMH) remains one of the most overlooked topics in respiratory medicine. He pointed out significant challenges in obtaining accurate patient information, as many patients either fail to recognize their symptoms or underreport them during consultations. According to him, clinicians tend to focus primarily on treatment rather than assessment, which contributes to this gap. Additionally, time constraints further limit thorough patient evaluation. Dr. Nitin Abhyankar estimated that at least 30% of patients may be living with CMH, yet the true scale is likely underappreciated. Dr. Nitin Abhyankar framed his talk as an interactive discussion, encouraging participants to reflect on their clinical experiences and share insights into CMH prevalence.

The interactive segment revealed that while most participants acknowledged CMH as a significant clinical concern, it often does not receive the same priority as acute exacerbations or other pressing respiratory conditions. Participants discussed CMH's presence not only in Chronic Obstructive Pulmonary Disease (COPD) but also in asthma, bronchiectasis, and other chronic lung diseases. Dr. Nitin Abhyankar shared prevalence data from large-scale studies, including the Evaluation of COPD Longitudinally to Identify Predictive Surrogate Endpoints (ECLIPSE) and COPD Gene cohorts, which showed CMH affects roughly one-third of COPD patients. Among smokers, nearly half of continuous smokers and over a quarter of

reformed smokers reported CMH symptoms. Population-based studies indicated a prevalence ranging from 3.4% to 22%, and studies in asthma highlighted links between mucus hypersecretion, rhino sinusitis, nasal polyps, and frequent exacerbations.

#### **Diagnostic Approaches and Closing Remarks by Dr. Nitin Abhyankar**

In discussing diagnostic challenges, Dr. Nitin Abhyankar noted that identifying CMH requires more than casual history-taking. Many patients normalize their symptoms, so without targeted questioning, cough and sputum production may go unreported. Dr. Nitin Abhyankar referred to data from the SPIROMICS cohort, where both the St. George's Respiratory Questionnaire (SGRQ) and the COPD Assessment Test (CAT) were used to identify CMH. A significant proportion of patients were identified as CMH-positive by both tools, and these individuals were more likely to be current smokers. Dr. Nitin Abhyankar also discussed the CASA-Q (Cough and Sputum Assessment Questionnaire), which explores cough and sputum characteristics in depth, including frequency, severity, and social or functional impact.

The session also examined objective imaging methods for assessing mucus burden. Dr. Nitin Abhyankar presented findings from a severe asthma study using CT scans to identify mucus plugs, scored based on lung segments involved. These imaging results correlated with MRI ventilation defect percentages, revealing that higher mucus scores linked to more significant ventilation impairment. Patients with sputum eosinophilia were more likely to have mucus plugging, associated with elevated inflammatory markers like FeNO and IL-4. This highlighted the combined role of mucus and inflammation in ventilation heterogeneity and suggested imaging as a valuable complement to symptom-based assessments.

In closing, Dr. Nitin Abhyankar emphasized that CMH is not limited to COPD but affects multiple respiratory conditions, each with unique diagnostic and management challenges. He urged increased clinician awareness, particularly regarding structured questionnaires, patient-reported outcomes, and imaging to better capture CMH's full impact. CMH has tangible effects on quality of life, exacerbation frequency, and long-term respiratory function yet remains under-recognized. The session ended with a call for a systematic approach that integrates patient engagement, detailed history-taking, and diagnostic tools to guide timely and effective interventions.

#### **Non-Pharmacological Management of CMH with a Focus On Oscillatory Positive Expiratory Pressure (OPEP) by Dr. Alpa Dalal**

Dr. Alpa Dalal began her session by presenting a clinical case of a 72-year-old woman with a long history of bronchial asthma, grade III dyspnea, and chronic productive cough with yellow-green sputum. She was on inhaled corticosteroids, long-acting beta-agonists, and additional nebulization as needed. Examination revealed bilateral ronchi and coarse crepitations on the left side, with severe obstruction on pulmonary function testing (FEV<sub>1</sub> of 600 mL) and marked air trapping (RV/TLC 180%). Initial treatment included inhaled corticosteroids with LABA, glycopyrronium, and oral N-acetyl cysteine with acebrophylline. Her condition initially improved, but by August 2025 she presented with Grade IV dyspnea, copious thick secretions, and a drop in PEF to 140 L/min following hospitalization for an infective exacerbation.

Using this case, Dr. Alpa Dalal highlighted the importance of integrating non-pharmacological strategies in CMH management, noting the low proportion of patients who receive such advice and the variability in adherence to Airway Clearance Techniques (ACTs) and chest physiotherapy. Dr. Alpa Dalal encouraged audience participation, leading to a discussion where Dr. Ankita Asher outlined core respiratory physiotherapy principles, deep breathing, effective coughing, chest percussion, postural drainage, and inhalation therapies. Humidified or aerosolized inhalations were emphasized for moisturizing the airway, diluting sputum, and preventing crust formation.

A schematic framework of ACTs was presented, dividing them into proximal and peripheral methods. Proximal ACTs included cough augmentation, flow acceleration techniques, and mechanical aids such as in-exsufflation and lung volume recruitment. Peripheral ACTs comprised positive expiratory pressure (PEP) devices and oscillatory PEP (OPEP) devices like Flutter, Acapella, RC Comet, Lung Flute, and Quake, as well as breathing techniques like autogenic drainage and the active cycle of breathing techniques (ACBT).

Dr. Alpa Dalal reviewed the strengths and limitations of these methods. Postural drainage and manual techniques were noted as low-cost but dependent on patient cooperation, limiting their use in those with poor lung function, cognitive deficits, or thoracic injuries. ACBT was highlighted for its accessibility and role in lung re-expansion, while autogenic drainage, though effective, required significant training and was unsuitable for younger, cognitively impaired, or severely deconditioned patients. Both techniques were recommended for 20 minutes, two to three times daily, with therapy tailored to the patient's capabilities, disease stage, and goals.

Concluding her session, Dr. Alpa Dalal focused on OPEP devices. Imaging before and after 3 to 4 weeks of OPEP devices use in COPD patients showed improved lung ventilation and a 6% improvement in forced vital capacity (from 2,950 mL to 3,150 mL). These results reinforced that beyond pharmacological measures, OPEP therapy can enhance mucus clearance, improve respiratory mechanics, and boost clinical outcomes. She strongly advocated for the consistent, supervised use of such devices to improve quality of life in CMH patients.

### **Key Takeaways – Panel Insights on Chronic Mucus Hypersecretion (CMH)**

- CMH is a common yet under-recognized contributor to respiratory morbidity, often overlooked due to patient underreporting and limited clinician inquiry.
- It is associated with COPD, asthma, bronchiectasis, and cystic fibrosis, leading to faster lung function decline, more frequent exacerbations, and poorer quality of life.
- Excess mucus results from inflammatory triggers, oxidative stress, and infections, compounded by impaired clearance from poor ciliary function and airflow obstruction.
- Diagnosis should combine targeted history-taking with validated tools (SGRQ, CAT, CASA-Q) and, when indicated, imaging to assess mucus burden.
- Management should integrate pharmacological treatment with individualized Airway Clearance Techniques (ACTs), including PEP/OPEP devices, autogenic drainage, and ACBT. Evidence supports OPEP devices in improving ventilation and lung capacity.

### **Way Forward**

- **Increase awareness:** Position CMH as a key focus in chronic lung disease management and include it in respiratory CME programs.
- **Structured assessment:** Routinely use patient-reported outcome tools, supplemented with imaging for severe cases.
- **Early, combined management:** Initiate non-pharmacological interventions alongside pharmacotherapy to preserve lung function.
- **Patient education:** Train patients on ACT techniques and correct OPEP device use, with follow-up to ensure adherence.

**Consensus:** CMH should be treated as a primary driver of morbidity in chronic lung disease. Early detection, combined management, and active patient engagement are essential for improving long-term outcomes.

**At the end of this event, the CME Foundation of India extended its sincere gratitude to the attending delegates and acknowledged Lupin Ltd., the industry partner, for their valuable support and contribution to the success of the event.**

# SNAPSHOTS OF SUCCESS

## Chronic Mucus Hypersecretion – Causes and Consequences



# Importance and Challenges of Identifying CMH





## Panel Discussion



# Branding Opportunity





Developed by:

## **CME FOUNDATION OF INDIA**

Building "A" Sahney Business Centre, 27 Kirol Road, Vidyavihar (W), Mumbai - 400086  
Tel: +91 22 61798600 | Website: [www.cme.fi.co.in](http://www.cme.fi.co.in)